

# WD380-N

## 380-470 MHz Base Station Dipole Antenna

### DESCRIPTION

Base station antenna conceived by using an innovative feed system studied and applied to have highly symmetrical radiation pattern in both planes (E and H). It's completely computer designed to get high performances of gain and front-to-back in the working band. All aluminium parts are protected by anodized treatment, hardware are of Stainless steel or zinc plated steel, mounting bracket is of extruded aluminium for the best strength and the connector is placed in rear position for an easily access. To increase the antenna gain please install it in vertical stacked array. **Patent pending applied.**



### TECHNICAL DATA

#### Electrical Data

Type	Half wave Dipole
Frequency range	380 - 470 MHz
Impedance	50 $\Omega$ Unbalanced
Polarization	Linear Vertical
Radiation (H-plane)	beamwidth at -3 dB= 200° at 425 MHz
Radiation (E-plane)	beamwidth at -3 dB= 68° at 425 MHz
Max Gain	4.5 dBi
Front to Back ratio	$\geq 8$ dB
S.W.R. in bandwidth	$\leq 1.5:1$
Max Power	150 Watts (CW) at 30°C
Feed system / Position	RG303 PTFE coax with balun / inside boom
Lightning protection	DC-ground
Connector	N-female with rubber protection cap

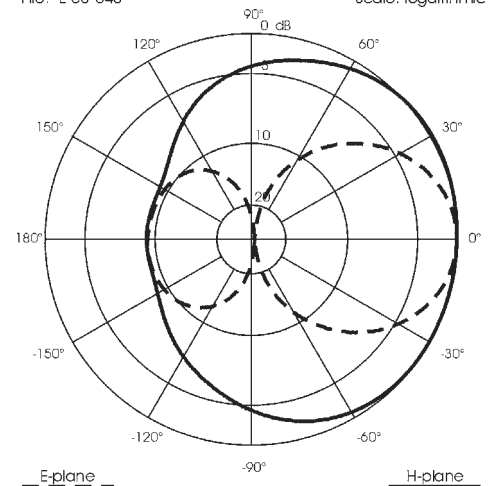
#### Mechanical Data

Materials	Anodized 6063-T5 Aluminium, Thermoplastic UV stabilized, Chromed Brass
Wind load / resistance	48 N at 150 Km/h / 200 Km/h
Wind surface	0.033 m <sup>2</sup>
Dimensions (approx.)	380 x 340 mm
Weight (approx.)	950 gr
Turning radius	240 mm
Operating temperature	-40° C to +60° C
Mounting Mast	$\varnothing$ 35-52 mm

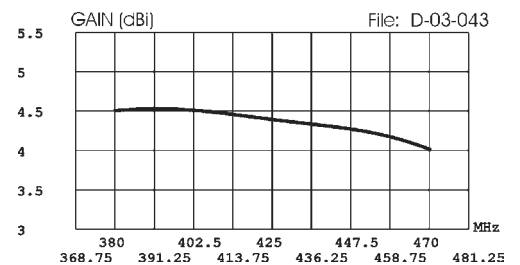
TYPICAL RADIATION PATTERN in E-plane at 425 MHz

File: E-03-043

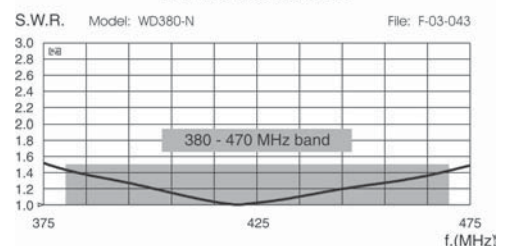
Scale: logarithmic



TYPICAL GAIN DIAGRAM vs FREQUENCY

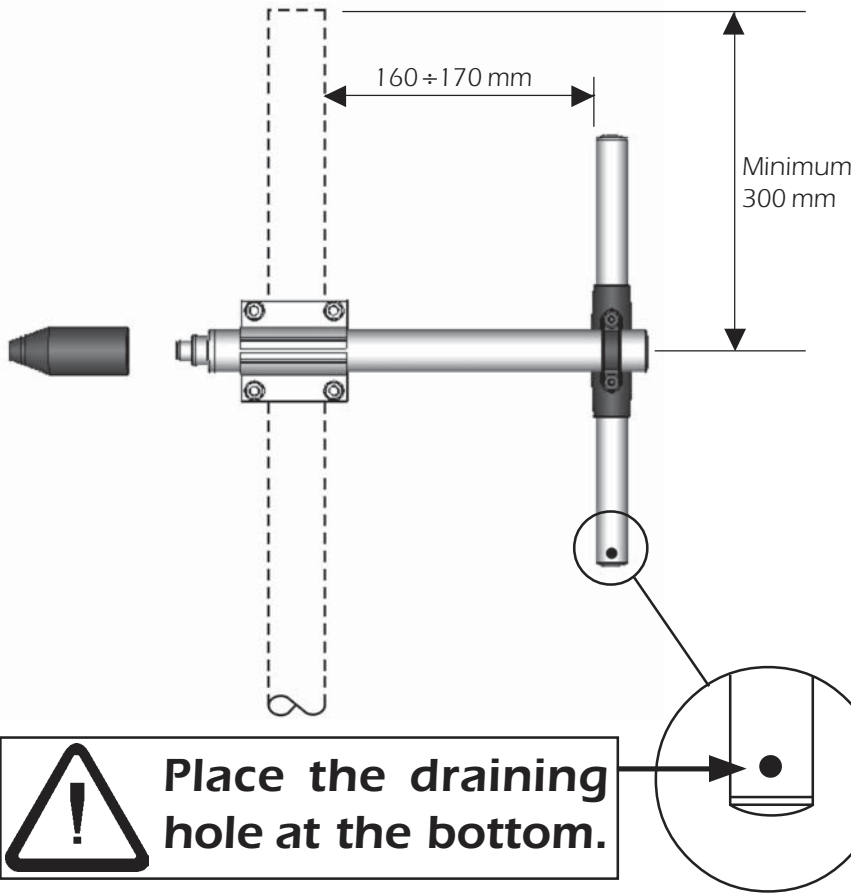


TYPICAL S.W.R. RESPONSE

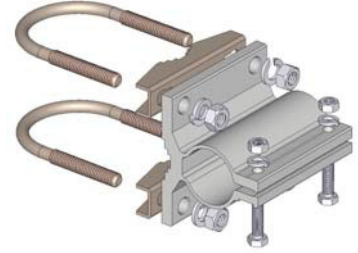


# MOUNTING INSTRUCTIONS

## Correct mounting for vertical polarization



## Standard Mounting Bracket



### Spare parts: p/n SA197

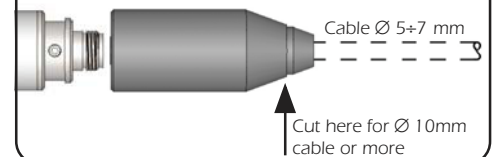
Materials: extruded aluminum  
Hardware: stainless & zinc plated steel  
Dimensions : 80 x 76 x 65 mm  
Weight: 460 gr

### Part List

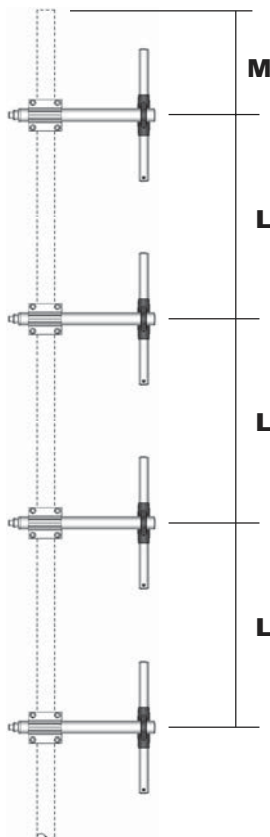
Q.ty	Description
1	Extruded aluminium bracket
2	Steel bracket
2	M8x200 U-bolt
4	M8 Grower washer
4	M8 Hexagonal nut
2	M6x20 Hexagonal head screw
2	M6 Grower washer
2	M6 Hexagonal nut

## Connector protection cap

### Spare parts: p/n TE06416



## Side mast mounting for DIRECTIONAL pattern: Stacking distance



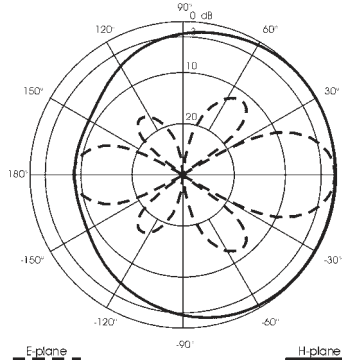
Min. 300 mm

Vertical polarization  
(Stacked)  
**L = 650 mm**

No. of dipole	Max Gain (dBi)	HPBW E-plane	HPBW H-plane
2	7.3	30°	200°
4	10.2	14°	200°
6	12	9°	200°
8	13	7°	200°

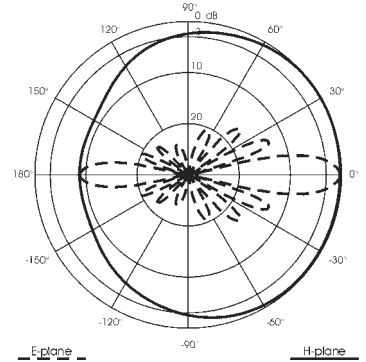
## 2 Dipole array

TYPICAL RADIATION PATTERN in E-plane at 425 MHz  
File: E-03-043a Scale: linear



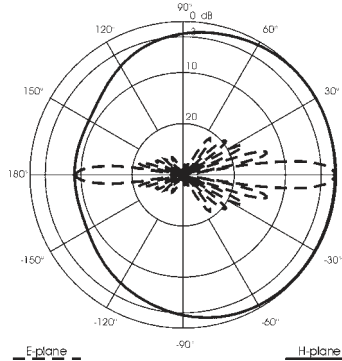
## 4 Dipole array

TYPICAL RADIATION PATTERN in E-plane at 425 MHz  
File: E-03-043b Scale: linear



## 6 Dipole array

TYPICAL RADIATION PATTERN in E-plane at 425 MHz  
File: E-03-043c Scale: linear



## 8 Dipole array

TYPICAL RADIATION PATTERN in E-plane at 425 MHz  
File: E-03-043d Scale: linear

