



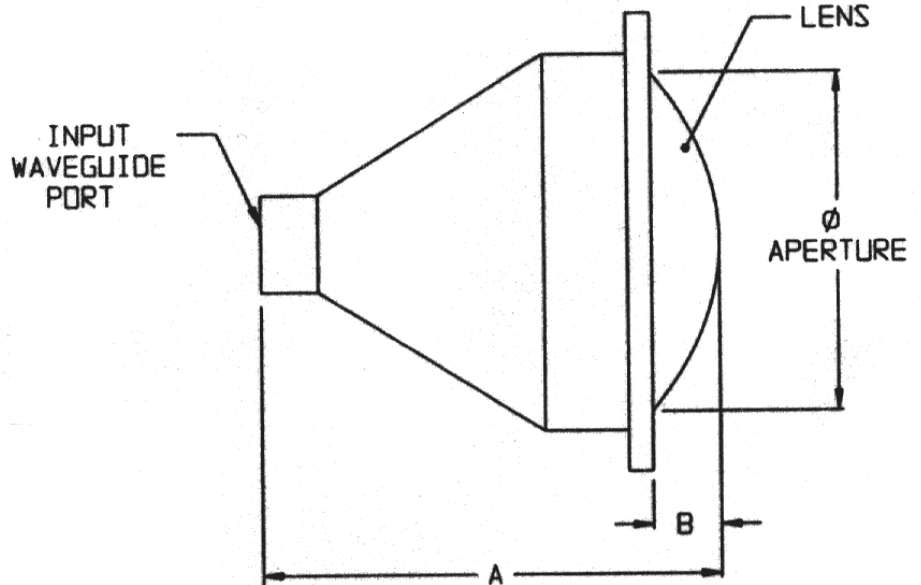
# HORN LENS ANTENNAS

DATA SHEET  
No. T146

- BEAM SYSTERY
- LOW SIDELOBES
- LOW CROSS POLARIZATION
- POLARIZATION INDEPENDENT
- HIGH BEAM EFFICIENCY

## DESCRIPTION

MEC's horn-lens design consists of a Rexolite lens, fed by a corrugated conical horn in an aluminum housing. The inner surface of the lens contains surface matching grooves to reduce VSWR. The corrugated horn produces symmetrical illumination of the lens with low spillover. The resultant far-field pattern has sidelobes about -25 dB and cross-polarization at -30 dB. Beam efficiency is greater than 92%. Typical VSWR is 1.3:1.



The assembly is mechanically rugged and can withstand vibration, temperature extremes, wind and rain. Any polarization and connector interface can be provided with application of appropriate transducers. Dual frequency performance can also be obtained using a diplexer (e.g. 10.7 and 37 GHz or 6.8 and 10.7 GHz).

The table below is a representative sample of MEC's available designs of horn-lens antennas. Contact MEC with your specific requirements, stating information such as frequency band(s), size, gain or beamwidth desired, polarization, and any other specs, i.e., VSWR, power, etc.

## TYPICAL SPECIFICATIONS

MODEL NUMBER	FREQUENCY (GHz)	GAIN (dBiL)	3-dB BEAMWIDTH (degrees)	APERTURE DIAMETER (Inches)	A (Inches)	B (Inches)
C390-194	6.9	25	9.5	12.5	15.2	2.6
C390-189	6.9	24	10.0	11.4	14.0	3.0
X390-163	10.7	26.25	7.5	9.75	12.5	2.5
MF390-146	10.7/37.0	26/37	8.0/2.2	9.75	14.5	2.5
K390-147	20	27.25	7	5.6	7.1	1.0
K390-175	24	35.2	3	12	17	2.7
A390-144	37	27	7	3.0	3.9	0.4
U390-193	54.75	26	7.5	1.91	3.7	0.3
WH390-167	89	36	2.5	3.6	4.6	0.7

Bandwidths up to 30% available for linear polarization. Dual linear and circular polarization requirements may limit the bandwidth. Orthomode transducers, polarizers, diplexers, or waveguide to coax adapters may be added, with increased length.