wipic

Mobile Antennas
25 ...1900 MHz

ORDER NUMBER	TYPE
WS F20 74 1	68 ... 87.5 MHz, with radome, low profile
WS F30 31 1. .	3 dB 137 ... 174 MHz
WS F30 31 1. .	mountings
WS F30 74 15/6	146 ... 174 MHz, GSM, UMTS, WLAN with radome, low profile
WS F30 84 1.	140 ... 174 MHz with radome
WS F40 31 1.	3 dB 220 ... 470 MHz
WS F40 31 1.	mountings
WS F40 61 17 .	380 - 400 MHz
WS F40 68 16	4 dB 370 ... 390 MHz
WS F40 74 14	380 ... 430 MHz with radome, low profile
WS F40 83 1.	4 dB 370 ... 470 MHz with radome
WS F40 84 1.	370 ... 470 MHz with radome
WS F60 31 1. 8	3 dB 860 - 960 MHz
WS F60 31 1. 8	mountings
WS F60 83 18	800 - 970 MHz 3 dB with radome
WS F.R ..	Radiators for base WS F0R 65
WS F0R 65 D	Base for radiators and spring to base

KW 3-08

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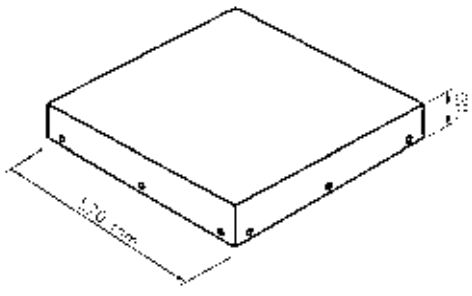
ANTENNA FOR VEHICLES
WS F20 74 1
68 ... 88 MHz



TYPE	**WS F20 74 1:** (desired frequency)
DESCRIPTION	omnidirectional antenna, very low construction The antenna must be adjusted on the car, either from the roof or from the interior of the vehicle. When placing your order indicate your preference interior or exterior adjustement.
POLARIZATION	vertical
IMPEDANCE	50 Ω
GAIN	0 dB (ref. λ/4 dipole)
VSWR	< 1.5 on Tx frequency
POWER	50 watts
RADIATION PATTERN	omnidirectional
GROUNDING	all metal parts are DC grounded
TERMINATION	BNC female, other termination on request
MOUNTING	with 12 srews on conducting surface of at least 1 m^2
BREAKDOWN VOLTAGE	3000 VDC
MATERIAL	radiating element and base plate: aluminium Cr/Ni -plated copper, bolts of stainless steel, radome of fiberglass
WEIGHT	5.1 kg
WINDAREA	0.05 m^2
WINDLOAD	66 N at 150 km/h 49 N at 130 km/h

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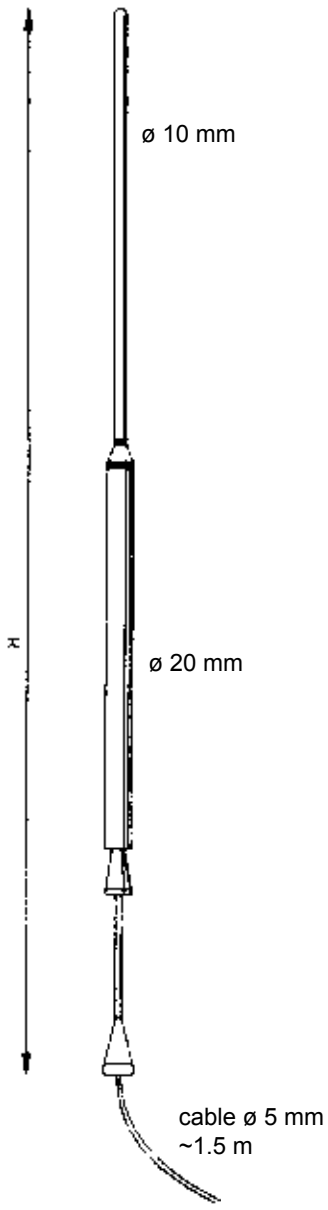
MOBILE ANTENNA
WS F30 31 1. .
137... 174 MHz



TYPE NO.	**WS F30 31 1. 7: 137 ... 149 MHz** **WS F30 31 1. 8: 146 ... 159 MHz** **WS F30 31 1. 9: 156 ... 174 MHz** tuned on the requested frequency
DESCRIPTION	The antenna is decoupled from the carrier tube and needs no counter weight. The antenna is specially designed for motorcycles and vehicules with plastic roofs.
POLARIZATION	vertical
IMPEDANCE	50 Ω
GAIN	3 dB (ref to a λ/4 dipole)
VSWR	< 1.3 on tuned frequency
POWER	30 Watt
TERMINATION	1.5 m cable with ø 5mm, without connector the cable must not be shortened (transformer)
GROUNDING	radiator not grounded
MOUNTING	see next page
MATERIAL	anodized aluminium, bolts and spring of stainless steel, rugged plastic base
HEIGHT H	WS F30 31 1. 7: 1.2 m WS F30 31 1. 8: 1.15 m WS F30 31 1. 9: 1.1 m

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MOBILE ANTENNA
WS F30 31 1. .
137 ... 174 MHz

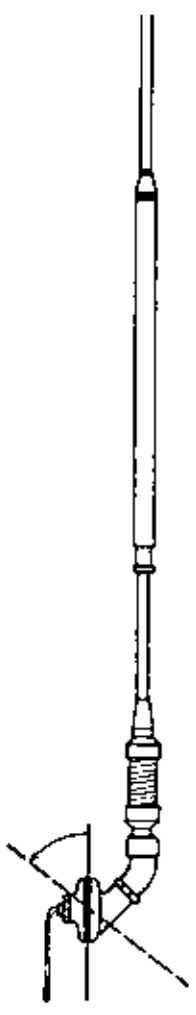
WS F30 31 12 .

with spring

MOUNTING:
on horizontal plane
hole ø 16 mm

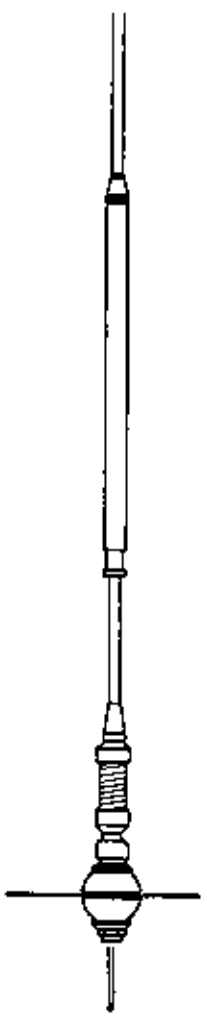
WEIGHT:750 g

WS F30 31 13 .
no longer available



WS F30 31 14 .

with spring and stright mounting flange



MOUNTING:
on planes with no slope
hole ø 24 mm

WEIGHT: 1100 g

WS F30 31 15 .

with mounting clamp

MOUNTING:
on masts, ralings etc.
with metallic assembly line

WEIGHT: 450 g

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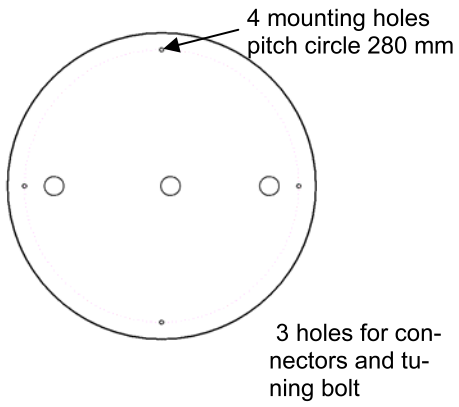
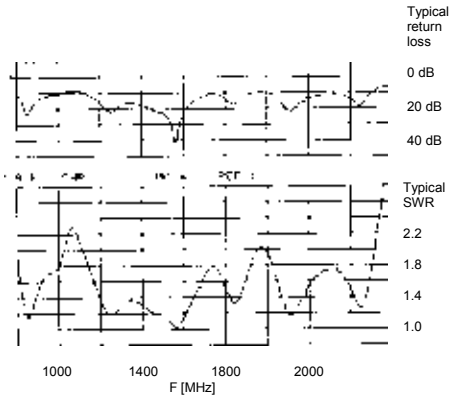
DUAL BAND MOBILE ANTENNA
WS F30 74 15/6
146 ... 174 MHz / 860 - 2500 MHz





BAND 146 ... 174 MHz	tuned on desired frequency
DESCRIPTION	omnidirectional antenna, very low profile construction, radome protected The antenna is tunable on conducting or nonconducting surfaces.
POLARIZATION	vertical
IMPEDANCE	50 Ω
GAIN	-2 dB (ref. λ/4 antenna)
VSWR	< 1.5 on tuned frequency bandwidth 1 MHz (VSWR 2)
POWER	150 watts
RADIATION PATTERN	omnidirectional
GROUNDING	all metal parts are DC grounded
TERMINATION	BNC female, other termination on request
BAND 860-2500 MHz	**GSM 900, 1800, 1900, UMTS, WLAN**
DESCRIPTION	built in the radome of the 2 m antenna
POLARIZATION	vertical
IMPEDANCE	50 Ω
GAIN	0 dB (ref. λ/2 dipole)
POWER	25 W
RADIATION PATTERN	allmost round on all bands
TERMINATION	TNC female
MOUNTING	with 4 bolts Ø 5 mm (not included) 3 holes for connectors and tuning bolt, drill 20 mm
MATERIAL	aluminium, bolts of stainless steel, radome of weather-resistant ASA
WEIGHT	1 kg
WINDAREA	0.02 m^2
WINDLOAD	26 N at 150 km/h 20 N at 130 km/h

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KW 9-04

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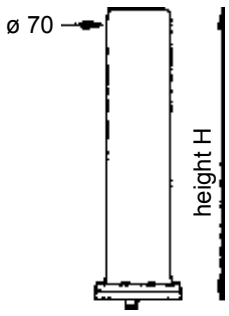
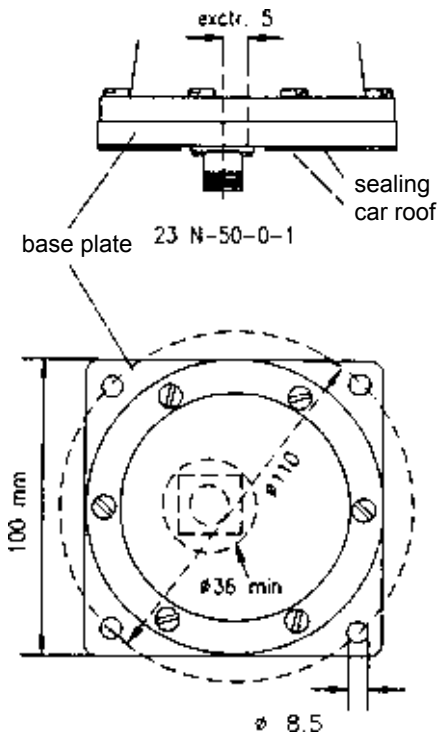
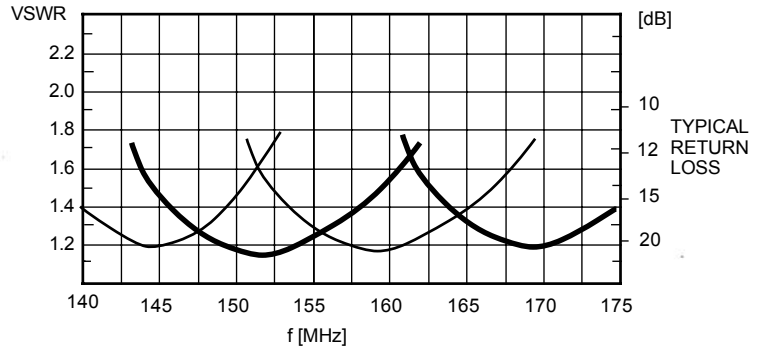
MOBILE ANTENNA
WS F30 84 1.
142 ... 174 MHz



TYPE NO.	***type***	***frequenzy***	***height***
	WS F30 84 16:	**142 - 149 MHz**	**470 mm**
	WS F30 84 17:	**147 - 156 MHz**	**455 mm**
	WS F30 84 18:	**155 - 166 MHz**	**430 mm**
	WS F30 84 19:	**164 - 174 MHz**	**410 mm**
	Tested for rail use according to EN 50388:05		
POLARIZATION	vertikal		
IMPEDANCE	50 Ω		
GAIN	0 dB (ref. λ/4 Dipol)		
VSWR	< 1.4		
POWER	300 Watt		
TERMINATION	N chassis female 23 N-50-0-1		
GROUNDING	all metal parts are DC grounded		
MOUNTING	on conductive surface with 1m² at least with 4 srews M8		
MATERIAL	aluminium, bolts of stailess steel, radome of uv-stabilized polyethylene		
WEIGHT	0.9 kg		
WIND AREA	0.03 m²		
WIND LOAD	28 N at 150 km/h 38 N at 130 km/h 68 N at 200 km/h		





KW 1-08

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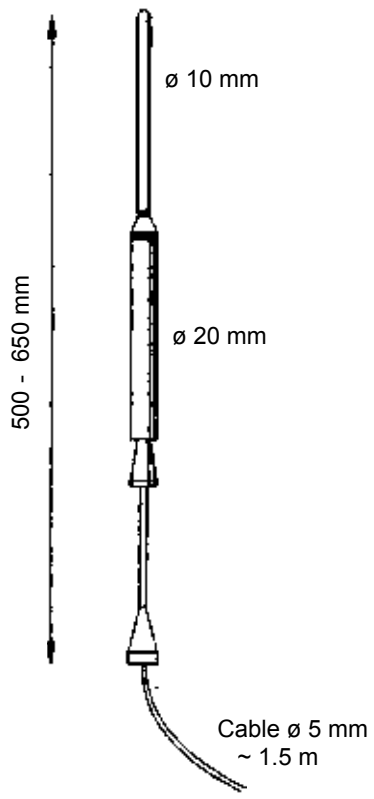
ANTENNA FOR MOTO CYCLES
WS F40 31 1. (freq.)
220 ... 470 MHz



TYPE NO.	**WS F40 31 1. : (desired frequency)** other frequency on request
DESCRIPTION	The antenna is decoupled from the carrier tube and needs no counter weight. The antenna is specially designed for motorcycles and vehicules with plastic roofs.
POLARIZATION	vertical
IMPEDANCE	50 Ω
GAIN	3 dB (ref. to a λ/4 dipole)
VSWR	< 1.3 on tuned frequency
POWER	30 Watt
TERMINATION	1.5 m cable with ø 5mm, without connector the cable must not be shortened (transformer)
GROUNDING	radiator not grounded
MOUNTING	see next page
MATERIAL	aluminium, bolts and spring of stainless steel, rugged plastic base

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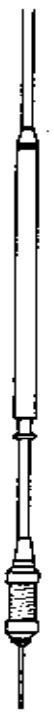
MOBILE ANTENNA
WS F40 31 1.
220 ... 470 MHz

WS F40 31 12

with spring

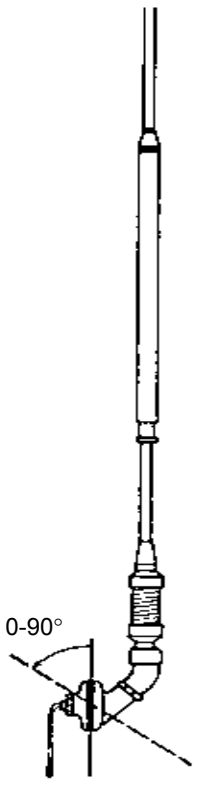


MOUNTING:
on horizontal plane
hole ø 16 mm

WEIGHT:650 g

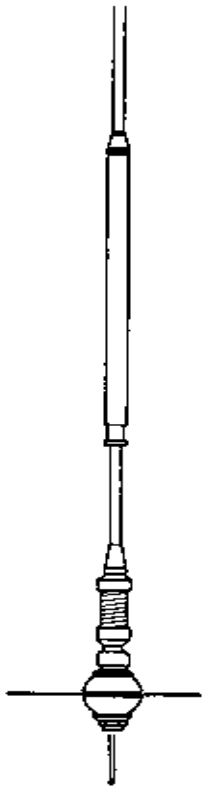
WS F40 31 13

no longer available



WS F40 31 14

with spring and stright mounting flange



MOUNTING:
on planes with no slope
hole ø 24 mm

WEIGHT: 1100 g

WS F40 31 15

with monting clamp

MOUNTING:
on masts, ralings etc.
with metallic assembly line

WEIGHT: 350 g

KW 1-08

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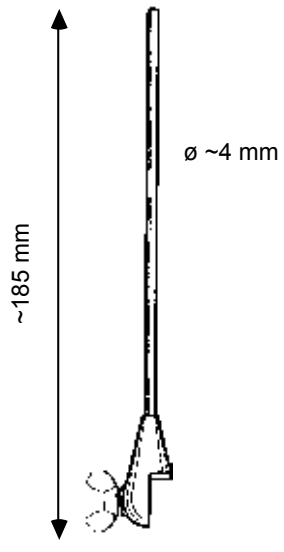
RADIATER TO MOBILE ANTENNA
WS F40 61 17
380 - 400 MHz



TYPE NO.	**WS F40 61 17 radiator: 380 - 400 MHz** further frequencies on request
DESCRIPTION	bright
POLARISATION	vertical
IMPEDANCE	50 Ω
GAIN	0 dB (ref. to a λ/4 dipole)
SWR	< 2 (tuned to a commercial base)
MAX. POWER	30 watts
MOUNTING	swivel-joint fitting
MATERIAL	whip and screw: stainless steel mount: brass nickel-plated wing: robust plastic
LENGTH	~ 185 mm
WEIGHT	~ 65 g

KW 1-08

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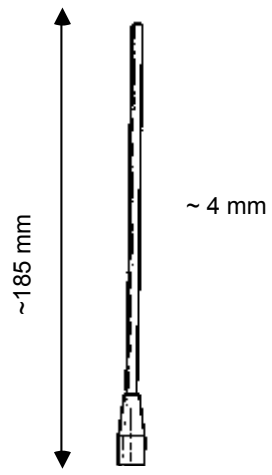
RADIATER TO MOBILE ANTENNA
WS F40 61 17 1
380 - 400 MHz



TYPE NO.	**WS F40 61 17 1 radiator: 380 - 400 MHz** further frequencies on request
DESCRIPTION	surface black or bright
POLARISATION	vertical
IMPEDANCE	50 Ω
GAIN	0 dB (ref. to a λ/4 dipole)
SWR	< 2 (tuned to a commercial base)
MAX. POWER	30 watts
MOUNTING	M6 thread or screw
MATERIAL	whip: stainless steel mount: brass
LENGTH	~ 185 mm
WEIGHT	~ 45 g

KW 1-08

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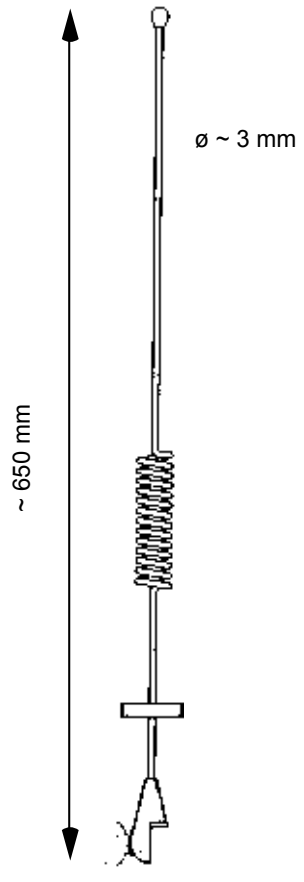
RADIATER TO MOBILE ANTENNA
WS F40 68 16
380 - 400 MHz



TYPE NO.	**WS F40 68 16 radiator: 380 - 400 MHz** further frequencies on request
DESCRIPTION	bright
POLARISATION	vertical
IMPEDANCE	50 Ω
GAIN	4 dB (ref. to a λ/4 dipole)
SWR	< 2 (tuned to a commercial base)
MAX. POWER	30 watts
MOUNTING	swivel-joint fitting
MATERIAL	whip and screw: stainless steel mount: brass nickel-plated wing: robust plastic
LENGTH	~ 650 mm
WEIGHT	~ 125 g

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LOW PROFILE OMNIDIRECTIONAL ANTENNA
WS F40 74 14
380 - 430 MHz

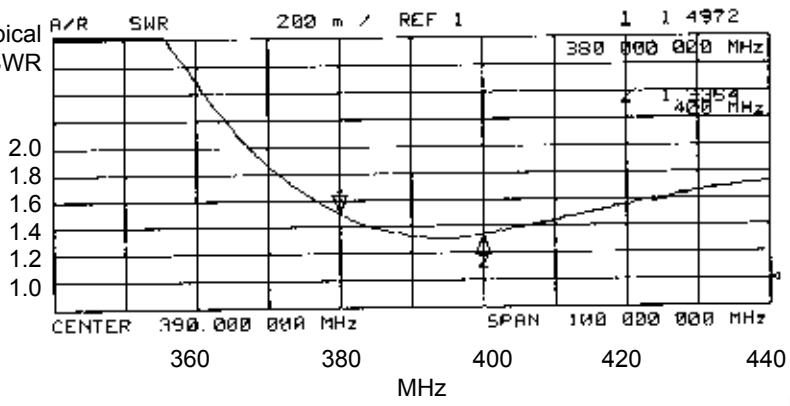
upper ø 120

height 90 mm

lower ø 175 mm

TYPE NO.	**WS F40 74 14: 380 - 430 MHz** further frequencies on request
DESCRIPTION	omnidirectional antenna, low profile
POLARIZATION	vertical
IMPEDANCE	50 Ω
GAIN	0 dB (ref. λ/4 dipole)
VSWR	≤ 1.7
POWER	150 Watt
TERMINATION	20 cm cable RG 58 with FME male other termination on request
GROUNDING	al metal parts are DC grounded
MOUNTING	one-hole mounting drilling diameter 24 mm on a conductive surface with 1m² at least
MATERIAL	aluminium, bolts of stainless steel radome of UV-stabilized polyethylene
WEIGHT	0.8 kg
WIND AREA	0.011 m²
WIND LOAD	14 N at 150 km/h 10 N at 130 km/h 25 N at 200 km/h

typical SWR



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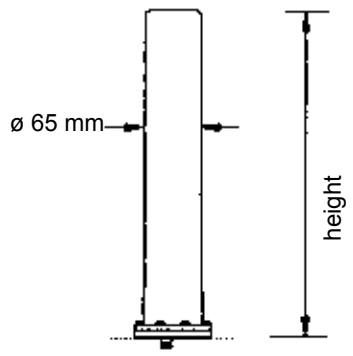
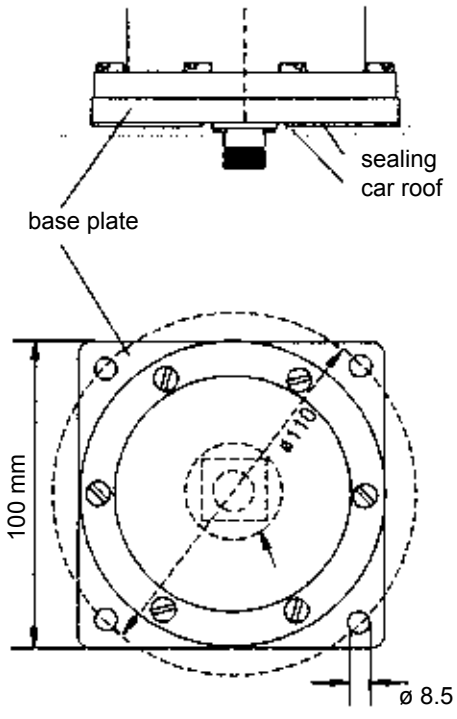
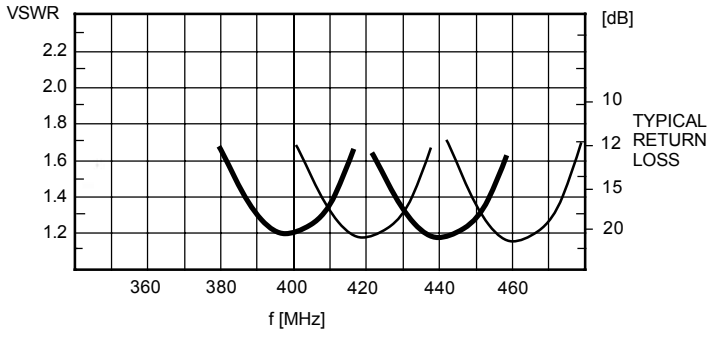
MOBILE ANTENNA
WS F40 83 1.
370 - 470 MHz



TYPE NO.	**WS F40 83 15:**	**370 - 400 MHz**
	WS F40 83 16:	**390 - 410 MHz**
	WS F40 83 17:	**410 - 430 MHz**
	WS F40 83 18:	**430 - 450 MHz**
	WS F40 83 19:	**450 - 470 MHz**
	Tested for rail use according to EN 50388:05	
POLARIZATION	vertikal	
IMPEDANCE	50 Ω	
GAIN	4 dB (ref. a λ/4 dipole)	
VSWR	< 1.5	
POWER	150 Watt	
TERMINATION	N chassis female 23 N-50-0-1 other termination on request	
GROUNDING	radiator not DC grounded	
MOUNTING	on conductive surface with 1m² at least	
MATERIAL	aluminium, steel, bolts of stainless steel, radome of UV-stabilized polyethylene	
HEIGHT	WS F 5-7	620 mm
	WS F 8-9	655 mm
WEIGHT	1.0 kg	
WIND AREA	0.04 m²	
WIND LOAD	51 N at 150 km/h	
	38 N at 130 km/h	
	91 N at 200 km/h	





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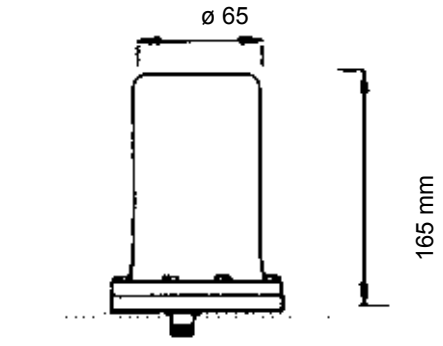
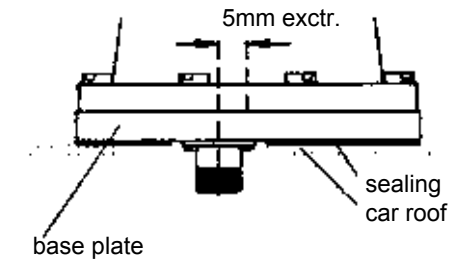
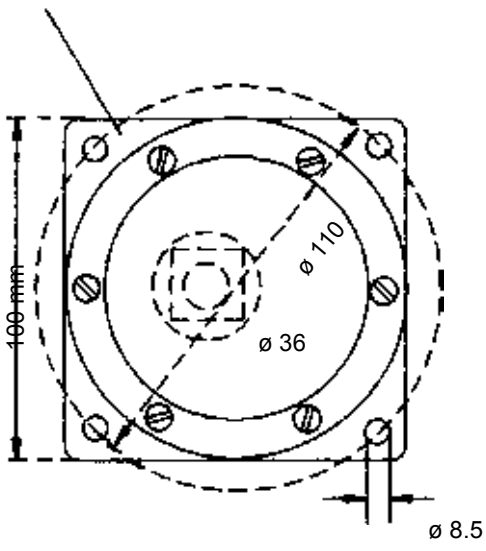
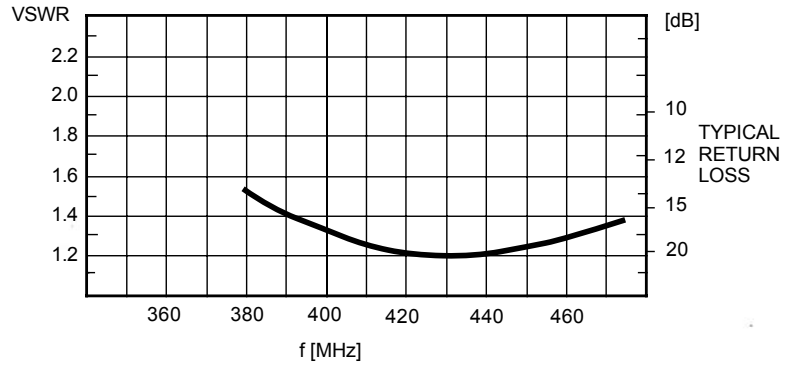
MOBILE ANTENNA
WS F40 84 1.
370 ... 470 MHz







TYPE NO.	**WS F40 84 19: 400 - 470 MHz** **WS F40 84 18: 370 - 420 MHz** Tested for rail use according to EN 50388:05
DESCRIPTION	broadband omnidirectional antenna with radome
POLARIZATION	vertikal
IMPEDANCE	50 Ω
GAIN	0 dB (ref. λ/4 Dipol)
VSWR	≤ 1.5 at the limits of the band < 1.5
POWER	150 Watt
TERMINATION	N chassis female 23 N-50-0-1 other termination on request
GROUNDING	al metal parts are DC grounded
MOUNTING	on conductive surface with 1m² at least
MATERIAL	aluminium, bolts of stainless steel radome of UV-stabilized polyethylene
WEIGHT	0.9 kg
WIND AREA	0.011 m²
WIND LOAD	14 N at 150 km/h 10 N at 130 km/h 25 N at 200 km/h



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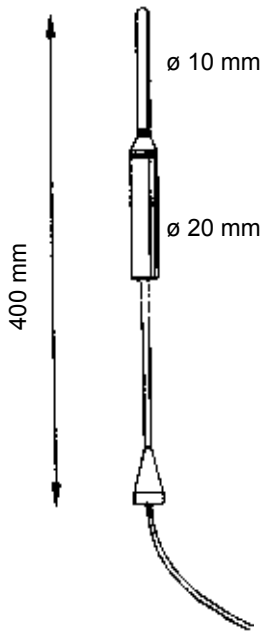
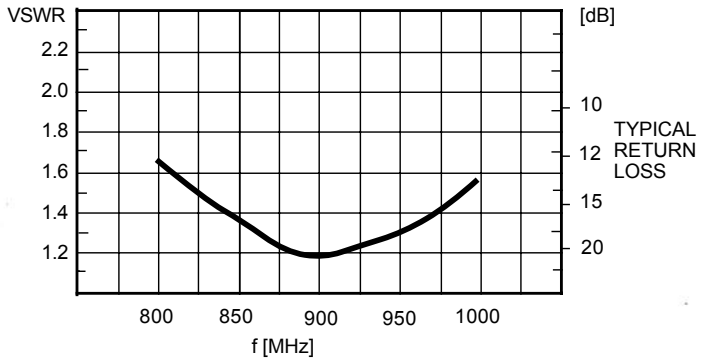
MOBILE ANTENNA
WS F60 31 1. 8
860 - 960 MHz



TYPE NO.	**WS F60 31 1. 8: 860 - 960 MHz** further frequencies on request
DESCRIPTION	The antenna is decoupled from the carrier tube and needs no counter weight. The antenna is specially designed for motorcycles and vehicules with plastic roofs.
POLARIZATION	vertical
IMPEDANCE	50 Ω
GAIN	3 dB (reef. ta a λ/4 dipole)
VSWR	< 1.5 on tuned frequency
POWER	20 Watt
TERMINATION	1.5 m cable with ø 5mm, without connector the cable must not be shortened (transformer)
GROUNDING	radiator not grounded
MOUNTING	see next page
MATERIAL	anodized aluminium, bolts and spring of stainless steel, rugged plastic base



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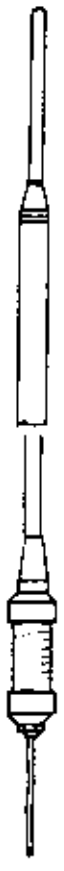
MOBILE ANTENNA
WS F60 31 1. 8
860 - 960 MHz

WS F60 31 12 8

with spring

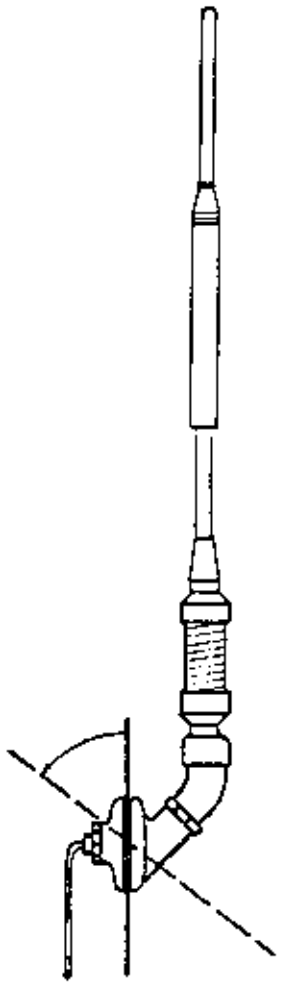


MOUNTING:
on horizontal plane
hole ø 16 mm

WEIGHT: 600 g

WS F60 31 13 8

no longer available

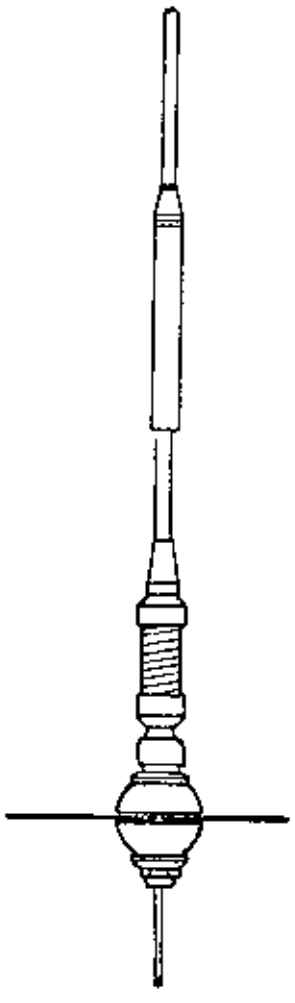


MOUNTING:
on planes with no slope
hole ø 24 mm

WEIGHT: 1000 g

WS F60 31 14 8

with spring and stright mounting flange

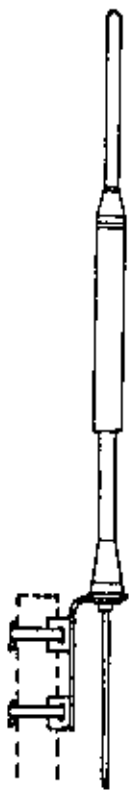


MOUNTING:
on masts, ralings etc.
with metallic assembly line

WEIGHT: 300 g

WS F60 31 15 8

with monting clamp



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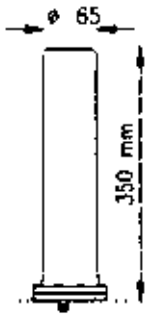
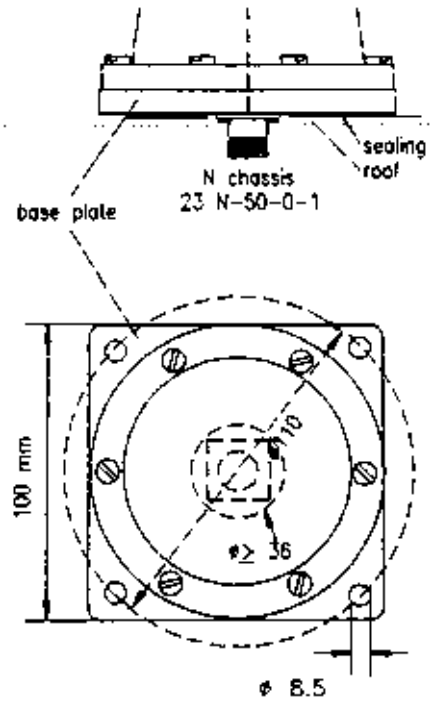
3 dB MOBILE ANTENNA
WS F60 83 18
870 - 930 MHz





TYPE NO.	**WS F60 83 18:**	**870 - 930 MHz**
DESCRIPTION	omnidirectional antenna with radome	
POLARIZATION	vertikal	
IMPEDANCE	50 Ω	
GAIN	3 dB (ref. to a λ/4 dipole)	
VSWR	870 - 930 MHz	≤ 2
	800 - 970 MHz	≤ 4
POWER	150 Watt	
TERMINATION	N chassis female 23 N-50-0-1 other termination on request	
GROUNDING	radiator not DC grounded	
MOUNTING	with four bolts on conductive surface with 0.25m² at least	
MATERIAL	steel, aluminium, bolts of stainless steel radome of UV-stabilized polyethylene	
WEIGHT	1.0 kg	
WIND AREA	0.023 m²	
WIND LOAD	29 N at 150 km/h	
	22 N at 130 km/h	
	52 N at 200 km/h	

Tested for rail use according to EN 50388:05

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

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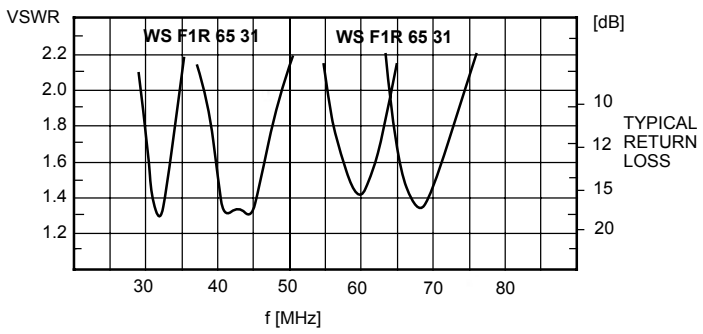
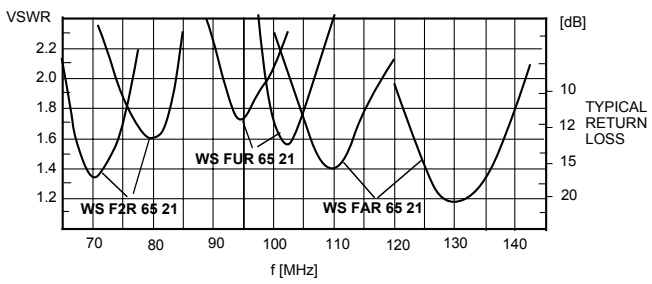
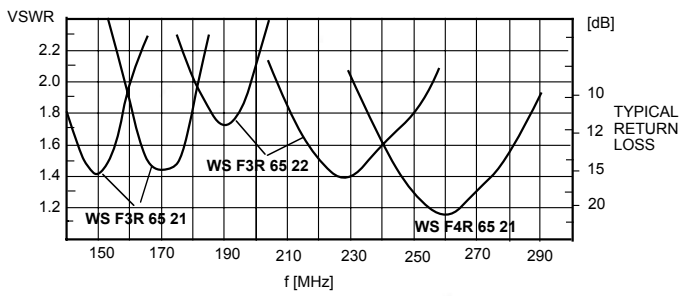
RADIATORS TO ANTENNAS FOR RADIATON MEASUREMENTS
30 ... 600 MHz

TYPE	FREQUENCY MHz	LENGTH mm	VSWR on tuned freq.	BANDWIDTH VSWR ≤ 2
WS F1R 65 31	25 ... 58	1700 - 2740	< 1.5	± 2 MHz
WS F2R 65 31	30 ... 75	1020 - 2300	< 1.5	± 4 MHz

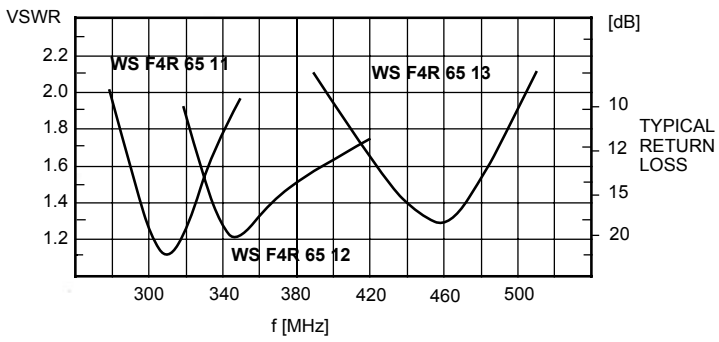


TYPE	FREQUENCY MHz	LENGTH mm	VSWR on tuned freq.	BAND-WDTH	VSWR
WS F2R 65 21	68 ... 88	1110 - 770	< 2.2	± 5 MHz	< 2
WS FUR 65 21	88 ... 104	770 - 620	< 2.0	± 5 MHz	< 2.2
WS FAR 65 21	104 ... 144	630 - 420	< 1.5	± 10 MHz	< 2
WS F3R 65 21	144 ... 174	435 - 340	< 1.5	± 10 MHz	< 2
WS F3R 65 22	174 ... 235	355 - 240	< 2.0	± 15 MHz	< 2.5
WS F4R 65 21	235 ... 290	250 - 170	< 1.4	± 30 MHz	< 2





TYPE	FREQUENCY MHz	LENGTH mm	VSWR	BAND-WDTH	VSWR
WS F4R 65 11	290 - 330	160	< 1.6	280-350 MHz	< 2
WS F4R 65 12	330 - 400	130	< 1.6	320-420 MHz	< 2
WS F4R 65 13	400 - 500	90	< 1.9	390-510 MHz	< 2.1



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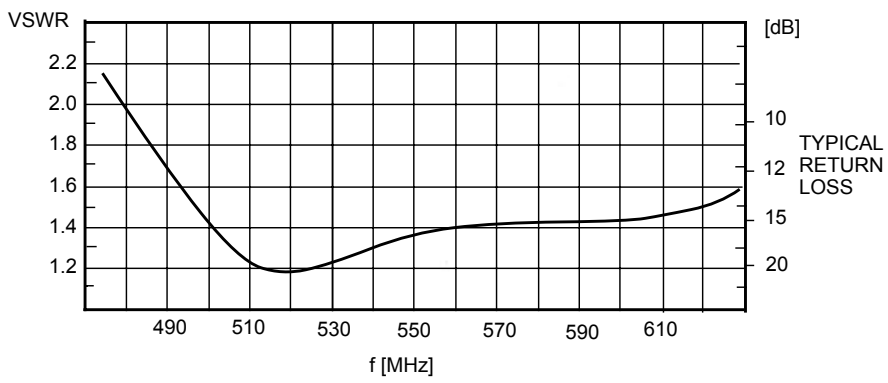
TYPE	FREQUENCY MHz	LENGTH mm	VSWR	BAND-WDTH	VSWR
WS F4R 65 14	500 - 600	62	< 1.5	480-670 MHz	< 2



Base for the Radiators
WS F0R 65 D

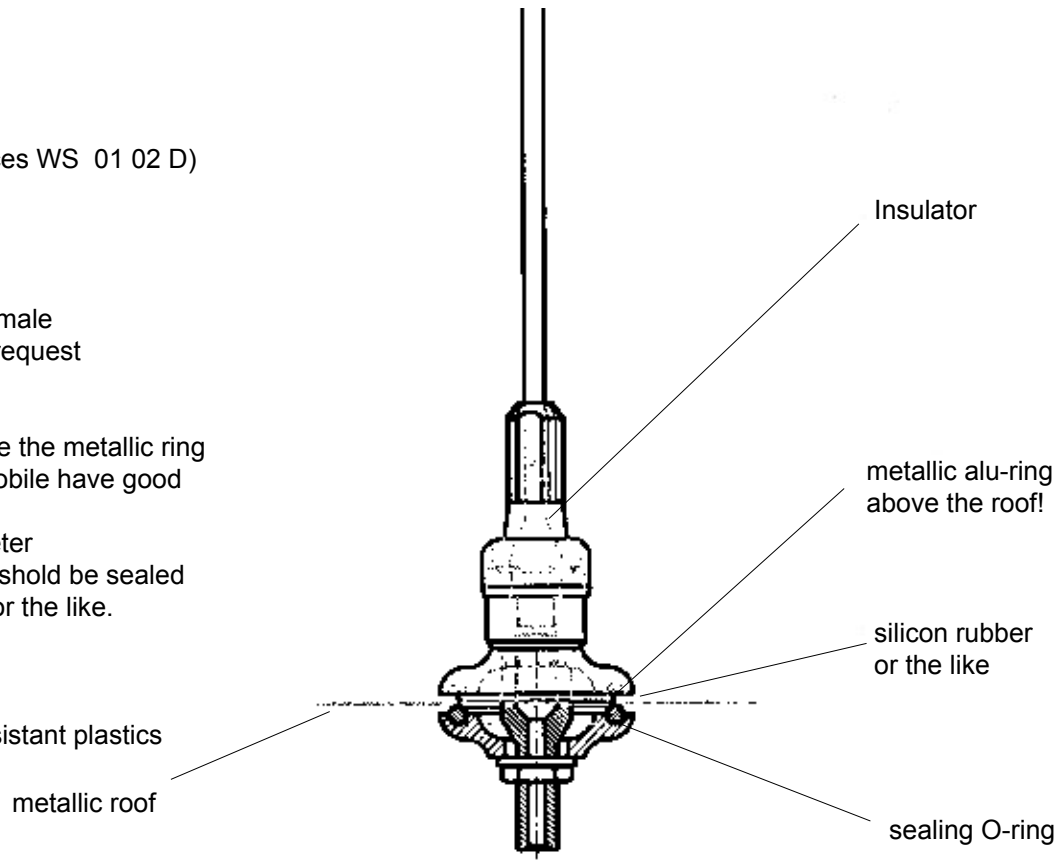
Type:
WS F0R 65 D (replaces WS 01 02 D)

Impedance: 50 Ω

Termination:
1m RG 58 with BNC male
other termination on request

Mounting:
It is important, that the the metallic ring and the roof of the mobile have good electrical contact!
Hole 28+1 mm diameter
On the roof the base shold be sealed with a silicon rubber or the like.

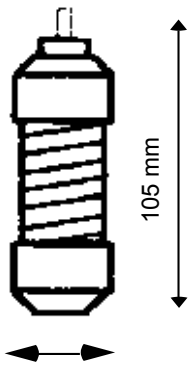
Material:
Aluminium,
insulator: weather resistant plastics



Spring to base WS F0R 65 D

Length: 105 mm without bolts M8
Diameter: 38 mm
Material: aluminium, stainless steel
Weight: ~ 350 g

The spring can be used for the following radiators:
WS F1R 65 31, WS F2R 65 31,
WS F2R 65 21, WS FUR 65 21



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