Antech
SATELLITE COMMUNICATIONS

Antenna 5m Gregorian
for Earth Station

Model Type: **ANP0076A**

ANP0076A

The antenna reflector has a steel hub and a backing structure of 16 steel trusses and 32 steel tie bars (backing angles).
The trusses' curved ribs have the shape of the 16 aluminium reflector panels.
The reflector panels are stretch-formed to shape, drilled in factory and supplied ready to rivet in position on the ribs.

The feed assembly (supplied on request) is aligned on dowels in the hub centre.
A small inner reflector panel, supplied in three parts, occupies the space between the feed and the outer reflector panels.
Three mounting plates are attached at the hub to support the de-ice system heaters. 16 insulating panels (plenum panels) are fixed to the outer surface of the reflector framework, creating a closed space to contain the heated air.
Three of the plenum panels have sections that can be removed to give access to the heaters.

The steel components are galvanized and the aluminium reflector panels are coated with hard wearing matt white paint.
Also the plenum panels have a white paint finish. Subreflector support brackets are fitted to four of the trusses.
Pedestal and mechanical handling are produced in galvanized steel, motorization is water-proof.

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Electrical Specification

Frequency Range:	RX 10.70 -12.75 GHz	
	TX 13.75 -14.5 GHz	
TX/RX Polarization:	Linear orthogonal	
Polarization isolation	@ -1 dB contour: > 35dB	
Gain in TX Band (13.60 GHz):	55.2 dBi	
Gain in RX Band (11.70 GHz):	53.8 dBi	
Side-lobes mask:	29 -25 log(f) dBi	for 2.5° < f = 7.0°
	8 dBi	for 7.0° < f = 9.2°
	32 -25 log(f) dBi	for 9.2° < f = 48°
	-10 dBi	for 48° < f
Feed type:	2 ports /4 ports (on request)	
Insertion Loss:	TX >0.5 dB	
	RX >0.5 dB	
Axial Ratio:	RX >39 dB	
	TX >40 dB	
Isolation between TX and RX ports :	> 95dB	
Antenna Noise Temperature :	45.0 dB/°K (@ 11.7GHz and 20° elevation)	
G/T (with 60°K LNB):	33.4 dB/°K (@ 20° elevation)	
EIRP (with 2KW TWT):	85.40 dBW (@ 14.50 GHz)	
Surface accuracy (RMS):	<0.4mm	

Mechanical Specification

General

Antenna diameter	5 m
Total Structure dimension	6300x6400x5000 mm
Antenna Optic	Gregorian
Azimuth coverage	+/-60 Deg.
Elevation coverage	5 to 90 Deg.
Azimuth speed	0,30 Deg./sec(Fast) 0,06 Deg./sec (Slow)
Elevation speed	0,20 Deg./sec(Fast) 0,04 Deg./sec (Slow)
Polarization speed	0.04 Deg./sec (only on request)
Structure weight	3500Kg

Travel Ranges

Antenna pointing	Manually through ASC0005A
Antenna Step-Track	Automatic through ASC0005A
Antenna Sensors	Resolver (for elevation and azimuth axis)

Operative Conditions

Max wind load	90 Km/h
Environmental condition	-20/+50 °C

Environmental Specification

Solar radiation	1000 W/mq
Rain	Operational and survival in heavy rainstorms
Relative humidity	0% to 100% with condensation

Survivor Conditions

Max wind load (stowed)	180 Km/h
Environmental condition	-40/+60 °C
Radial ice, survival	2.5cm on whole surface

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