



## Omnidirectional Antennas 108 - 144 MHz VHF

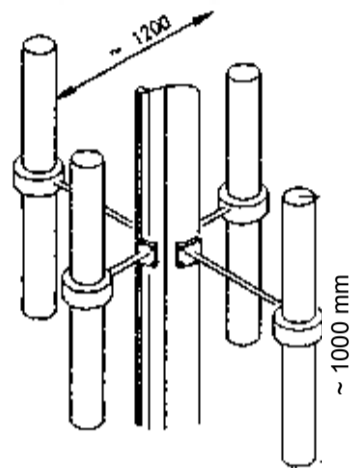
ORDERNUMBER	TYPE
WS A00 54 1.	omnidirectional, heavy duty, with radome
WS A00 84 1.	omnidirectional groundplane with radome
WS A00 84 15 .	omnidirectional antenna with radome, side mounted
WS A00 86 1	omnidirectional groundplane, adjustable
WS A00 92 1	broadband disccone 118 - 1100 MHz
WS A01 12 10 .	3 dB offset pattern antenna without radome
WS A01 13 10 .	3 dB offset pattern antenna, heavy duty with radome
WS A01 13 10 . spec.	dipole with long bracket
WS A01 52 20 5	halo antenna
WS A02 02 .1 .	2 element yagi antenna without radome
WS A02 03 .1 .	2 element yagi antenna, heavy duty with radome
WS A03 02 .1 .	3 element yagi antenna without radome
WS A03 03 .1 .	3 element yagi antenna, heavy duty with radome
WS A04 02 .1 .	4 element yagi antenna without radome
WS A04 03 .1 .	4 element yagi antenna, heavy duty with radome
WS A06 02 12 .	6 element yagi antenna without radome
WS A06 03 12 .	6 element yagi antenna, heavy duty with radome
WS A80 22 31 3	logper antenna 108 - 470 MHz
WS A80 22 31 1	logper antenna 108 ... 1100 MHz

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Section 9. 1/20

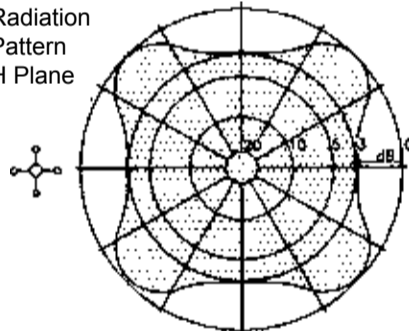
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**OMNIDIRECTIONAL ANTENNA  
WS A00 54 1.  
118 .. 162 MHz**

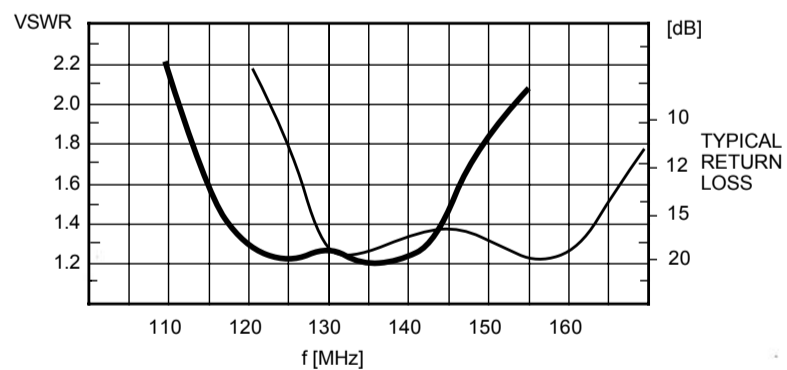
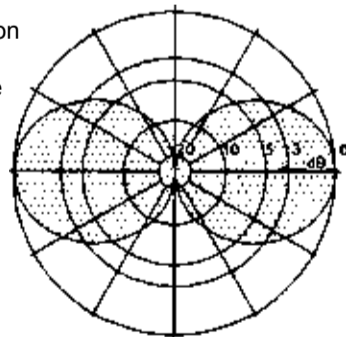


<b>TYPE NO.</b>	<b>WS A00 54 18: 118 - 144 MHz</b> <b>WS A00 54 19: 130 - 162 MHz</b> further frequencies on request
<b>DESCRIPTION</b>	dipole with radome The radome protects the antenna dipole from environmental influences, icing, and increases the lightning protection.
<b>POLARIZATION</b>	vertical
<b>IMPEDANCE</b>	50 Ω
<b>GAIN</b>	0 dB (ref. λ/2 dipole)
<b>VSWR</b>	< 1.3, at the limits of the band <1.4
<b>POWER</b>	max. 300 watts
<b>3 dB BEAMWIDTH</b>	horizontal, H plane: 360° vertical, E plane: 78°
<b>TERMINATION</b>	N male inside the mast other termination on request
<b>GROUNDING</b>	all metal parts are DC grounded
<b>MOUNTING</b>	on tubular mast with diameter ≤ 500 mm cable runs inside or outside the mast (please specify diameter)
<b>MATERIAL</b>	aluminium, bolts of stainless steel, weather-resistant plastics, radome of UV-stabilized polyethylene
<b>WEIGHT</b>	11 kg
<b>WIND AREA</b>	0.33 m <sup>2</sup>
<b>WIND LOAD</b>	421 N (150 km/h) 316 N (130 km/h)

Horizontal  
Radiation  
Pattern  
H Plane



Vertical  
Radiation  
Pattern  
E Plane

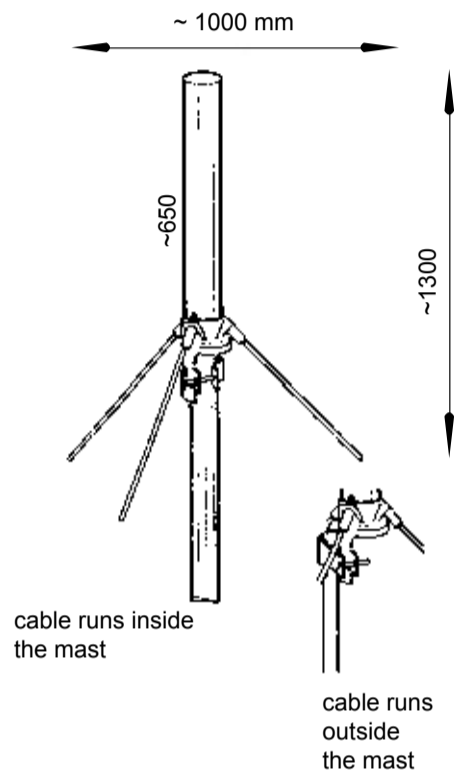


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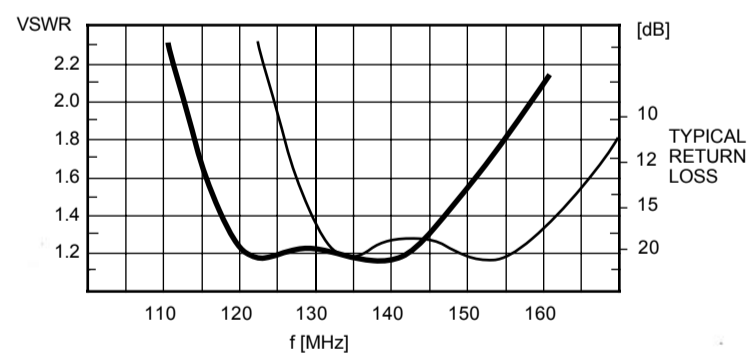
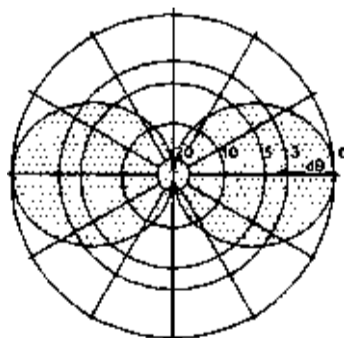
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**OMNIDIRECTIONAL ANTENNA  
WS A00 84 1.  
108 ... 162 MHz**



<b>TYPE NO.</b>	<b>WS A00 84 14: 108 - 136 MHz</b> <b>WS A00 84 15: 118 - 144 MHz</b> <b>WS A00 84 16: 130 - 162 MHz</b> further frequencies on request
<b>DESCRIPTION</b>	antenna with radome The radome protects the antenna from environmental influences, icing, and increases the lightning protection.
<b>POLARIZATION</b>	vertical
<b>IMPEDANCE</b>	50 Ω
<b>GAIN</b>	0 dB (ref. λ/2 dipole)
<b>VSWR</b>	< 1.3, at the limits of the band <1.5
<b>POWER</b>	max. 150 watts
<b>3 dB BEAMWIDTH</b>	horizontal, H plane: 360° vertical, E plane: 78°
<b>TERMINATION</b>	~ 1 m cable ending with N male the cable must NOT be shortened (transformer) other termination on request
<b>GROUNDING</b>	all metal parts are DC grounded
<b>MOUNTING</b>	to 40 - 66 mm ø mast cable runs inside or outside the mast
<b>MATERIAL</b>	aluminium, bolts of stainless steel, weather-resistant plastics, radome of UV-stabilized polyethylene
<b>WEIGHT</b>	1.7 kg
<b>WIND AREA</b>	0.046 m <sup>2</sup>
<b>WIND LOAD</b>	59 N (150 km/h) 44 N (130 km/h)

Vertical Radiation Pattern E Plane

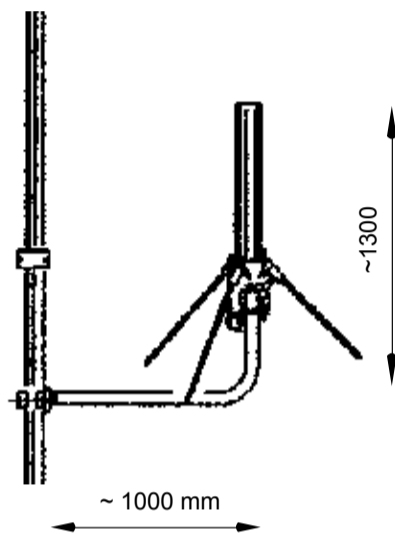


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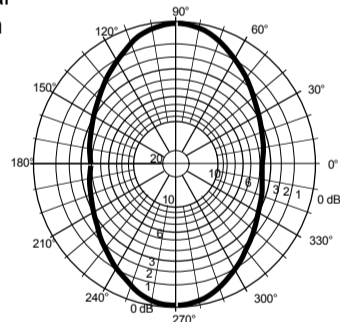


**OMNIDIRECTIONAL ANTENNA**  
**WS A00 84 15 .**  
**118 ... 162 MHz**

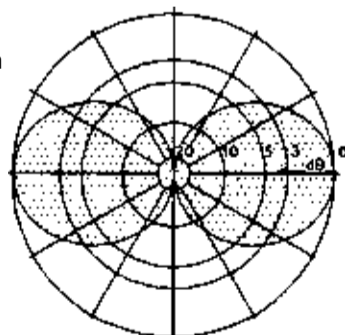


<b>TYPE NO.</b>	<b>WS A00 84 15 5: 118 - 144 MHz</b> <b>WS A00 84 15 6: 130 - 162 MHz</b> further frequencies on request
<b>DESCRIPTION</b>	antenna with radome The radome protects the antenna from environmental influences, icing, and increases the lightning protection.
<b>POLARIZATION</b>	vertical
<b>IMPEDANCE</b>	50 Ω
<b>GAIN</b>	0 dB (ref. λ/2 dipole)
<b>VSWR</b>	< 1.4, at the limits of the band < 1.5
<b>POWER</b>	max. 150 watts
<b>3 dB BEAMWIDTH</b>	horizontal, H plane: 360° deviation from circulatory ± 2 dB vertical, E plane: 78°
<b>TERMINATION</b>	~ 1 m cable ending with N male the cable must NOT be shortened (transformer) other termination on request
<b>GROUNDING</b>	all metal parts are DC grounded
<b>MOUNTING</b>	side mounted lateral to the mast <i>mast-ø clamp</i> 30-80 mm WG 51 (standard) 50-104 mm WG 52 (option) cable runs inside the support

Horizontal Radiation Pattern H Plane

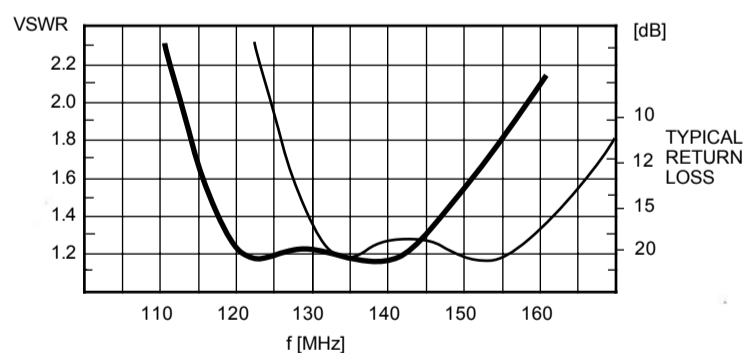


Vertical Radiation Pattern E Plane



**MATERIAL** aluminium, hot dip galvanized steel, bolts of stainless steel, weather-resistant plastics, radome of UV-stabilized polyethylene

**WEIGHT** 4 kg  
**WIND AREA** 0.1 m<sup>2</sup>  
**WIND LOAD** 127 N (150 km/h)  
 95 N (130 km/h)

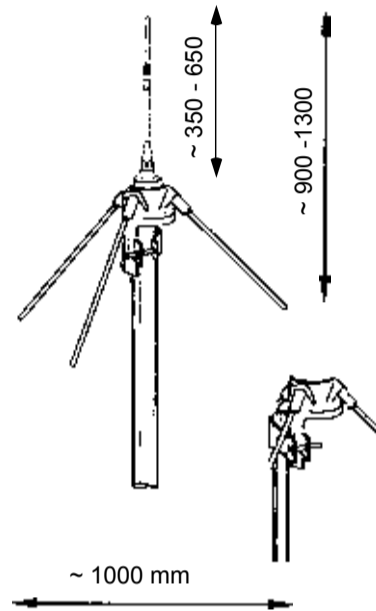


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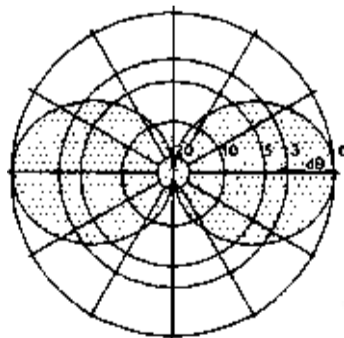
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**OMNIDIRECTIONAL ANTENNA adjustable**  
**WS A00 86 1**  
**104 ... 144 MHz**

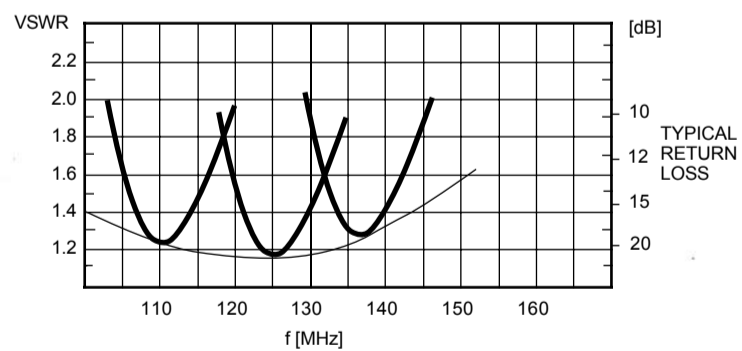


<b>TYPE NO.</b>	<b>WS A00 86 1: 104 ... 144 MHz</b> further frequencies on request
<b>DESCRIPTION</b>	light groundplane antennae with adjustable radiator a tuning table is delivered with the antenna
<b>POLARIZATION</b>	vertical
<b>IMPEDANCE</b>	50 Ω
<b>GAIN</b>	0 dB (ref. λ/2 dipole)
<b>VSWR</b>	< 1.4 on tuned frequency
<b>POWER</b>	max. 150 watts
<b>3 dB BEAMWIDTH</b>	horizontal, H plane: 360° vertical, E plane: 78°
<b>TERMINATION</b>	1 m cable RG 213/U ending with N male other termination on request
<b>GROUNDING</b>	radiator not DC grounded
<b>MOUNTING</b>	to 40 - 66 mm ø mast cable runs inside or outside the mast
<b>MATERIAL</b>	aluminium, bolts of stainless steel, weather-resistant plastics
<b>WEIGHT</b>	1.5 kg
<b>WIND AREA</b>	0.05 m <sup>2</sup>
<b>WIND LOAD</b>	63 N (150 km/h) 47 N (130 km/h)

Vertical  
Radiation  
Pattern  
E Plane



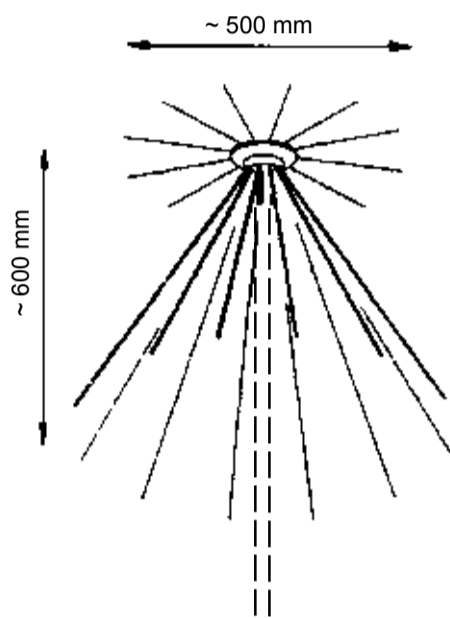
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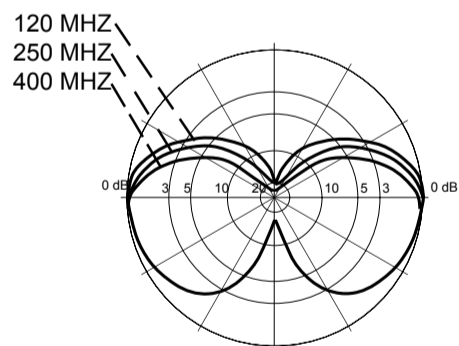


**DISCONE ANTENNA**  
**WS A00 92 1**  
**118 - 1100 MHz**



<b>TYPE NO.</b>	<b>WS A00 92 1: 118 - 1100 MHz</b>
<b>DESCRIPTION</b>	wideband omnidirectional antenna
<b>POLARIZATION</b>	vertical
<b>IMPEDANCE</b>	50 $\Omega$
<b>GAIN</b>	0 dB (ref. $\lambda/2$ dipole)
<b>VSWR</b>	< 2 from 118 - 500 MHz < 2.8 from 80 - 1100 MHz
<b>POWER</b>	max. 150 watts
<b>3 dB BEAMWIDTH</b>	horizontal, H plane: 360° (deviation from circularity $\pm 2$ dB)
<b>TERMINATION</b>	1 m cable RG 213/U ending with N male other termination on request
<b>GROUNDING</b>	all metal parts are DC grounded
<b>MOUNTING</b>	on mast with outer $\varnothing$ 42 mm, reduction for other $\varnothing$ on request (option)
<b>MATERIAL</b>	aluminium, bolts of stainless steel, weather-resistant plastics
<b>WEIGHT</b>	2.4 kg
<b>WIND AREA</b>	0.19 m <sup>2</sup>
<b>WIND LOAD</b>	242 N (150 km/h) 182 N (130 km/h)

VERTICAL RADIATION PATTERN  
(E PLANE)

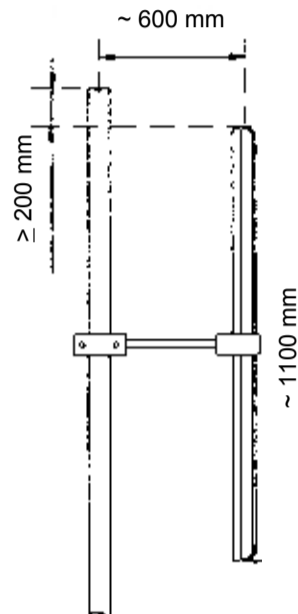


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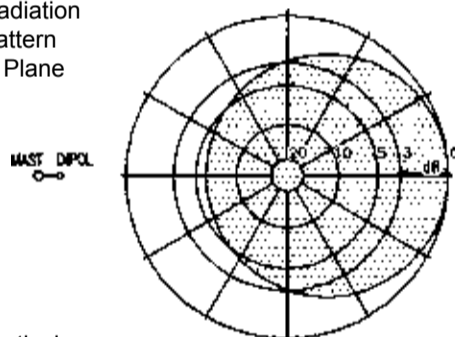


**OMNIDIRECTIONAL OFFSET-PATTERN GAIN ANTENNA**  
**WS A01 12 10 .**  
**110 ... 162 MHz**

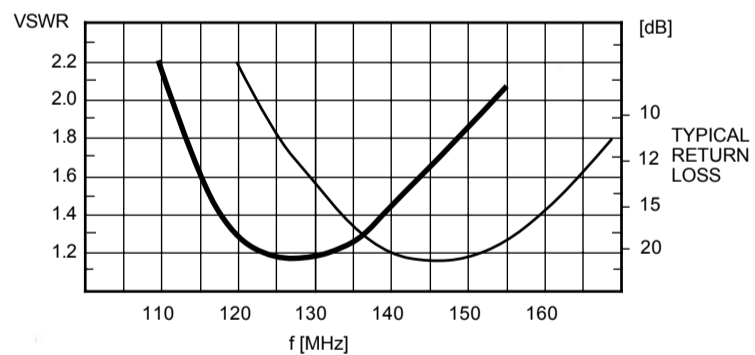
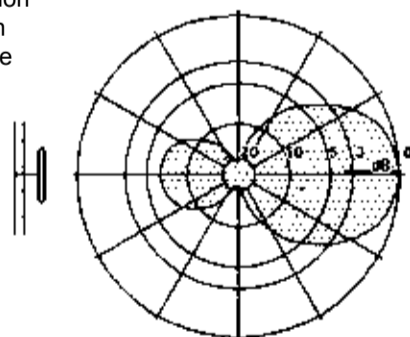


<b>TYPE NO.</b>	<b>WS A01 12 10 7: 110 - 136 MHz</b> <b>WS A01 12 10 8: 118 - 144 MHz</b> <b>WS A01 12 10 9: 130 - 162 MHz</b> light execution without radome
<b>POLARIZATION</b>	vertical
<b>IMPEDANCE</b>	50 Ω
<b>GAIN</b>	+3 dB (ref. to λ/2 dipole) -3 dB in reverse direction
<b>VSWR</b>	< 1.3, at the limits of the band < 1.6
<b>POWER</b>	max. 200 watts, higher ratings on request
<b>3 dB BEAMWIDTH</b>	horizontal (H-plane): 180° vertical (E-plane): 75°
<b>TERMINATION</b>	2 m cable RG 213/U ending with N male other termination on request
<b>GROUNDING</b>	all metal parts are DC grounded
<b>MOUNTING</b>	with mounting bracket WG 11, 30 - 80 mm or WG 12, 50 - 104 mm (option)
<b>MATERIAL</b>	aluminium, bolts of stainless steel, weather-resistant plastic
<b>WEIGHT</b>	1.2 kg
<b>WIND AREA</b>	0.04 m <sup>2</sup>
<b>WIND LOAD</b>	50 N (150 km/h) 40 N (130 km/h)

Horizontal  
Radiation  
Pattern  
H Plane



Vertical  
Radiation  
Pattern  
E Plane

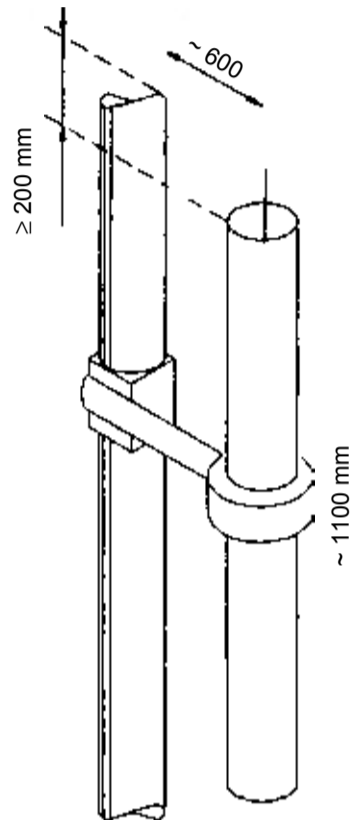


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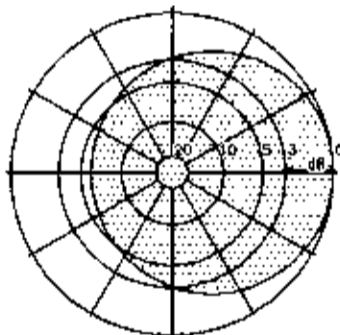
**OMNIDIRECTIONAL OFFSET-PATTERN GAIN ANTENNA**  
**WS A01 13 10 .**  
**110 ... 162 MHz**



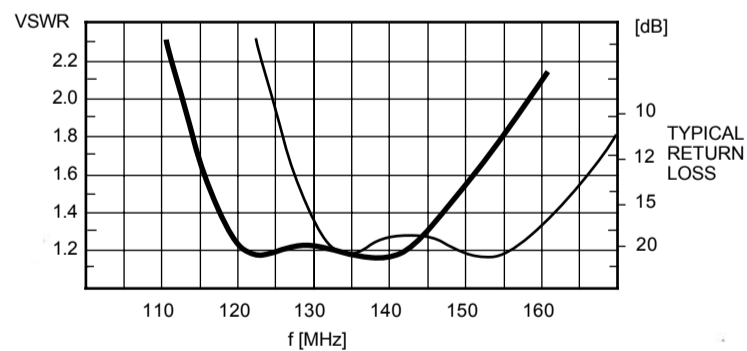
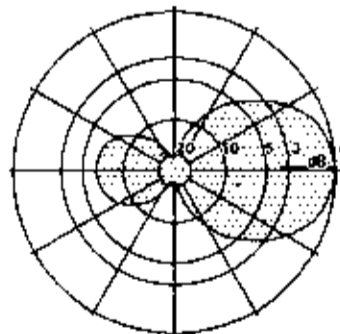
<b>TYPE NO.</b>	<b>WS A01 13 10 7: 110 - 136 MHz</b> <b>WS A01 13 10 8: 118 - 144 MHz</b> <b>WS A01 13 10 9: 130 - 162 MHz</b> further frequencies on request
<b>DESCRIPTION</b>	heavy duty with radome The radome protects the antenna against environmental influences, icing, and increases the lightning protection.
<b>POLARIZATION</b>	vertical
<b>IMPEDANCE</b>	50 Ω
<b>GAIN</b>	+3 dB (ref. to λ/2 dipole) -3 dB in reverse direction
<b>VSWR</b>	< 1.3, at the limits of the band < 1.6
<b>POWER</b>	max. 500 watts, higher ratings on request
<b>3 dB BEAMWIDTH</b>	horizontal (H-plane) 180° vertical (E-plane) 75°
<b>TERMINATION</b>	2 m cable RG 213/U ending with N male other termination on request
<b>GROUNDING</b>	all metal parts are DC grounded
<b>MOUNTING</b>	with mounting bracket WG 17, 30 - 80 mm or WG 18, 50 - 104 mm (option)
<b>MATERIAL</b>	aluminium, bolts of stainless steel, radom of UV-stabilized polyethylene
<b>WEIGHT</b>	3 kg
<b>WIND AREA</b>	0.11 m <sup>2</sup>
<b>WIND LOAD</b>	140 N (150 km/h) 105 N (130 km/h)

Horizontal  
Radiation  
Pattern  
H Plane

MAST DIPOL



Vertical  
Radiation  
Pattern  
E Plane



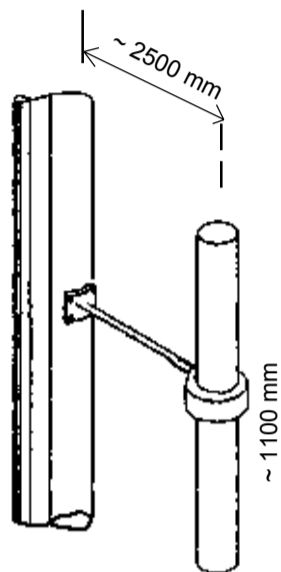
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**OMNIDIRECTIONAL ANTENNA**  
**WS A01 13 10 . spec.**  
**118 ... 162 MHz**



**TYPE NO.** WS A01 13 10 8 spec.: 118 - 144 MHz  
 WS A01 13 10 9 spec.: 130/162 MHz  
 execution with long bracket  
 further frequencies on request

**DESCRIPTION** heavy duty, with radome  
 The radomes protects the antenna dipoles against environmental influences, icing, and increases the lightning protection.  
 By the long bracket the radiation pattern becomes nearly omnidirectional, independent of the mast- $\phi$

**POLARIZATION** vertical

**IMPEDANCE** 50  $\Omega$

**GAIN** 0 dB (ref. to  $\lambda/2$  dipole)

**VSWR** < 1.3, at the limits of the band < 1.5  
 (see SWR graph)

**POWER** 500 watts

**3 dB BEAMWIDTH** horizontal (H-plane): omnidirectional  
 deviation from circularity  $\pm 3$  dB  
 vertical (E-plane): 78°

**TERMINATION** 3m RG 213/U ending with N male  
 other termination on request

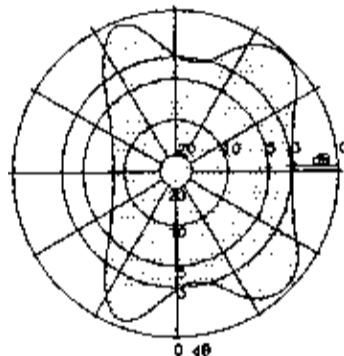
**GROUNDING** all metal parts are DC grounded

**MOUNTING** with flange no. 12 (see *chapt. 10*)  
 cable runs inside the mast

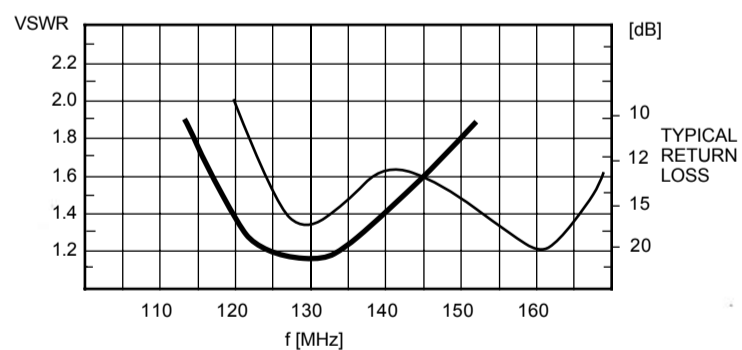
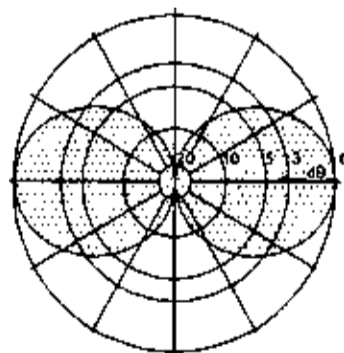
**MATERIAL** aluminium, bolts of stainless steel,  
 radome of UV-stabilized polyethylene

**WEIGHT** 5.5 kg  
**WIND AREA** 0.2 m<sup>2</sup>  
**WIND LOAD** 260 N (150 km/h)  
 190 N (130 km/h)

Horizontal  
 Radiation  
 Pattern  
 H Plane



Vertical  
 Radiation  
 Pattern  
 E Plane

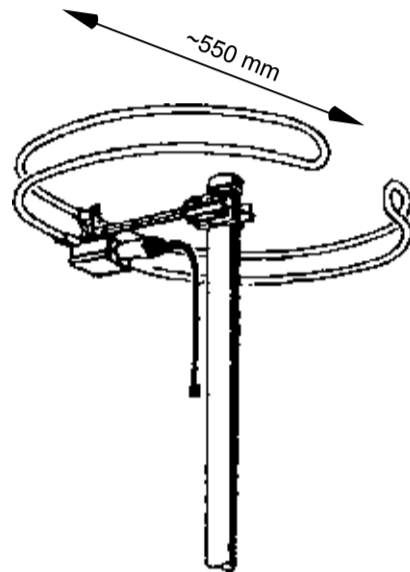


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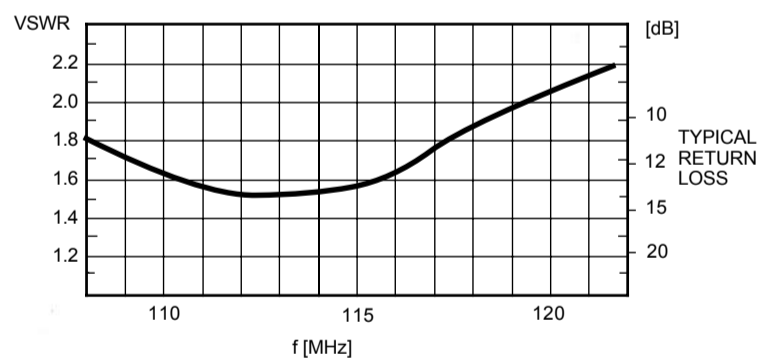
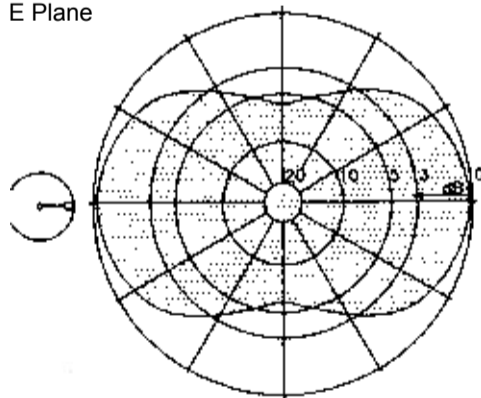
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**HALO ANTENNA  
WS A01 52 20 5  
108 - 118 MHz**



<b>TYPE NO.</b>	<b>WS A01 52 20 5: 108 - 118 MHz</b> further frequencies on request	
<b>POLARIZATION</b>	horizontal	
<b>IMPEDANCE</b>	50 Ω	
<b>GAIN</b>	-0.8 dB (ref. λ/2 dipole)	
<b>VSWR</b>	< 2	
<b>POWER</b>	max. 300 watts	
<b>3 dB BEAMWIDTH</b>	horizontal, H plane: 360° (deviation from circularity ± 3 dB)	
<b>TERMINATION</b>	2 m cable RG 214/U ending with N male other termination on request	
<b>GROUNDING</b>	all metal parts are DC grounded	
<b>MOUNTING</b>	mast-ø	clamp
	30 - 80 mm	WG 8 (standard)
	50 - 104 mm	WG 9 (option)
<b>MATERIAL</b>	aluminium, bolts of stainless steel, weather-resistant plastics	
<b>WEIGHT</b>	1.1 kg	
<b>WIND AREA</b>	0.04 m <sup>2</sup>	
<b>WIND LOAD</b>	50 N (150 km/h) 40 N (130 km/h)	

Horizontal  
Radiation  
Pattern  
E Plane



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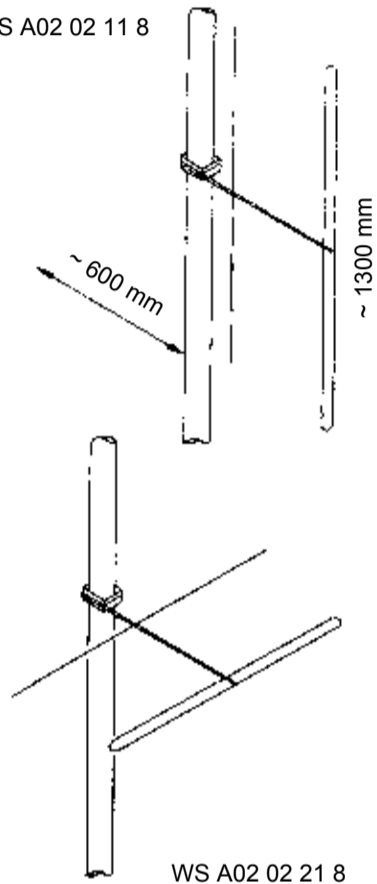
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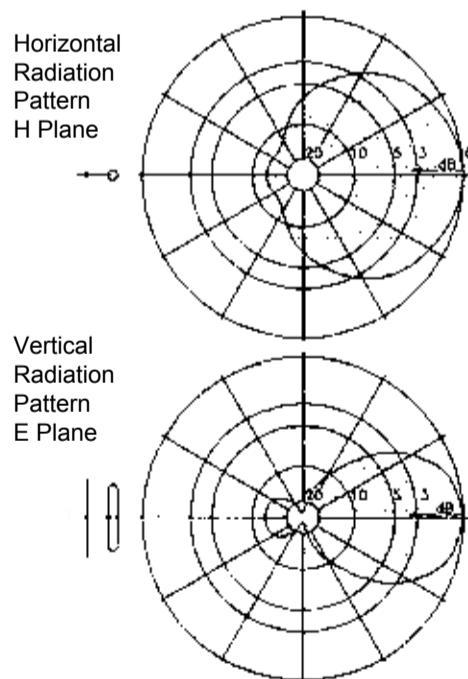
## 2 ELEMENT YAGI ANTENNA

**WS A02 02 .1 .**  
**107 ... 144 MHz**

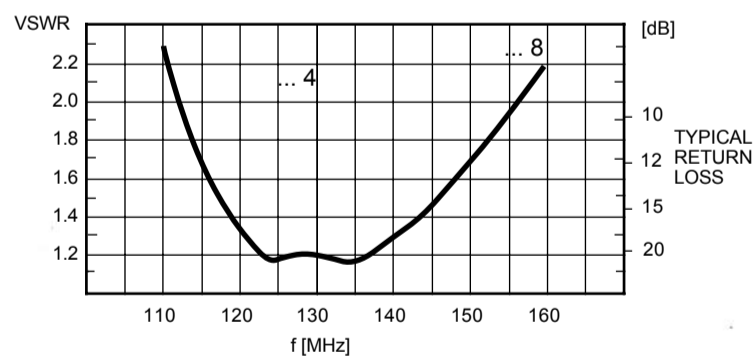
WS A02 02 11 8



<b>TYPE NO.</b>	<b>WS A02 02 11 7: 108 - 114 MHz</b> vertical polarization <b>WS A02 02 11 8: 118 - 144 MHz</b> vertical polarization <b>WS A02 02 11 4: 107 - 116 MHz</b> vertical polarization <b>WS A02 02 21 . : 107 ... 144 MHz</b> horiz. polarization light execution without radome
<b>IMPEDANCE</b>	50 $\Omega$
<b>GAIN</b>	3.5 dB (ref. to $\lambda/2$ dipole)
<b>VSWR</b>	< 1.3, at the limits of the band < 1.5
<b>POWER</b>	max. 150 watts, higher power on request
<b>3 dB BEAMWIDTH</b>	in polarization, E-plane: 74° vertical to pol. H-plane: 130°
<b>TERMINATION</b>	2 m cable RG 213/U ending with N male other termination on request
<b>GROUNDING</b>	all metal parts are DC grounded
<b>MOUNTING</b>	<i>mast <math>\varnothing</math></i> <i>clamp (see chapt. 10)</i> 30 - 80 mm    WG 11 (standard) 50 - 104 mm   WG 12 (option) clamp for other mast $\varnothing$ on request
<b>MATERIAL</b>	aluminium, bolts of stainless steel, weather-resistant plastic
<b>WEIGHT</b>	2.2 kg
<b>WIND AREA</b>	0.06 m <sup>2</sup>
<b>WIND LOAD</b>	76 N (150 km/h) 57 N (130 km/h)



KW 1-08



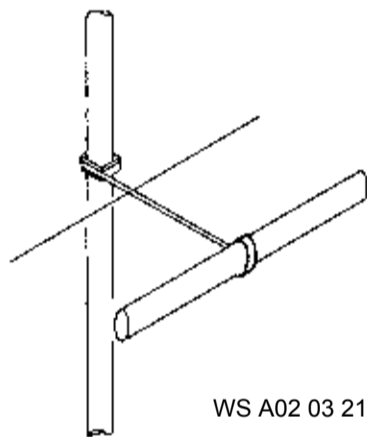
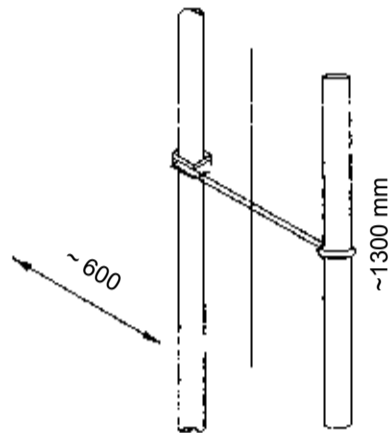
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**2 ELEMENT YAGI ANTENNA**

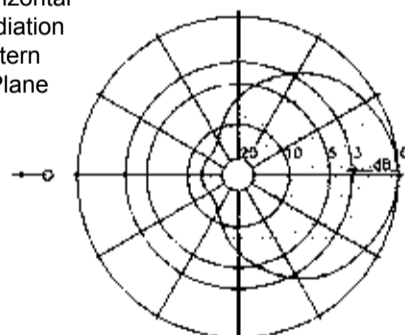
**WS A02 03 .1 .  
110 ... 144 MHz**

WS A02 03 11 8

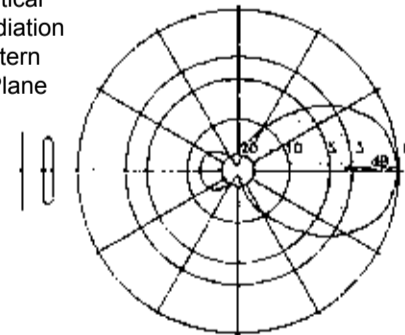


WS A02 03 21 8

Horizontal  
Radiation  
Pattern  
H Plane



Vertical  
Radiation  
Pattern  
E Plane



KW 1-L

**TYPE NO.**

**WS A02 03 11 7: 110 - 136 MHz** vertical polarization  
**WS A02 03 11 8: 118 - 144 MHz** vertical polarization  
**WS A02 03 21 7: 110 - 136 MHz** horizontal polarization  
**WS A02 03 21 8: 118 - 144 MHz** horizontal polarization  
 further frequencies on request

**DESCRIPTION**

heavy duty, with radome  
 The radome protects the antenna dipole against environmental influences, icing, and increases the lightning protection.

**IMPEDANCE**

50 Ω

**GAIN**

3.5 dB (ref. to λ/2 dipole)

**VSWR**

< 1.3, at the limits of the band < 1.5

**POWER**

max. 150 watts, higher power on request

**3 dB BEAMWIDTH**

in polarization, E-plane: 74°  
 vertical to pol. H-plane: 130°

**TERMINATION**

2 m cable RG 213/U with N male  
 other termination on request

**GROUNDING**

all metal parts are DC grounded

**MOUNTING**

*mast ø*      *clamp (see chapt. 10)*  
 30 - 80 mm    WG 17 (standard)  
 50 - 104 mm   WG 18 (option)  
 other clamp on request

**MATERIAL**

aluminium, bolts of stainless steel, radome of UV-stabilized polyethylene

**WEIGHT**

5 kg

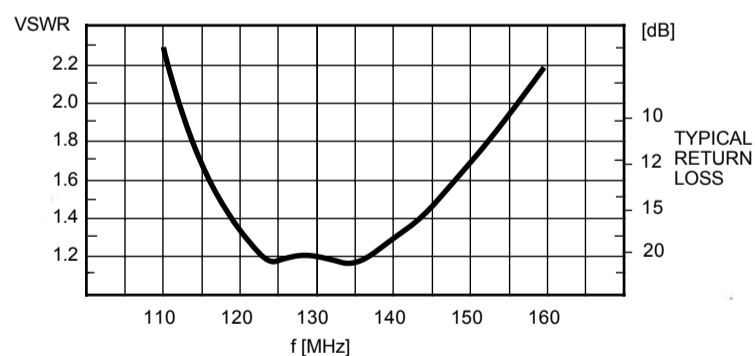
**WIND AREA**

0.16 m<sup>2</sup>

**WIND LOAD**

204 N (150 km/h)

153 N (130 km/h)



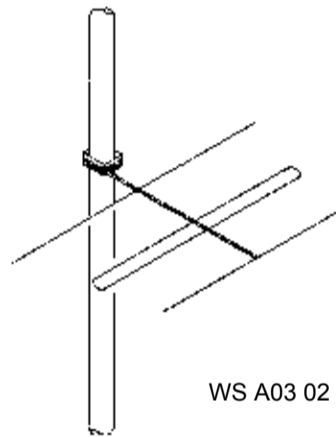
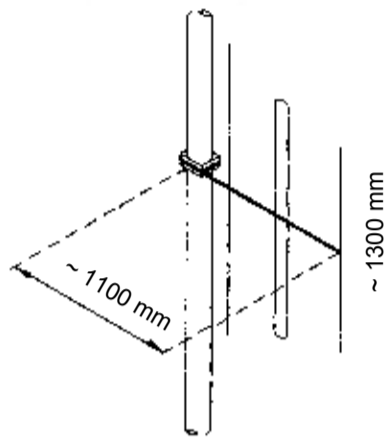
WIPIC reserves the right to amend specifications in the light of continuing development.

**wipic**

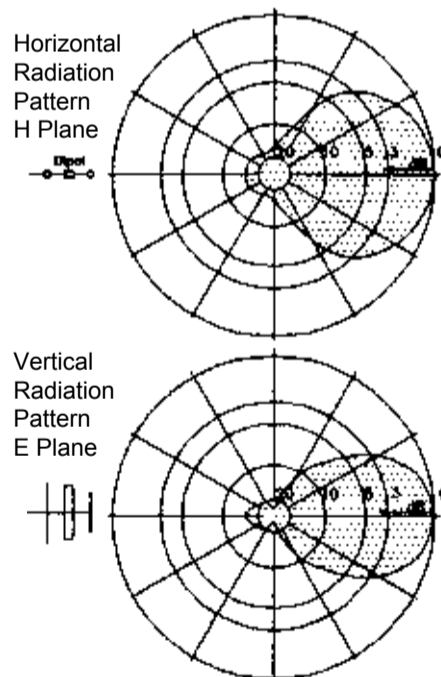
**3-ELEMENT YAGI ANTENNA**

**WS A03 02 .1 .  
105 ... 144 MHz**

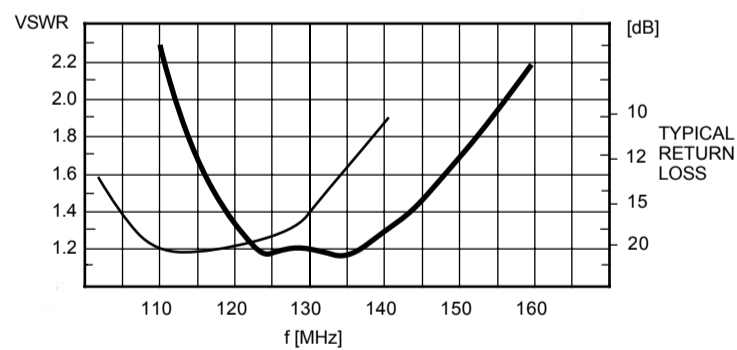
WS A03 02 11 8



WS A03 02 21 8



<b>TYPE NO.</b>	<b>WS A03 02 11 7: 108 - 136 MHz vertical polarization</b> <b>WS A03 02 11 8: 118 - 144 MHz vertical polarization</b>
	<b>WS A03 02 21 7: 108 - 136 MHz horizontal polarization</b> <b>WS A03 02 21 8: 118 - 144 MHz horizontal polarization</b> light execution without radome
<b>IMPEDANCE</b>	50 Ω
<b>GAIN</b>	5 dB (ref. to λ/2 dipole)
<b>VSWR</b>	< 1.3, at the limits of the band < 1.4
<b>POWER</b>	max. 150 watts, higher power on request
<b>3 dB BEAMWIDTH</b>	in polarization E-plane: 60° vertical to pol. H-plane: 110°
<b>TERMINATION</b>	2 m cable RG 213/U ending with N male other termination on request
<b>GROUNDING</b>	all metal parts are DC grounded
<b>MOUNTING</b>	<i>mast ø</i> <i>clamp (see chapt. 10)</i> 30 - 80 mm    WG 11 (standard) 50 - 104 mm   WG 12 (option) clamp for other mast-ø on request
<b>MATERIAL</b>	aluminium, bolts of stainless steel, weather-resistant plastics
<b>WEIGHT</b>	2.4 kg
<b>WIND AREA</b>	0.08 m <sup>2</sup>
<b>WIND LOAD</b>	102 N (150 km/h) 76 N (130 km/h)



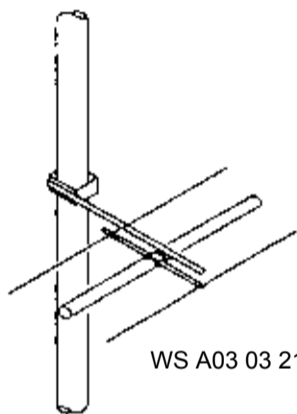
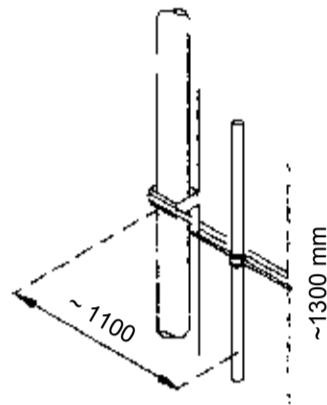
KW 1-08

WIPIC reserves the right to amend specifications in the light of continuing development.

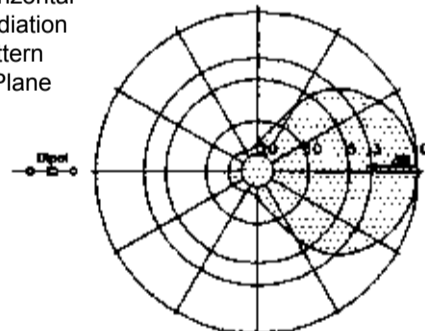


**3-ELEMENT YAGI ANTENNA**  
**WS A03 03 .1 .**  
**105 - 144 MHz**

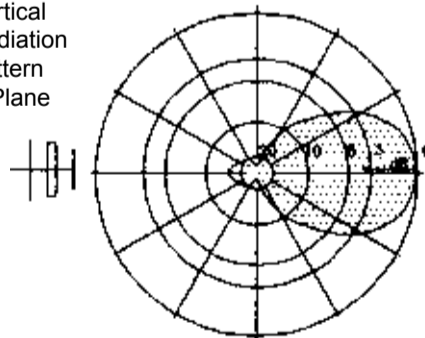
WS A03 03 11 8



Horizontal  
Radiation  
Pattern  
H Plane

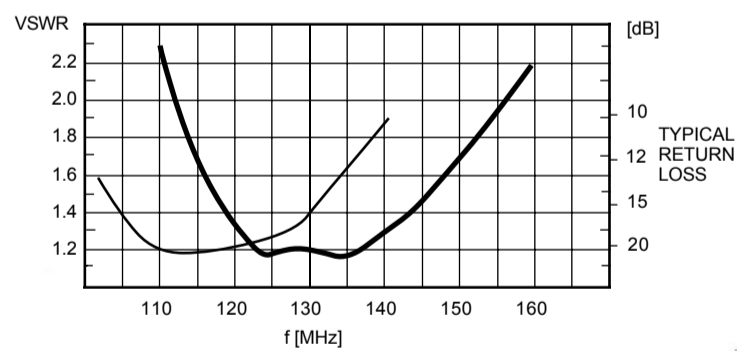


Vertical  
Radiation  
Pattern  
E Plane



KW 1-08

<b>TYPE NO.</b>	<b>WS A03 03 11 7: 108 - 136 MHz vertical polarization</b> <b>WS A03 03 11 8: 118 - 144 MHz vertical polarization</b>
	<b>WS A03 03 21 7: 108 - 136 MHz horizontal polarization</b> <b>WS A03 03 21 8: 118 - 144 MHz horizontal polarization</b> further frequencies on request
<b>DESCRIPTION</b>	heavy duty, with radome The radome protects the antenna dipole against environmental influences, icing, and increases the lightning protection.
<b>IMPEDANCE</b>	50 Ω
<b>GAIN</b>	5 dB (ref. to λ/2 dipole)
<b>VSWR</b>	< 1.3, at the limits of the band < 1.4
<b>POWER</b>	max. 500 watts, higher power on request
<b>3 dB BEAMWIDTH</b>	in polarization, E-plane: 66° vertical to pol. H-plane: 110°
<b>TERMINATION</b>	2 m cable RG 213/U with N male other termination on request
<b>GROUNDING</b>	all metal parts are DC grounded
<b>MOUNTING</b>	<i>mast ø</i> <i>clamp (see chapt. 10)</i> 30 - 80 mm    WG 17 (standard) 50 - 104 mm   WG 18 (option) clamp for other mast-ø on request
<b>MATERIAL</b>	aluminium, bolts of stainless steel, radome of UV-stabilized polyethylene
<b>WEIGHT</b>	4.8 kg
<b>WIND AREA</b>	0.18 m <sup>2</sup>
<b>WIND LOAD</b>	230 N (150 km/h) 170 N (130 km/h)

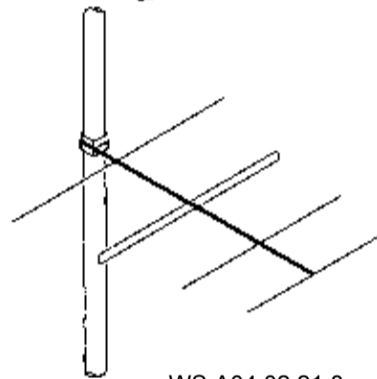
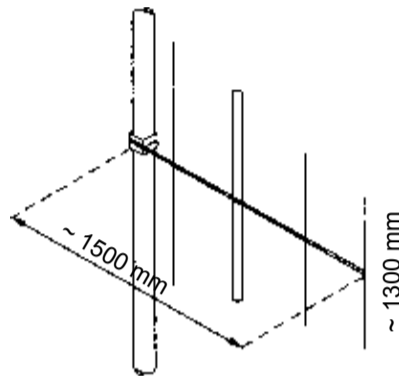


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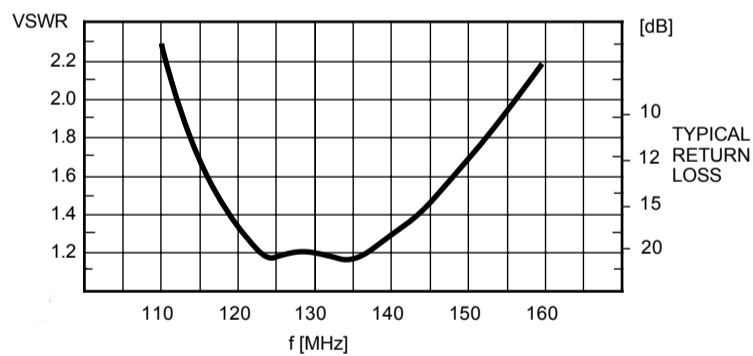
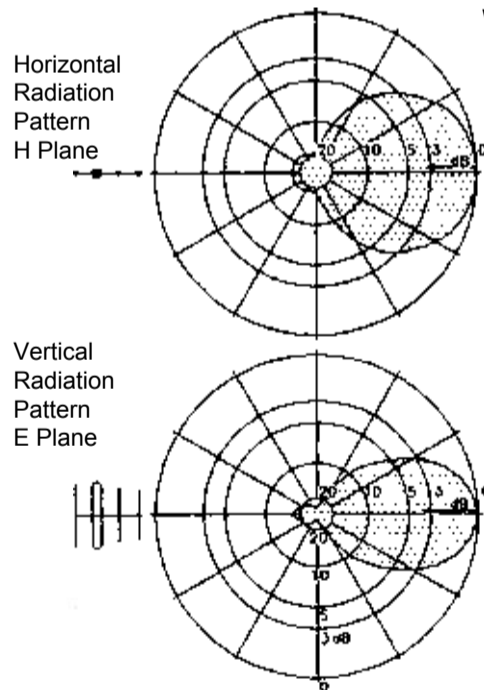
**4-ELEMENT YAGI ANTENNA**  
**WS A04 02 .1 .**  
**110 ... 144 MHz**

WS A04 02 11 8



WS A04 02 21 8

<b>TYPE NO.</b>	<b>WS A04 02 11 7: 110 - 136 MHz vertical polarization</b> <b>WS A04 02 11 8: 118 - 144 MHz vertical polarization</b> <b>WS A04 02 21 7: 110 - 136 MHz horizontal polarization</b> <b>WS A04 02 21 8: 118 - 144 MHz horizontal polarization</b> light execution without radome
<b>IMPEDANCE</b>	50 Ω
<b>GAIN</b>	6.5 dB (ref. to λ/2 dipole)
<b>VSWR</b>	< 1.3, at the limits of the band < 1.4
<b>POWER</b>	max. 150 watts, higher power on request
<b>3 dB BEAMWIDTH</b>	in polarization E-plane: 58° vertical to pol. H-plane: 90°
<b>TERMINATION</b>	2 m cable RG 213/U ending with N male other termination on request
<b>GROUNDING</b>	all metal parts are DC grounded
<b>MOUNTING</b>	<i>mast ø</i> <i>clamp (see chapt. 10)</i> 30 - 80 mm    WG 11 (standard) 50 - 104 mm   WG 12 (option) clamp for other mast-ø on request
<b>MATERIAL</b>	aluminium, bolts of stainless steel, weather-resistant plastic
<b>WEIGHT</b>	2.5 kg
<b>WIND AREA</b>	0.1 m <sup>2</sup>
<b>WIND LOAD</b>	130 N (150 km/h) 95 N (130 km/h)



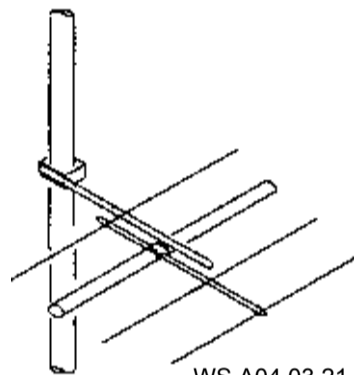
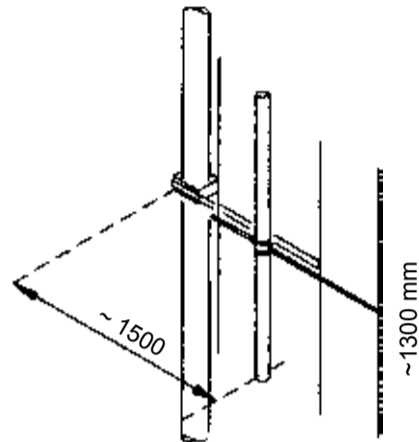
KW 1-08

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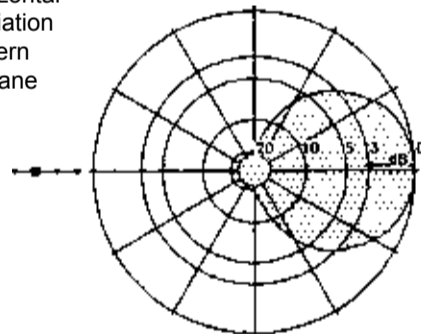
**4-ELEMENT YAGI ANTENNA**  
**WS A04 03.1 .**  
**110 ...144 MHz**

WS A04 03 11 8

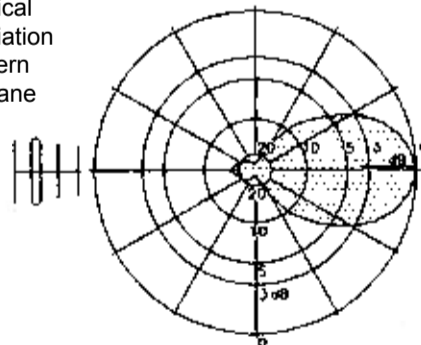


WS A04 03 21 8

Horizontal  
Radiation  
Pattern  
H Plane

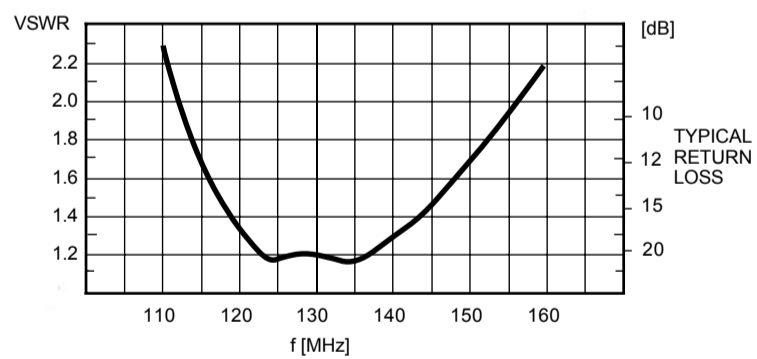


Vertical  
Radiation  
Pattern  
E Plane



KW 1-08

<b>TYPE NO.</b>	<b>WS A04 03 11 7: 110 - 136 MHz vertical polarization</b> <b>WS A04 03 11 8: 118 - 144 MHz vertical polarization</b> <b>WS A04 03 21 7: 110 - 136 MHz horizontal polarization</b> <b>WS A04 03 21 8: 118 - 144 MHz horizontal polarization</b> further frequencies on request
<b>DESCRIPTION</b>	heavy duty, with radome The radome protects the antenna dipole against environmental influences, icing, and increases the lightning protection.
<b>IMPEDANCE</b>	50 Ω
<b>GAIN</b>	6.5 dB (ref. to λ/2 dipole)
<b>VSWR</b>	< 1.3, at the limits of the band < 1.4
<b>POWER</b>	max. 500 watts, higher power on request
<b>3 dB BEAMWIDTH</b>	in polarization E-plane: 58° vertical to pol. H-plane: 90°
<b>TERMINATION</b>	2 m cable RG 213/U with N male other termination on request
<b>GROUNDING</b>	all metal parts are DC grounded
<b>MOUNTING</b>	<i>mast</i> ∅ <i>clamp</i> (see <i>chapt. 10</i> ) 30 - 80 mm    WG 17 (standard) 50 - 104 mm   WG 18 (option) clamp for other mast-∅ on request
<b>MATERIAL</b>	aluminium, bolts of stainless steel, radome of UV-stabilized polyethylene
<b>WEIGHT</b>	5.4 kg
<b>WIND AREA</b>	0.2 m <sup>2</sup>
<b>WIND LOAD</b>	255 N (150 km/h) 190 N (130 km/h)

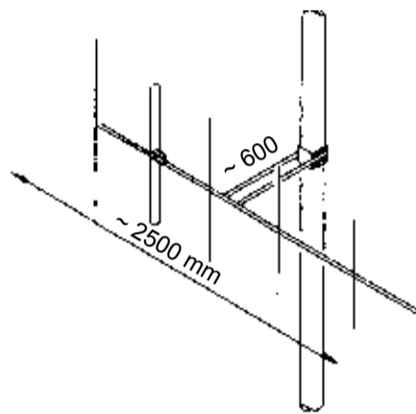


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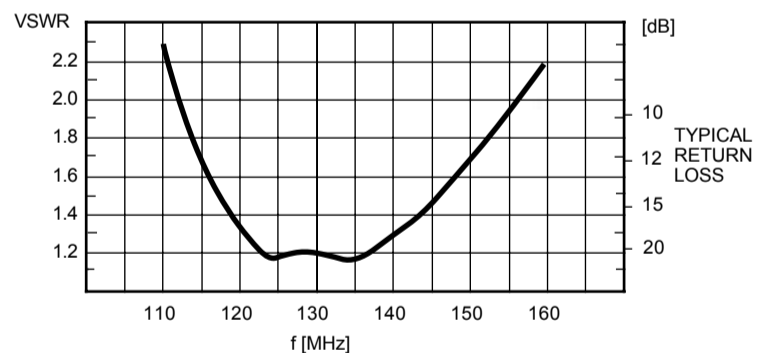
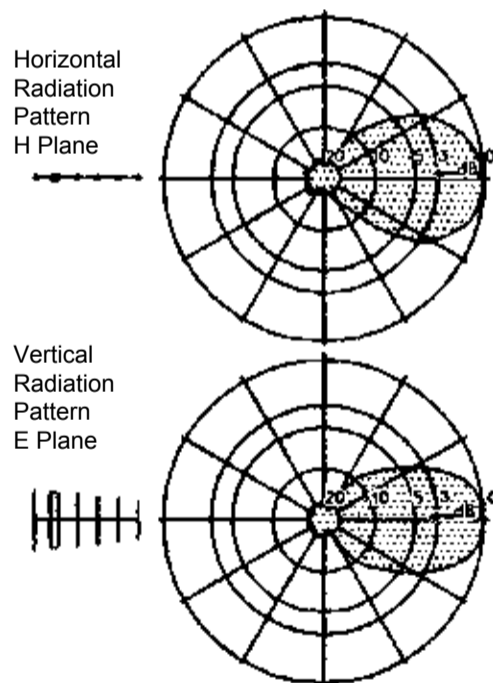


**wipic**

**6-ELEMENT YAGI ANTENNA**  
**WS A06 02 12 .**  
**110 ... 144 MHz**



<b>TYPE NO.</b>	<b>WS A06 02 12 7: 110 - 136 MHz</b> <b>WS A06 02 12 8: 118 - 144 MHz</b> light execution without radome	
<b>POLARISATION</b>	vertical (horizontal on request)	
<b>IMPEDANCE</b>	50 Ω	
<b>GAIN</b>	3.5 dB (ref. λ/2 dipole) f/b: ~ 18 dB	
<b>VSWR</b>	< 1.3, at the limits of the band <1.5	
<b>POWER</b>	max. 150 watts	
<b>3 dB BEAMWIDTH</b>	horizontal, H plane: 70° vertical, E plane: 48°	
<b>TERMINATION</b>	2 m cable RG 213/U ending with N male other termination on request	
<b>GROUNDING</b>	all metal parts are DC grounded	
<b>MOUNTING</b>	<i>mast-ø</i>	<i>clamp (see chapt. 10)</i>
	30 - 80 mm	WG 55 (standard)
	50 - 104 mm	WG 56 (option)
	clamp for other mast-ø on request	
<b>MATERIAL</b>	aluminium, bolts of stainless steel, weather-resistant plastics	
<b>WEIGHT</b>	4.4 kg	
<b>WIND AREA</b>	0.16 m <sup>2</sup>	
<b>WIND LOAD</b>	200 N (150 km/h) 150 N (130 km/h)	

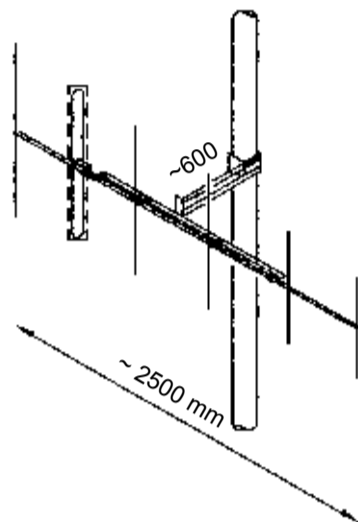


KW 1-08

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**6-ELEMENT YAGI ANTENNA**  
**WS A06 03 12 .**  
**110 ... 144 MHz**



**TYPE NO.** **WS A06 03 12 7: 110 - 136 MHz**  
**WS A06 03 12 8: 118 - 144 MHz**  
 further frequencies on request

**DESCRIPTION** heavy duty, with radome  
 The radome protects the antenna dipole from environmental influences, icing, and increases the lightning protection.

**POLARISATION** vertical (horizontal on request)

**IMPEDANCE** 50 Ω

**GAIN** 8.5 dB (ref. λ/2 dipole)  
 f/b: ~ 18 dB

**VSWR** < 1.3, at the limits of the band <1.5

**POWER** max. 150 watts

**3 dB BEAMWIDTH** horizontal, H plane: 70°  
 vertical, E plane: 48°

**TERMINATION** 2 m cable RG 213/U ending with N male  
 other termination on request

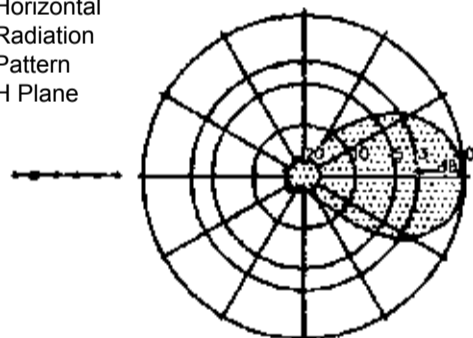
**GROUNDING** all metal parts are DC grounded

**MOUNTING** *mast-ø*                      *clamp (see chapt. 10)*  
 30 - 80 mm                    WG 63 (standard)  
 50 - 104 mm                 WG 64 (option)  
 clamp for other mast-ø on request

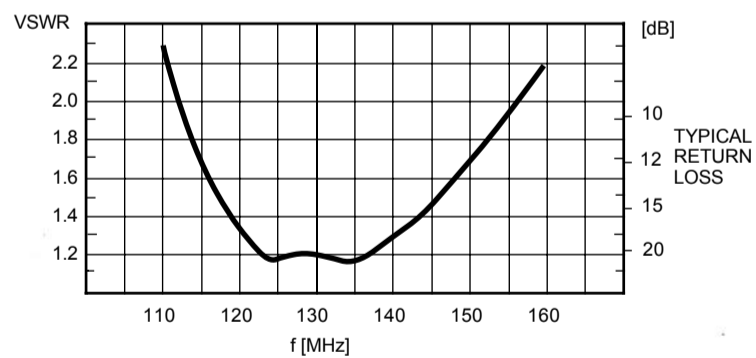
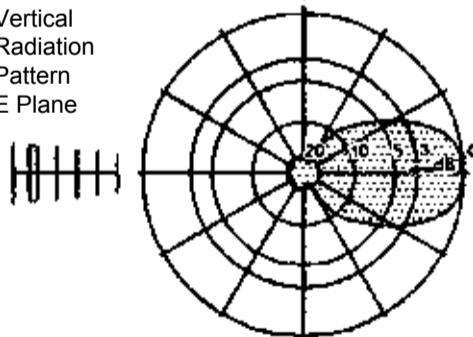
**MATERIAL** aluminium, bolts of stainless steel, weather-resistant plastics, radome of UV-stabilized polyethylene

**WEIGHT** 9.1 kg  
**WIND AREA** 0.32 m<sup>2</sup>  
**WIND LOAD** 410 N (150 km/h)  
 310 N (130 km/h)

Horizontal Radiation Pattern H Plane



Vertical Radiation Pattern E Plane



KW 1-08

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**wipic**



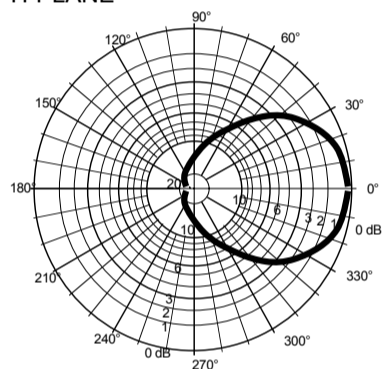
**LOG PERIODIC ANTENNA**

**WS A80 22 31 3**

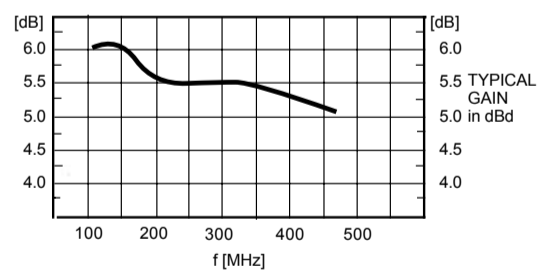
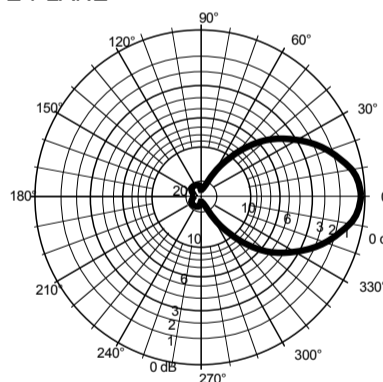
**108 - 470 MHz**

<b>TYPE NO.</b>	<b>WS A80 22 31 3: 108 - 470 MHz</b> other bands of request
<b>POLARIZATION</b>	vertical or horizontal
<b>IMPEDANCE</b>	50 Ω
<b>GAIN</b>	5 - 6.2 dB ref. λ/2 dipole 7-8.4 dBi F/B < 30 dB
<b>VSWR</b>	≤ 2 preferred < 1.5
<b>POWER</b>	300 - 1000 watts (depends on frequency)
<b>3 dB BEAMWIDTH</b>	E-plane: 60° H-plane: 96°
<b>TERMINATION</b>	2 m cable RG 213/U ending with N male other termination on request
<b>GROUNDING</b>	all metal parts are DC grounded
<b>MOUNTING</b>	mast-ø                    clamp 30 - 80 mm            WG 11 (standard) 50 - 104 mm          WG 12 (option) clamp for other mast-ø on request
<b>MATERIAL</b>	aluminium, bolts of stainless steel, weather-resistant plastics
<b>DIMENSIONS</b>	boomlength            ~ 2.5 m longest element        ~ 1.4 m
<b>WEIGHT</b>	4.5 kg
<b>WIND AREA</b>	0.15 m <sup>2</sup>
<b>WIND LOAD</b>	191 N at 150 km/h 143 N at 130 km/h

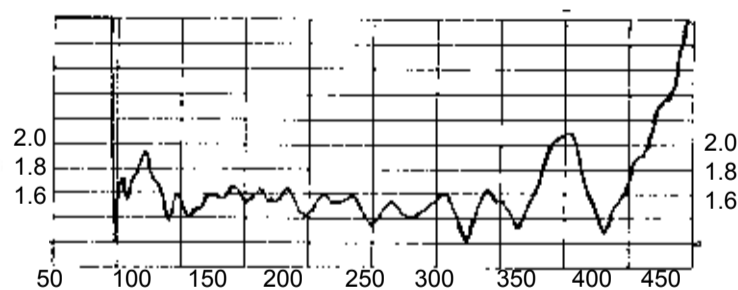
**RADIATION PATTERNH H-PLANE**



**RADIATION PATTERNH E-PLANE**



**TYPICAL SWR**

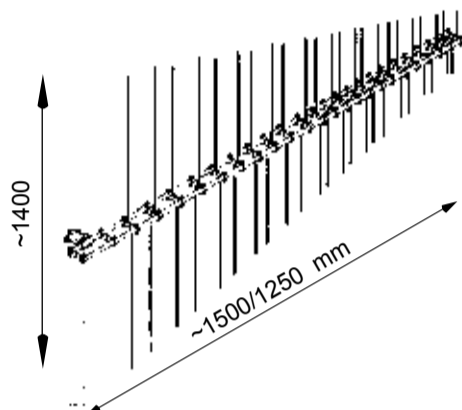


KW 1-08

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**LOG PERIODIC ANTENNA**  
**WS A80 22 31 .**  
**108 ... 1100 MHz**



<b>TYPE NO.</b>	<b>WS A80 22 31 1</b>	<b>108 - 1100 MHz</b>
	other bands of request	
<b>POLARIZATION</b>	vertikal (horizontal on request)	
<b>IMPEDANCE</b>	50 or 75 $\Omega$ on request	
<b>GAIN</b>	5-6dB ref. $\lambda/2$ Dipol 7-8 dBi F/B 20 - 25 dB	
<b>VSWR</b>	$\leq 2.5$ preferred $< 1.5$	
<b>POWER</b>	300 - 1000 watts (depends on frequency)	
<b>3 dB BEAMWIDTH</b>	E-plane:	60 - 70°
	H-plane:	110 - 130°
<b>TERMINATION</b>	2 m cable RG 213/U or RG 11 ending with N male other termination on request	
<b>GROUNDING</b>	all metal parts are DC grounded	
<b>MOUNTING</b>	mast- $\emptyset$	clamp
	30 - 80 mm	WG 11 (standard)
	50 - 104 mm	WG 12 (option)
	clamp for other mast- $\emptyset$ on request	
<b>MATERIAL</b>	aluminium, bolts of stainless steel, weather-resistant plastics	
<b>WEIGHT</b>	A80 22	
<b>WIND AREA</b>	3.1 kg	
<b>WIND LOAD</b>	0.19 m <sup>2</sup> 270 N (150 km/h) 200 N (130 km/h)	

KW 1-08

WIPIC reserves the right to amend specifications in the light of continuing development.

Section 9. 20/20