

120CM

SMC FIBRE
SATELLITE DISH

SPACE

ULTRA HD

D120-O-SMC-V

User Manual



CAHORS

D120-O-SMC-V Cahors 120cm Satellite Dish

User Manual

CONTENTS:

SAFETY	1
SATELLITE DISH PARTS	2
MOUNTING POLE DIMENSIONS	3
STEP BY STEP ASSEMBLY	4
SATELLITE DISH ALIGNMENT	6
POINTING DATA ACCORDING TO GEOGRAPHICAL SITUATION	8
ALIGNMENT EXAMPLE USING THE ANGULAR CONVENTIONS	8
ELEVATION CHART	9
POLARIZATION CHART	9
AZIMUTH CHART	10
SPECIFICATIONS	11

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© Space Television - 78 Republic Road, Ferndale, Randburg, Johannesburg, 2125
PO Box 9317, Johannesburg 2000
T 0861 40 41 42
email sales@spacetv.co.za
www.spacetv.co.za

D120-O-SMC-V Cahors 120cm Satellite Dish

User Manual

SAFETY:

- Safety and installation rules are given in standards regarding cabled distribution systems for television and interactive multimedia signals EN 50083-1. The installer must follow these rules to be in conformity with the law. Always implement regulations as issued by national and local authorities.

PRECAUTIONS:

- This satellite dish is more than 1 square meter wind pressure equivalent area !
- DO NOT MAKE AN INSTALLATION IN BAD WEATHER CONDITIONS !
- TRY TO FIX IT in case there is potential danger for people.
- DON'T TRY TO KEEP IT IN YOUR HANDS in a critical situation.

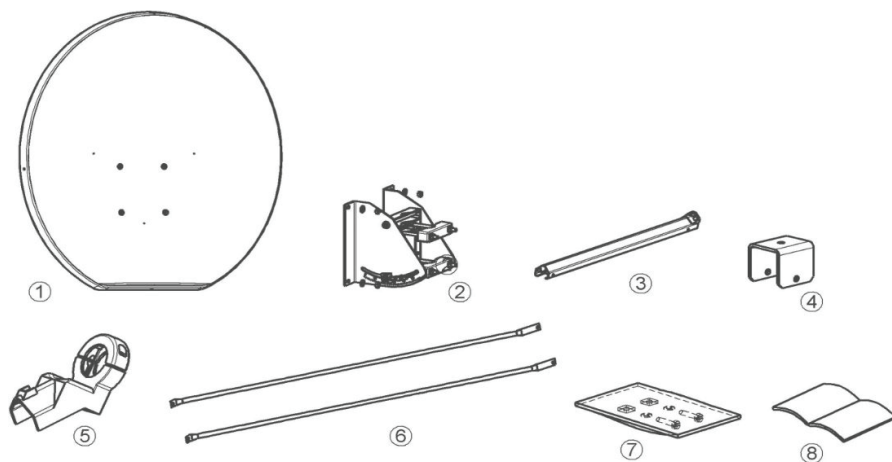
POWER LINES:

- For safety reasons, identify any power lines in the vicinity.
- Make sure there is a minimum distance of 6 metres (20 feet) between the satellite dish and any power line!
- If the satellite dish mast requires a foundation, before digging, contact your local authority to check for any underground cables and (power) utility line(s).

D120-O-SMC-V Cahors 120cm Satellite Dish

User Manual

SATELLITE DISH PARTS LIST:



- | | |
|------------------------------------|---|
| 1. Main dish | 6. Side feed legs (x2) |
| 2. Az – El mount (in separate box) | 7. Screws and nuts for Main Dish / Arm / Side feed legs / |
| 3. Support arm | 8. User manual |
| 4. U-shape arm support | |
| 5. LNB bracket | |



Screw
M8 - 55 (x4)



Washer
L8 (x4)



Nut
HM 8 (x4)



Screw
(x2)



Screw
CM 6-50 (x2)



Screw
CBL 6-16 (x3)



Washer
M6 (x5)



Nut
QL M6 (x3)



Nut
Q M6 (x3)



Nut
H M6 (x2)



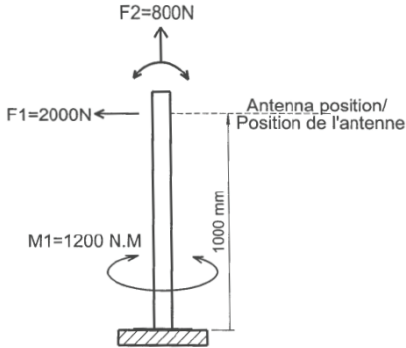
Screw
CM 6-40 (x1)

D120-O-SMC-V Cahors 120cm Satellite Dish

User Manual

MOUNTING POLE DIMENSIONS:

Mechanical forces to be considered are shown in the picture below:



Minimum pole diameter must be 76 mm.

In order to receive signals through geostationary satellites, you need a clear view in the direction in which the satellite is pointed, i.e.: Clear to the north (in Southern hemisphere).

ASSEMBLY TOOLS REQUIRED FOR INSTALLATION (NOT SUPPLIED):

- Compass
- Inclinometer
- 13 mm nut driver (2pcs)
- 10mm flat nut driver
- Flat screwdriver (large)
- Posidrive screwdriver (medium)
- Professional field strength meter
- RF cable
- Connectors
- Measuring tape
- 24mm nut driver (for 23°~90° mount)

D120-O-SMC-V Cahors 120cm Satellite Dish

User Manual

STEP BY STEP ASSEMBLY:

For sake of ease, the Az – El mount is pre-assembled at the factory.

Important! *It is recommended that 2 people install this satellite dish*

AZ - EL MOUNT AND DISH ASSEMBLY:

1. Place the main dish face down and fix the pre-assembled mount using Head square Neck screws with washers and nuts (x4) as shown in Fig 1.

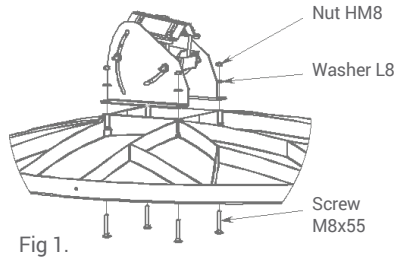


Fig 1.

2. Install the Az-Ez mount on the pole and tighten the bolts only lightly, see Fig 2.

N.B.: if the mount is fixed into the ground, remove the block stop.

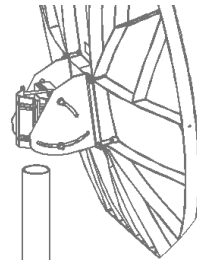


Fig 2.

3. Install the U shape on the top of the external rib of the dish, align its edge with the edge of the dish and tighten the bolt firmly. Then fix the arm end into the U shape as shown in Fig 3.

N.B.: Do not initially tighten the transversal bolt!

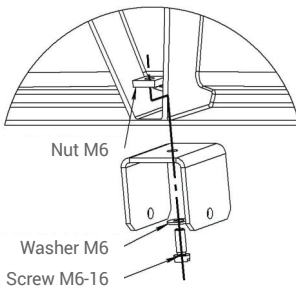
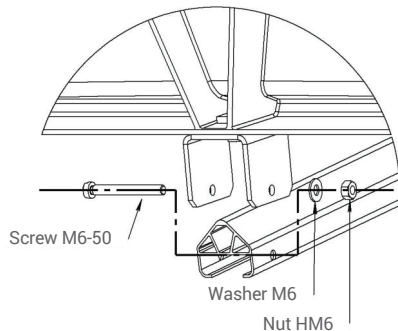


Fig 3.



D120-O-SMC-V Cahors 120cm Satellite Dish

User Manual

4. Install the side legs as shown in Fig 4a, do not initially tighten the bolts.
Move the arm up towards the dish and hold it in its final position using the 2 side feed legs as shown in Fig. 4b. Tighten the bolts when the final arm position has been achieved

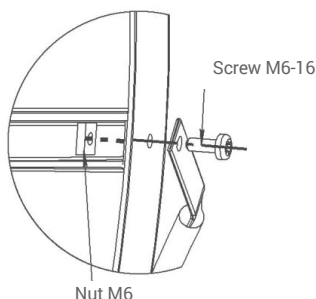


Fig 4a.

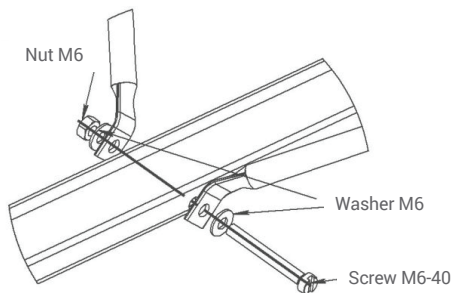


Fig 4b.

5. Install the LNB holder on the arm, see Fig 5a.
Install the Universal LNB in the LNB holder, see Fig 5b.

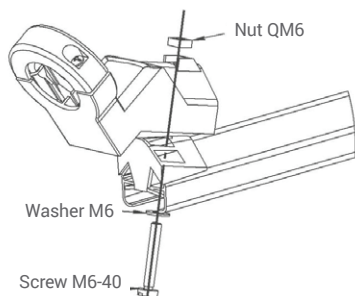


Fig 5a.

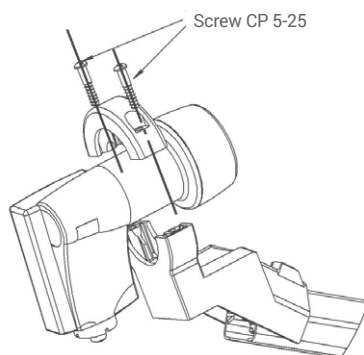


Fig 5b.

THE SATELLITE DISH IS NOW READY TO BE ALIGNED.

SATELLITE DISH ALIGNMENT PROCEDURE:

- The charts for elevation, azimuth and feed polarisation shown on the next pages (P 16 ~18) allow you to align the satellite dish regardless your geographical position with respect to Earth station latitude and Delta L, the difference between earth station longitude and satellite longitude. Angle representation is given according to the convention described in the pointing data on page 14.

Important! *Precise alignment requires the use of a professional field strength meter*

SATELLITE DISH ALIGNMENT:

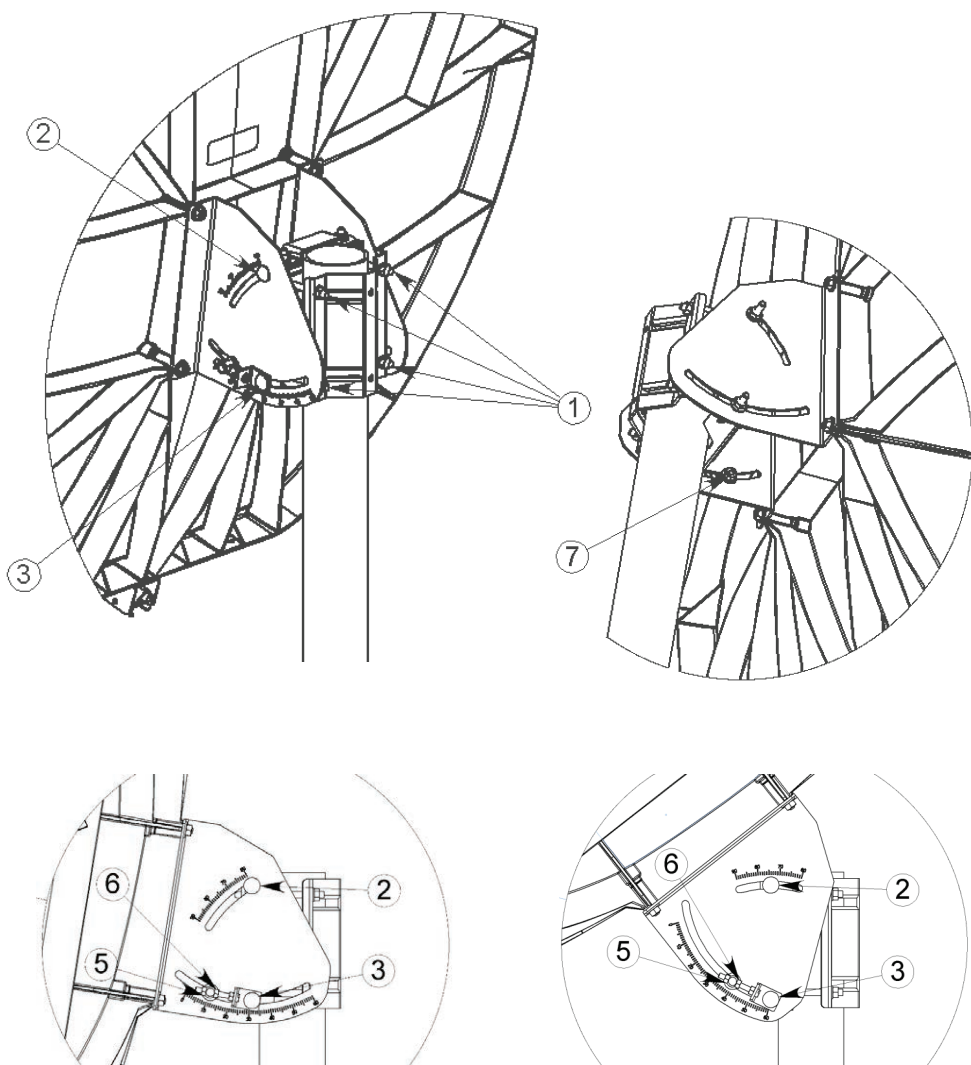
Use the elevation and azimuth charts at the end of this user manual to determine your elevation setting according to your geographical location and proceed as follows (see Fig. 6)

- a) Tighten slightly both clamps 1 to cancel backlash (see Fig. 6a).
- b) Untighten both screws 2 and 3 as well as fine elevation bolt 7.
- c) To adjust the elevation angle from 0° to 60° (see Fig. 6b): screw 2 adjusted to 60°, you can display the elevation angle at the centre of screw 3. Tighten screws 2 and 3 as well as fine-tune bolt 7 (inside the left elevation flange). To adjust the elevation angle from 60° to 90° (see Fig. 6c): screw 3 adjusted to 60°, you can display the elevation angle at the centre of screw 2. Tighten screws 2 and 3 as well as fine-tune bolt 7 (inside the left elevation flange).
- d) With the LNB connected to a field strength meter, rotate the satellite dish in the azimuth direction using the compass reading. Slowly sweep the satellite dish in the azimuth direction back and forth by several degrees to find the desired signal.
- e) When azimuth is achieved, tighten the azimuth clamps 1 firmly.
- f) Fine-tune the elevation using screws 5 and 6 and tighten all the mounting bolts.
- g) To fine-tune the polarisation, rotate the LNB slowly until the signal in reverse polarisation reaches a minimum level on the field strength meter in spectrum mode.

NB: Check all nuts and bolts are correctly tightened (Mount and LNB holder).

D120-O-SMC-V Cahors 120cm Satellite Dish

User Manual



D120-O-SMC-V Cahors 120cm Satellite Dish

User Manual

POINTING DATA ACCORDING TO GEOGRAPHICAL SITUATION:

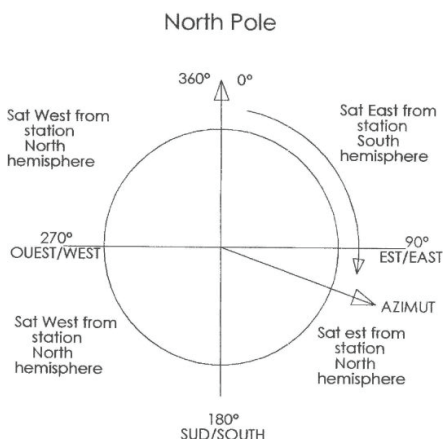
CAUTION! *EAST longitude: + sign WEST longitude: - sign*

DELTA

- DELTA is the relative difference between the satellite dish site longitude and the satellite longitude, in absolute terms.

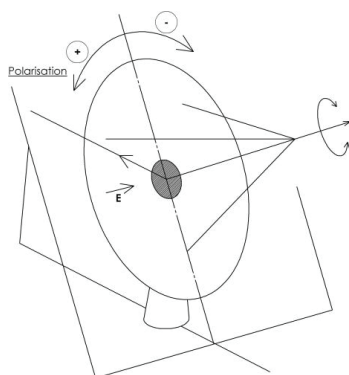
DELTA = Location Longitude - Satellite Longitude

Azimuth angle is positive from North pole



WARNING!

- Satellite West of satellite dish site:**
+ sign Clockwise (CW)
- Satellite East of satellite dish site:**
- sign Anti-Clockwise (ACW)



ALIGNMENT EXAMPLE USING THE ANGULAR CONVENTIONS:

Paris:

Latitude : 48.85°N Longitude : 2.34E

Satellite AB3 : 5W ie -5°

$DELTA = | -5 - 2.34 | = | -7.34 | = 7.34$

Satellite is West of the alignment location and latitude is close to 49° Northern Hemisphere.

Look at the azimuth chart for the Northern Hemisphere, Satellite west of the site.

Azimuth in NH (chart P13) : Az = 190° (10° West from south)

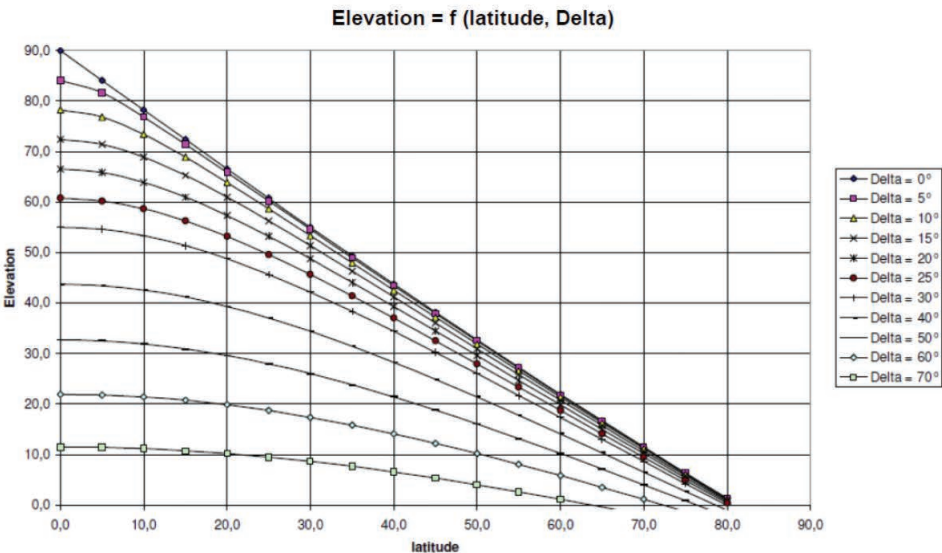
Elevation (chart P 12) : El = 33°

Polarisation (chart P 12) : 6° negative anti-clockwise direction

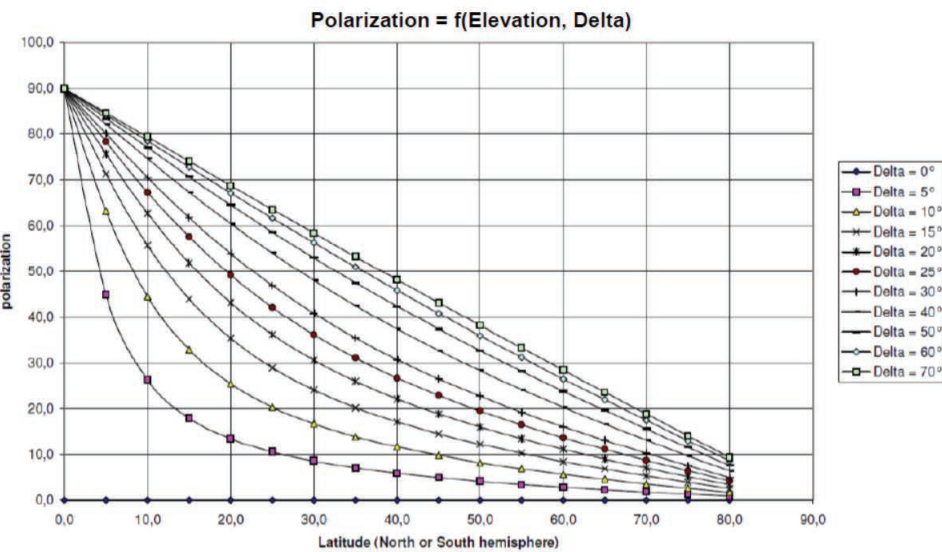
D120-O-SMC-V Cahors 120cm Satellite Dish

User Manual

ELEVATION CHART:



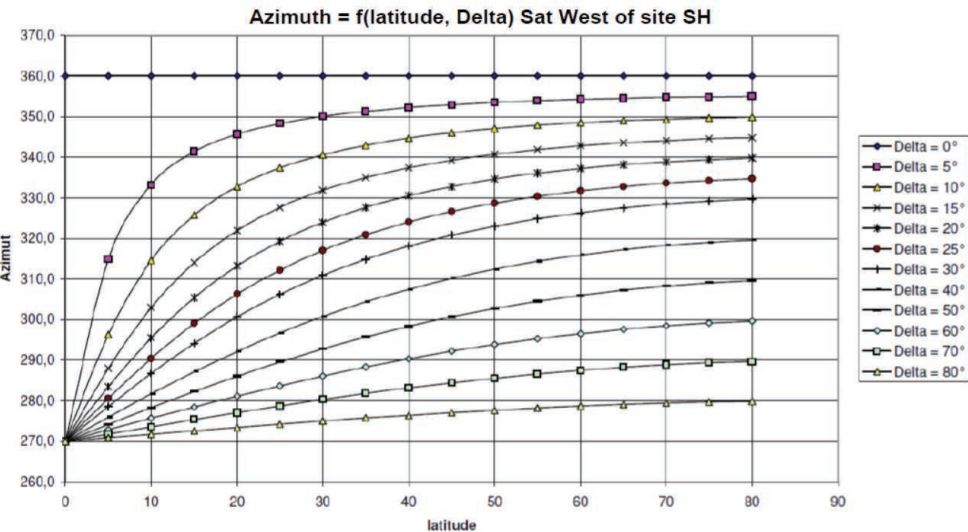
POLARISATION CHART:



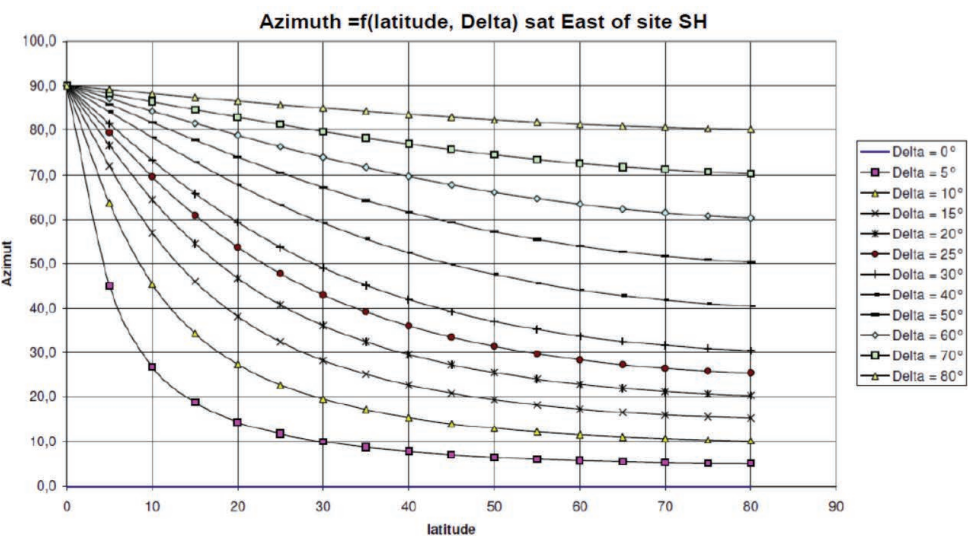
D120-O-SMC-V Cahors 120cm Satellite Dish

User Manual

AZIMUTH CHART: SATELLITE WEST OF SATELLITE DISH SITE, SOUTHERN HEMISPHERE



AZIMUTH CHART: SATELLITE EAST OF SATELLITE DISH SITE, SOUTHERN HEMISPHERE



D120-O-SMC-V Cahors 120cm Satellite Dish

User Manual

SPECIFICATIONS

Horizontal axis	123 cm
Vertical axis	127 cm
Disc material	Polyester reinforced with glass fiber
Arm material	Aluminum
Back piece material	SMC / Galvanized steel
Frequency Range	10.7 - 12.75 GHz
Opening angle at 11.325 GHz	1.4°
Performance	70%
Gain (dB) at 11.325 GHz	41
Gain (dB) at 12.625 GHz	41.8
Factor of Merit (dB / ° K) at 11.325 GHz	20
Factor of Merit (dB / ° K) at 12.625 GHz	21
Noise temperature	< 35°K
Tube mounting	Ø 60 to 76 mm
Elevation regulation	0° to 57°
Azimuth adjustment	0° to 360°
Weight	23 kg



Helpline: 0861 40 41 42
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