

## Cassegrain Reflector System, Ø140 mm WR15 to WR1.9, 34 to 56 dBi Directivity

### DESCRIPTION

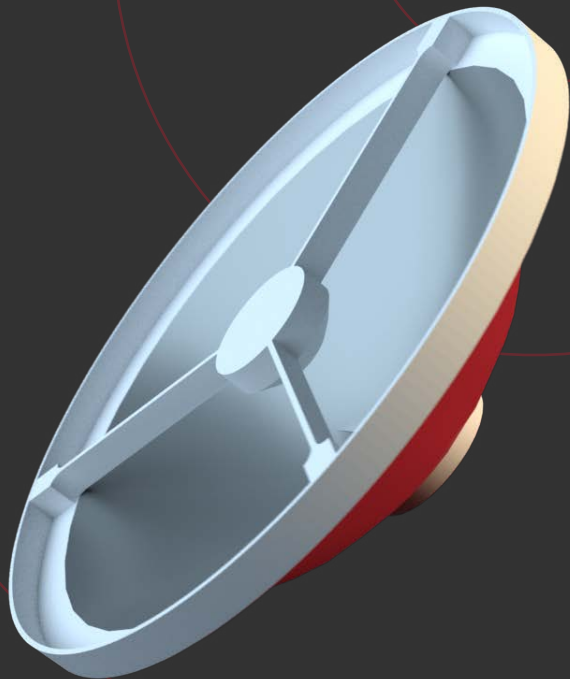
Anteral's Cassegrain Reflector Systems (CRS) are high frequency parabolic antennas composed by a pyramidal feedhorn antenna, a primary parabolic mirror and a secondary hyperbolic mirror. The feed and the primary mirror are designed to maximize the spillover efficiency while reducing the blockage to the minimum. The secondary mirror is specially manufactured to have the best reflecting surface at the highest frequencies. The whole structure presents a robust design and it is covered with a radome for outdoor applications.

The CRS-140-WRxx models have a main reflector with a diameter of 140 mm and variable directivity from 34 to 56 dBi depending on the selected frequency band. The CRS exhibits a typical maximum crosspolar level of -35 dB and Secondary Side Lobes of -17 dB.

### APPLICATIONS

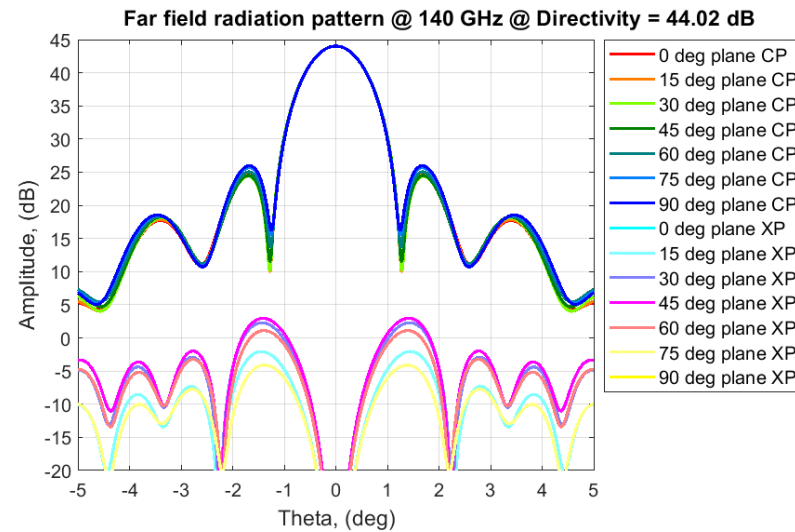
The CRS are especially useful for high-capacity data links at the new high frequency bands as well as any application where maximum gain is required. Anteral also offers custom clamping structures. Specific directivity values can be requested. Contact us for further information.

Anteral also offers **High Gain Lens Horn Antennas** that exhibit also high gain (>40 dB) with minimum size at frequencies from 110 to 330 GHz.



### ELECTRICAL SPECIFICATIONS

Model	Frequency Band	Directivity	S11 Typical	Crosspolar Typical	Secondary Side Lobes
CRS-140-WR15	50 – 75 GHz	34.5 – 37.6 dBi	-20 dB	-35 dB	-17 dB
CRS-140-WR12	60 – 90 GHz	36.4 – 39.2 dBi	-20 dB	-35 dB	-17 dB
CRS-140-WR10	75 – 110 GHz	38.6 – 40.9 dBi	-20 dB	-35 dB	-17 dB
CRS-140-WR08	90 – 140 GHz	40.0 – 43.0 dBi	-20 dB	-35 dB	-17 dB
CRS-140-WR06	110 – 170 GHz	41.6 – 44.8 dBi	-20 dB	-35 dB	-17 dB
CRS-140-WR05	140 – 220 GHz	44.0 – 47.0 dBi	-20 dB	-35 dB	-17 dB
CRS-140-WR04	170 – 260 GHz	45.6 – 48.8 dBi	-17 dB	-35 dB	-17 dB
CRS-140-WR03	220 – 330 GHz	47.9 – 50.7 dBi	-17 dB	-35 dB	-17 dB
CRS-140-WR2.8	260 – 400 GHz	49.4 – 52.5 dBi	-17 dB	-35 dB	-17 dB
CRS-140-WR2.2	330 – 500 GHz	51.5 – 54.4 dBi	-17 dB	-35 dB	-17 dB
CRS-140-WR1.9	400 – 600 GHz	53.2 – 56.1 dBi	-17 dB	-35 dB	-17 dB



\* Radiation Pattern corresponds to CRS-140-WR06.  
Contact us for the performance of any model.

### MECHANICAL SPECIFICATIONS

Parameter	Description
Total length	73 mm
Total diameter	176 mm
Total weight	0.8 kg
Reflector Material	Aluminum
Radome Material	Waterproof Polyester
External Color	Ruby Red

Model	Antenna Port	Flange
CRS-140-WR15	WR-15 (3.759 mm x 1.880 mm)	UG-385/U
CRS-140-WR12	WR-12 (3.099 mm x 1.549 mm)	UG-387/U
CRS-140-WR10	WR-10 (2.540 mm x 1.270 mm)	UG-387/U
CRS-140-WR08	WR-8.0 (2.032 mm x 1.016 mm)	UG-387/U
CRS-140-WR06	WR-6.5 (1.6510 mm x 0.8255 mm)	UG-387/U
CRS-140-WR05	WR-5.1 (1.295 mm x 0.6475 mm)	UG-387/U
CRS-140-WR04	WR-4.3 (1.092 mm x 0.546 mm)	UG-387/U
CRS-140-WR03	WR-3.4 (0.864 mm x 0.432 mm)	UG-387/U
CRS-140-WR2.8	WR-2.8 (0.710 mm x 0.356 mm)	UG-387/U
CRS-140-WR2.2	WR-2.2 (0.570 mm x 0.285 mm)	UG-387/U
CRS-140-WR1.9	WR-1.9 (0.470 mm x 0.235 mm)	UG-387/U

### Additional notes

Directivity and radiation pattern data are typical and simulated. Return loss data is measured from a sample. Actual values have been checked experimentally but they could vary slightly. The return loss performance of all items is checked before delivery to fulfill specifications.



Last version: 23/03/2022

### MECHANICAL OUTLINE

