## Standard Gain Horn Antennas

Standard ATM Horns

Special ATM Horns

Horn with Radome Cover

Tripod and Bracket Mounting

**Standard Features:**

- Lightweight aluminum material
- ATM horns are Linearly Polarized
- Low VSWR.
  See example: Typical VSWR data for a 28-440-6 horn
- Input is W/G flange. Multiple types available, see ATM Flanges for more detail.

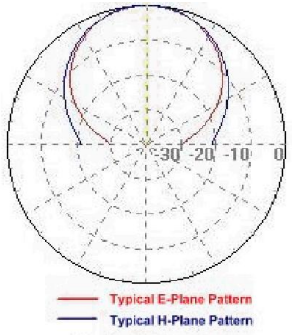
**Optional Features:**

- Far Field Calibration data - click for typical calibration report
- Radome covers
- Tripod mounting
- Mounting Bracket Options: click for Horn Mounting Application
  To illustrate mounting orientation, view an example of a Typical Mounting Option
- Coax Input available. For Coaxial input, order an additional mating ATM Right Angle Adapter or Endlaunch Adapter.
- Custom Mounts available - click here to view a custom pole-mount application.

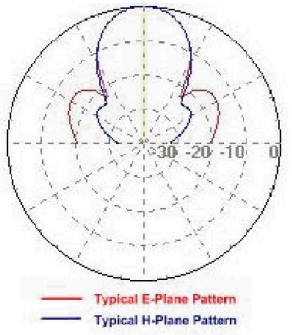
**GENERAL SPECIFICATIONS**
**Horn Antennas**

**Electrical**
**Gain:** 10, 15, 20 standard, others available, consult factory for details.
**Typical Gain Variation:** +/- 1.5 to +/- 2.0dB
**RF Power:**
For Standard rectangular Waveguide sizes.
Without Waveguide to Coax adapter or Radome.
Max power Is equal to the Max power of the input waveguide size.
See: http://www.atmmicrowave.com/wave-RawWG.html
For example for WR62 Horns 1.4KW cw and 460KW peak.
When Waveguide to Coax adapters are used the Max power rating of the Coax Connection becomes the limiting factor. See ATW WEB for power rating of suitable adapters.
For Right Angle types see: http://www.atmmicrowave.com/wave-Adaptr-Wgtocoax.html
For End Launch types see: http://www.atmmicrowave.com/wave-Adaptr-Endlaunch.html
**Mechanical**
**Body:** Aluminum
**Flanges:** Per order, see ATM Std. Flanges for choices
**Finish:** Unique corrosion resistant 316 stainless steel epoxy coating
IAW MIL-F-14072 (above WR22)
**Applicable Mil-Specs**
**General:**
**Product Specific:**

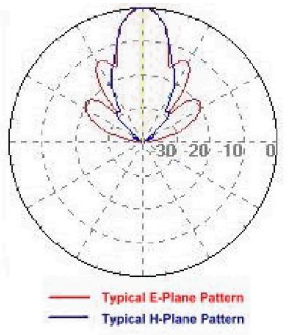
## Typical Gain Patterns




Typical 10dB Gain

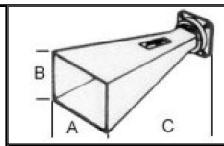



Typical 15dB Gain




Typical 20dB Gain

## Standard Models (Standard Gain)

| WG Size | Frequency (GHz) | Model No. | Gain (dB) | 3dB Beam Width** | | Approx. weight |  | | | Far Field (M) @ Low to High Freq. | Outline | Typical Data |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | E-Plane | H-Plane | | Size (In)* | | | | | |
| | | | | | | | A | B | C* | | | |
| WR975 | 0.75 - 1.12 | 975-441-2 | 14 | 34° | 39° | | 22.58 | 19.60 | 24.0 | 1.65 - 2.46 | | .pdf |
| WR650 | 1.12 - 1.70 | 650-440-2 | 10 | 65.1° | 45.6° | 5.0 lbs | 12.14 | 6.07 | 15.98 | 0.71 - 1.08 | Dwg | .pdf |
| WR650 | 1.12 - 1.70 | 650-441-2 | 15 | 31.1° | 29.0° | 16 lbs | 19.69 | 13.78 | 29.38 | 1.87 - 2.84 | | .pdf |
| WR430 | 1.70 - 2.60 | 430-440-2 | 10 | 64.8° | 45.4° | 2.3 lbs | 8.00 | 4.00 | 10.50 | 0.47 - 0.72 | Dwg | .pdf |
| WR430 | 1.70 - 2.60 | 430-441-2 | 15 | 33.1° | 32.0° | 15.2 lbs | 11.60 | 8.30 | 23.00 | 0.98 - 1.51 | Dwg | .pdf |
| WR430 | 1.70 - 2.60 | 430-442-2 | 20 | 17.3° | 17.4° | 26.5 lbs | 22.0 | 16.0 | 40.5 | 3.54 - 5.42 | Dwg | .pdf |
| WR340 | 2.20 - 3.30 | 340-440-2 | 10 | 60.0° | 49.3° | | 5.71 | 3.43 | 9.00 | 0.31 - 0.46 | Dwg | |
| WR340 | 2.20 - 3.30 | 340-441-2 | 15 | 32.2° | 30.8° | 5.2 lbs | 9.45 | 6.69 | 15.63 | 0.85 - 1.27 | | .pdf |
| WR340 | 2.20 - 3.30 | 340-442-2 | 20 | 18.5° | 16.3° | | 18.79 | 11.81 | 35.0 | 3.34 - 5.01 | Dwg | |
| WR284 | 2.60 - 3.95 | 284-440-6 | 10 | 50.8° | 54.1° | 1.0 lbs | 4.33 | 3.46 | 7.50 | 0.21 - 0.32 | Dwg | .pdf |
| WR284 | 2.60 - 3.95 | 284-441-6 | 15 | 31.0° | 30.6° | 2.8 lbs | 7.96 | 5.83 | 15.34 | 0.71 - 1.08 | Dwg | .pdf |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WR284 | **2.60 - 3.95** | 284-442-6 | 20 | 17.2° | 16.5° | 8.5 lbs | 15.57 | 10.67 | 29.75 | 2.71 - 4.12 | Dwg | .pdf |
| WR229 | **3.30 - 4.90** | 229-440-2 | 10 | 58.6° | 51.9° | | 3.62 | 2.36 | 6.45 | 0.19 - 0.28 | Dwg | |
| WR229 | **3.30 - 4.90** | 229-441-2 | 15 | 32.7° | 32.4° | 2.8 lbs | 6.00 | 4.41 | 10.40 | 0.51 - 0.76 | Dwg | .pdf |
| WR229 | **3.30 - 4.90** | 229-442-2 | 20 | 17.1° | 16.7° | 5.0 lbs | 12.25 | 8.60 | 23.50 | 2.13 - 3.16 | Dwg | .pdf |
| WR187 | **3.95 - 5.85** | 187-440-6 | 10 | 55.0° | 54.1° | | 2.89 | 2.12 | 5.50 | 0.14 - 0.21 | Dwg | .pdf |
| WR187 | **3.95 - 5.85** | 187-441-6 | 15 | 33.8° | 33.3° | | 4.88 | 3.57 | 9.40 | 0.40 - 0.60 | Dwg | .pdf |
| WR187 | **3.95 - 5.85** | 187-442-6 | 20 | 18.9° | 19.2° | 2.5 lbs | 8.92 | 6.53 | 14.925 | 1.35 - 2.00 | Dwg | .pdf |
| WR159 | **4.90 - 7.05** | 159-440-2 | 10 | 59.8° | 48.3° | | 2.68 | 1.58 | 4.28 | 0.15 - 0.22 | Dwg | .pdf |
| WR159 | **4.90 - 7.05** | 159-441-2 | 15 | 31.3° | 30.8° | 2.4 lbs | 4.33 | 3.15 | 8.00 | 0.40 - 0.57 | Dwg | .pdf |
| WR159 | **4.90 - 7.05** | 159-442-2 | 20 | 14.3° | 16.9° | | 9.80 | 7.64 | 11.73 | 2.03 - 2.91 | Dwg | .pdf |
| WR137 | **5.85 - 8.20** | 137-440-2 | 10 | 55.1° | 54.2° | | 2.02 | 1.48 | 3.15 | 0.10 - 0.14 | Dwg | |
| WR137 | **5.85 - 8.20** | 137-441-2 | 15 | 33.7° | 33.2° | | 3.42 | 2.50 | 6.51 | 0.29 - 0.41 | Dwg | .pdf |
| WR137 | **5.85 - 8.20** | 137-442-2 | 20 | 18.7° | 18.8° | 1.5 lbs | 6.26 | 4.57 | 12.19 | 0.99 - 1.38 | Dwg | .pdf |
| WR112 | **7.05 - 10.0** | 112-440-6 | 10 | 56.8° | 55.2° | | 1.63 | 1.18 | 2.55 | 0.08 - 0.11 | Dwg | |
| WR112 | **7.05 - 10.0** | 112-441-6 | 15 | 32.4° | 32.0° | | 2.93 | 2.15 | 6.65 | 0.26 - 0.37 | Dwg | .pdf |
| WR112 | **7.05 - 10.0** | 112-442-6 | 20 | 19.3° | 19.3° | 0.75 lbs | 4.97 | 3.64 | 10.78 | 0.75 - 1.06 | Dwg | .pdf |
| WR102 | **7.00 - 11.0** | 102-440-6 | 10 | 55.5° | 54.1° | | 1.58 | 1.14 | 3.00 | 0.07 - 0.12 | Dwg | |
| WR102 | **7.00 - 11.0** | 102-441-6 | 15 | 29.6° | 29.3° | | 3.04 | 2.23 | 6.00 | 0.28 - 0.44 | Dwg | |
| WR102 | **7.00 - 11.0** | 102-449-6/17 | 17 | 26.2° | 25.3° | | 3.60 | 2.54 | 5.25 | 0.39 - 0.61 | | |
| WR102 | **7.00 - 11.0** | 102-442-6 | 20 | 17.0° | 16.7° | | 5.57 | 3.94 | 11.13 | 1.00 - 1.57 | Dwg | |
| WR90 | **8.20 - 12.4** | 90-440-6 | 10 | 48.5° | 47.4° | | 1.58 | 1.15 | 2.01 | 0.09 - 0.13 | Dwg | .pdf |
| WR90 | **8.20 - 12.4** | 90-441-6 | 15 | 29.3° | 29.0° | 0.25 lbs | 2.66 | 1.95 | 5.46 | 0.25 - 0.38 | Dwg | .pdf |
| WR90 | **8.20 - 12.4** | 90-442-6 | 20 | 16.1° | 16.5° | 0.75 lbs | 4.87 | 3.62 | 10.06 | 0.84 - 1.27 | Dwg | .pdf |
| WR75 | **10.0 - 15.0** | 75-440-6 | 10 | 50.2° | 49.2° | 0.09 lbs | 1.26 | 0.92 | 1.94 | 0.07 - 0.10 | Dwg | |
| WR75 | **10.0 - 15.0** | 75-441-6 | 15 | 35.4° | 28.5° | 0.17 lbs | 2.25 | 1.33 | 4.69 | 0.22 - 0.33 | Dwg | .pdf |
| WR75 | **10.0 - 15.0** | 75-442-6 | 20 | 16.3° | 17.2° | 0.41 lbs | 3.88 | 2.98 | 8.00 | 0.65 - 0.97 | Dwg | .pdf |
| WR62 | **12.4 - 18.0** | 62-440-6 | 10 | 55.3° | 50.9° | 0.04 lbs | 1.00 | 0.68 | 1.00 | 0.05 - 0.08 | Dwg | |
| WR62 | **12.4 - 18.0** | 62-441-6 | 15 | 30.1° | 31.2° | 0.09 lbs | 1.69 | 1.30 | 2.46 | 0.15 - 0.22 | Dwg | .pdf |
| WR62 | **12.4 - 18.0** | 62-449-6/17.5 | 17.5 | 23.0° | 24.5° | | 2.19 | 1.72 | 3.46 | 0.25 - 0.37 | | |
| WR62 | **12.4 - 18.0** | 62-442-6 | 20 | 18.8° | 18.9° | 0.22 lbs | 2.88 | 2.11 | 5.75 | 0.44 - 0.64 | Dwg | .pdf |
| WR51 | **15.0 - 22.0** | 51-440-6 | 10 | 55.1° | 54.2° | | 0.77 | 0.56 | 1.43 | 0.04 - 0.06 | Dwg | .pdf |
| WR51 | **15.0 - 22.0** | 51-441-6 | 15 | 32.0° | 31.8° | | 1.36 | 1.00 | 2.84 | 0.12 - 0.17 | Dwg | |
| WR51 | **15.0 - 22.0** | 51-442-6 | 20 | 16.9° | 18.0° | 0.35 lbs | 2.51 | 1.93 | 4.88 | 0.41 - 0.51 | Dwg | .pdf |
| WR42 | **18.0 - 26.5** | 42-440-6 | 10 | 58.0° | 57.0° | 0.1 lbs | 0.60 | 0.44 | 1.25 | 0.03 - 0.04 | Dwg | |
| WR42 | **18.0 - 26.5** | 42-441-6 | 15 | 31.3° | 31.5° | | 1.14 | 0.85 | 2.37 | 0.10 - 0.15 | Dwg | .pdf |
| WR42 | **18.0 - 26.5** | 42-449-6/16 | 16 | 27.9° | 27.9° | | 1.29 | 0.96 | 3.42 | 0.13 - 0.19 | | |
| WR42 | **18.0 - 26.5** | 42-442-6 | 20 | 17.5° | 17.8° | 0.13 lbs | 2.13 | 1.56 | 4.00 | 0.35 - 0.52 | Dwg | .pdf |
| WR34 | **22.0 - 33.0** | 34-440-6 | 10 | 54.1° | 53.2° | 0.2 lbs | 0.53 | 0.39 | 1.13 | 0.03 - 0.04 | Dwg | |
| WR34 | **22.0 - 33.0** | 34-441-6 | 15 | 23.1° | 40.8° | | 0.95 | 0.70 | 2.12 | 0.09 - 0.13 | Dwg | .pdf |
| WR34 | **22.0 - 33.0** | 34-442-6 | 20 | 17.0° | 17.4° | 0.29 lbs | 1.76 | 1.29 | 3.56 | 0.29 - 0.44 | Dwg | .pdf |
| WR28 | **26.5 - 40.0** | 28-440-6 | 10 | 54.2° | 54.4° | 0.01 lbs | 0.42 | 0.315 | 1.00 | 0.02 - 0.03 | Dwg | |
| WR28 | **26.5 - 40.0** | 28-441-6 | 15 | 32.1° | 31.3° | | 0.76 | 0.55 | 1.87 | 0.07 - 0.10 | Dwg | .pdf |
| WR28 | **26.5 - 40.0** | 28-442-6 | 20 | 16.7° | 18.3° | 0.13 lbs | 1.38 | 1.01 | 3.12 | 0.22 - 0.33 | Dwg | .pdf |

**Ordering Information** **WR - Mod - F - Opt**

W/G Horn Antenna

**Example part number:** 90 -441 -6 /CAL

Waveguide Size: (WR) WR28 thru WR975

Basic Model No.: (-Mod)

Flange (-F): 1=CPRG, 2=CPRF, 6=Cover, 7=Choke
See ATM Standard Flange page for more info.

Optional Features: (-Opt)
/CAL = Calibration report
/RD = Radome cover
/BR = Bracket for Mounting

Note: More than one option per Horn is possible. For example:
112-441-6/CAL/RD/BR would contain the above described options.

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 Model # code system to the left.

Above models are *not* supplied with calibration data. Select /CAL option to receive actual Gain vs. Frequency taken in the far field. Click this link for a sample of data: "Calibrate data sample"

*Overall length can vary depending on flange type.

**Gain and 3dB Beam width values have been calculated by computer simulation.