



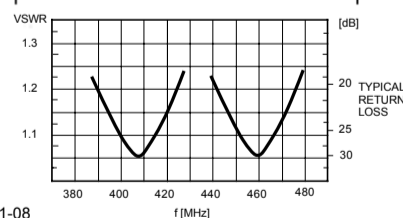
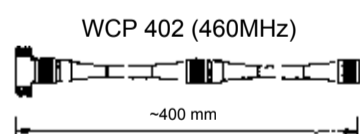
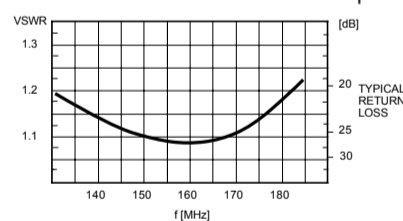
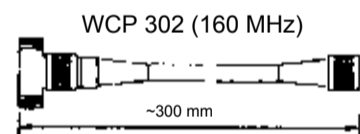
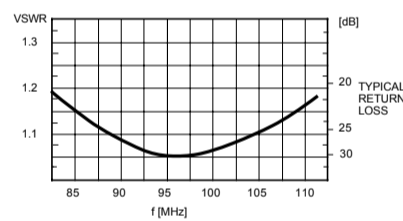
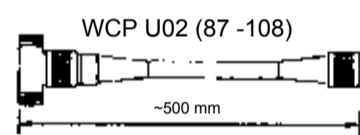
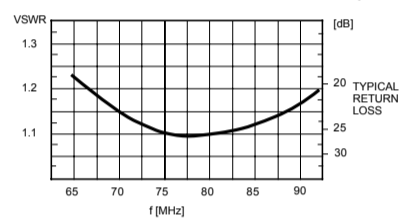
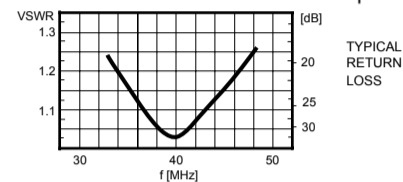
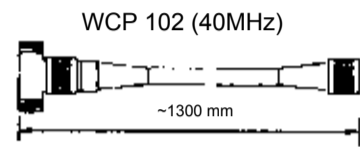
## Accessories

ARTICLE	DESCRIPTION
WCP .02	Coupler for 2 antennas
WCP .03	Coupler for 3 antennas
WCP .04	Coupler for 4 antennas
WCP .06	Coupler for 6 antennas
WPS .02 ..	Power splitter for 2 antennas
WAK1, WAK 3	Junktion boxes
Cables	29 - 60 $\Omega$
WG ..	Mounting clamps and brackets
Flange no.	Flanges



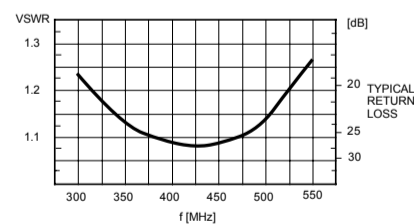
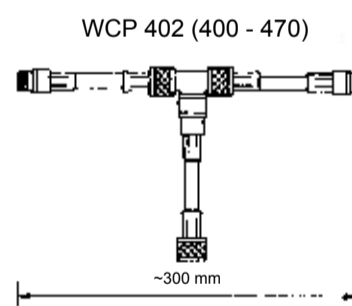
## COUPLERS FOR TWO ANTENNAS

### WCP .02 25 ... 800 MHz



KW 1-08

<b>TYPE NO.</b>	<b>WCP 102</b>	25 .. 68 MHz
	<b>WCP 202</b>	68 .. 87.5 MHz
	<b>WCP U02 (87 - 108)</b>	87.5 - 108 MHz
	<b>WCP 302</b>	108 .. 225 MHz
	<b>WCP 402</b>	225 .. 800 MHz
	<b>WCP 402 (400 - 470)</b>	400 - 470 MHz
<b>DESCRIPTION</b>	fabricated of HF-cable tuned to the requested frequency except: WCP U02 (87 - 108) WCP 402 (400 - 470) power splitting: 1:1 (other splitting on request)	
<b>IMPEDANCE</b>	50 Ω or 75 Ω nominal	
<b>VSWR</b>	< 1.1 on tuned frequency ≤ 1.15 for WCP U02 and WCP 402 400 - 470	
<b>POWER</b>	40 MHz	1000 watts
	90 MHz	800 watts
	160 MHz	400 watts
	430 MHz	300 watts
	700 MHz	150 watts
<b>OPERATING</b>	-30 to +50° C	
<b>TERMINATION</b>	to antennas	N female
	to transmitter/receiver	N male
	other termination	special order
<b>ORDERING</b>	please give type, frequency and impedance: WCP 202 (165 MHz), 50 Ω WCP U02 87.5 - 108, 75 Ω	

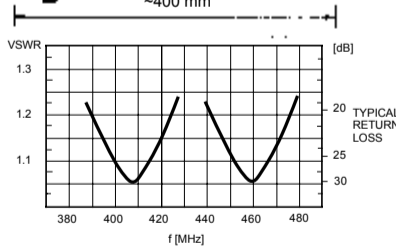
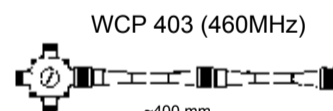
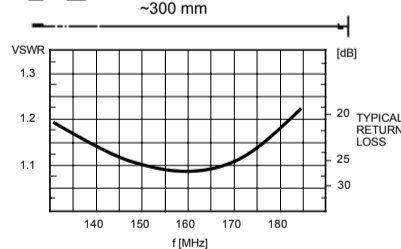
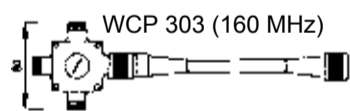
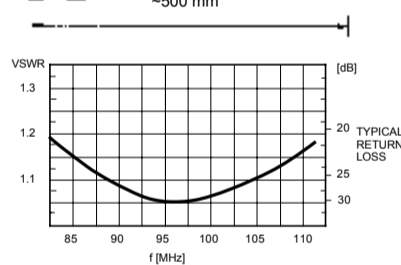
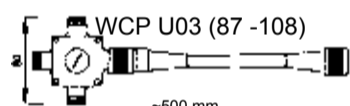
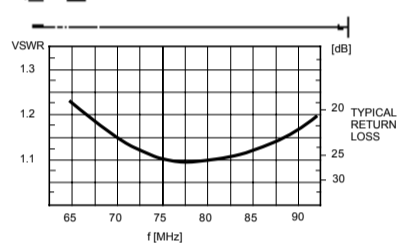
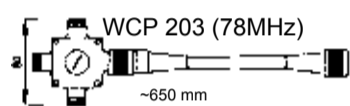
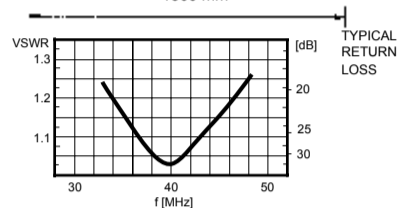
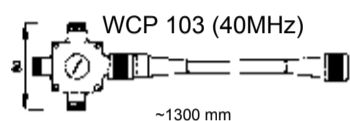


WIPIC reserves the right to amend specifications in the light of continuing development.

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**COUPLERS FOR THREE ANTENNAS**

**WCP .03  
25 ... 800 MHz**



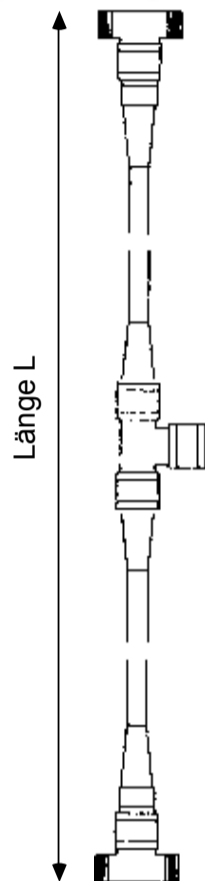
<b>TYPE NO.</b>	<b>WCP 103</b>	25 .. 68 MHz
	<b>WCP 203</b>	68 .. 87.5 MHz
	<b>WCP U03 (87 - 108)</b>	87.5 - 108 MHz
	<b>WCP 303</b>	108 .. 225 MHz
	<b>WCP 403</b>	225 .. 800 MHz
<b>DESCRIPTION</b>	fabricated of HF-cable tuned to the requested frequency except: WCP U03 (87 - 108) power splitting: 1:1:1 (other splitting on request)	
<b>IMPEDANCE</b>	50 Ω or 75 Ω nominal	
<b>VSWR</b>	< 1.1 on tuned frequency ≤ 1.15 for WCP U03	
<b>POWER</b>	40 MHz	1000 watts
	90 MHz	800 watts
	160 MHz	400 watts
	430 MHz	300 watts
	700 MHz	150 watts
<b>OPERATING</b>	-30 to +50° C	
<b>TERMINATION</b>	to antennas	N female
	to transmitter/receiver	N male
	other termination	special order
<b>ORDERING</b>	please give type, frequency and impedance: WCP 403 (415 MHz), 50 Ω WCP U03 87.5 - 108, 75 Ω	

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**COUPLERS FOR FOUR ANTENNAS**  
**WCP .04**  
**25 ... 800 MHz**



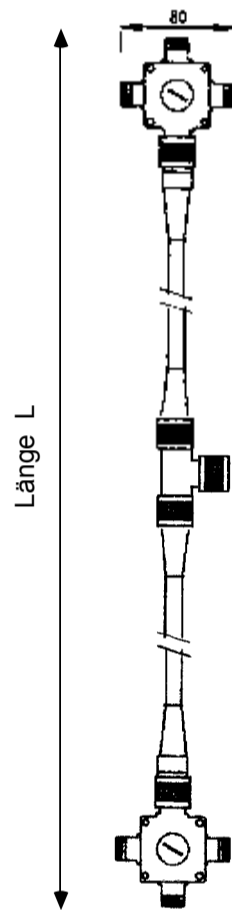
<b>TYPE NO.</b>	<b>WCP 104</b>	25 .. 68 MHz
	<b>WCP 204</b>	68 .. 87.5 MHz
	<b>WCP U04 (87 - 108)</b>	87.5 - 108 MHz
	<b>WCP 304</b>	108 .. 225 MHz
	<b>WCP 404</b>	225 .. 800 MHz
<b>DESCRIPTION</b>	fabricated of HF-cable tuned to the requested frequency, except: WCP U04 (87 - 108) power splitting: 1:1:1:1 (other splitting on request)	
<b>IMPEDANCE</b>	50 Ω or 75 Ω nominal	
<b>VSWR</b>	< 1.1 on tuned frequency ≤ 1.15 for WCP U04 (87-108)	
<b>POWER</b>	40 MHz	1000 watts
	90 MHz	800 watts
	160 MHz	400 watts
	430 MHz	300 watts
	700 MHz	150 watts
<b>OPERATING</b>	-30 to +50° C	
<b>TERMINATION</b>	to antennas	N female
	to transmitter/receiver	N male
	other termination	special order
<b>DIMENSIONS</b>	<i>Type</i>	<i>L in mm</i>
	WCP 104	~ 2600
	WCP 204	~ 1300
	WCP U04 (87-108)	~ 1000
	WCP 304	~ 600
	WCP 404	~ 300
<b>ORDERING</b>	please give type, frequency and impedance: WCP 404 (415 MHz), 50 Ω WCP U04 (87 - 108), 75 Ω	

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**COUPLERS FOR SIX ANTENNAS  
WCP .06  
25 ... 800 MHz**



<b>TYPE NO.</b>	<b>WCP 106</b>	25 .. 68 MHz
	<b>WCP 206</b>	68 .. 87.5 MHz
	<b>WCP U06 (87 - 108)</b>	87.5 - 108 MHz
	<b>WCP 306</b>	108 .. 225 MHz
	<b>WCP 406</b>	225 .. 800 MHz
<b>DESCRIPTION</b>	fabricated of HF-cable tuned to the requested frequency, except: WCP U06 (87 - 108) power splitting: 1:1:1:1:1:1 (other splitting on request)	
<b>IMPEDANCE</b>	50 Ω or 75 Ω nominal	
<b>VSWR</b>	< 1.1 on tuned frequency ≤ 1.15 for WCP U06	
<b>POWER</b>	40 MHz	1000 watts
	90 MHz	800 watts
	160 MHz	400 watts
	430 MHz	300 watts
	700 MHz	150 watts
<b>OPERATING</b>	-30 to +50° C	
<b>TERMINATION</b>	to antennas	N female
	to transmitter/receiver	N male
	other termination	special order
<b>DIMENSIONS</b>	<i>Type</i>	<i>L in mm</i>
	WCP 106	~ 2600
	WCP 206	~ 1300
	WCP U06	~ 1000
	WCP 306	~ 600
	WCP 406	~ 300
<b>ORDERING</b>	please give type, frequency and impedance: WCP 406 (415 MHz), 50 Ω WCP U06 (87 - 108), 75 Ω	



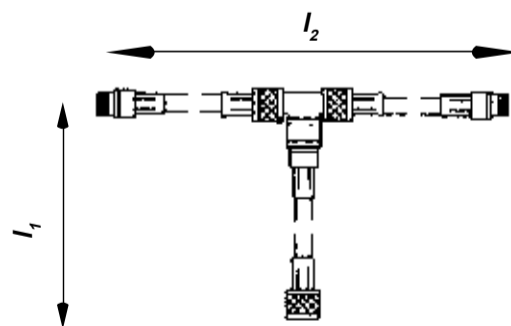
**POWER SPLITTER FOR 2 ANTENNAS**  
**WPS .02 ..**  
**25 ... 500 MHz**

**NEW**

TYPE NO.	Type	Splitting	MHz	Dimensions	
				$l_1$	$l_2$
WPS 102	2:1		25..68	1000	2000 mm
WPS 102	3:1		25..68	1000	2000 mm
WPS 102	4:1		25..68	1000	2000 mm
WPS 102	6:1		25..68	1000	2000 mm
WPS 202	2:1		68..88	600	1200 mm
WPS 202	3:1		68..88	600	1200 mm
WPS 202	4:1		68..88	600	1200 mm
WPS 202	6:1		68..88	600	1200 mm
WPS U02	2:1		87.5..108	500	1000 mm
WPS U02	3:1		87.5..108	500	1000 mm
WPS U02	4:1		87.5..108	500	1000 mm
WPS U02	6:1		87.5..108	500	1000 mm
WPS 302	2:1		146..174	300	600 mm
WPS 302	3:1		146..174	300	600 mm
WPS 302	4:1		146..174	300	600 mm
WPS 302	6:1		146..174	300	600 mm
WPS 402	2:1		225..500	150	300 mm
WPS 402	3:1		225..500	150	300 mm
WPS 402	4:1		225..500	150	300 mm

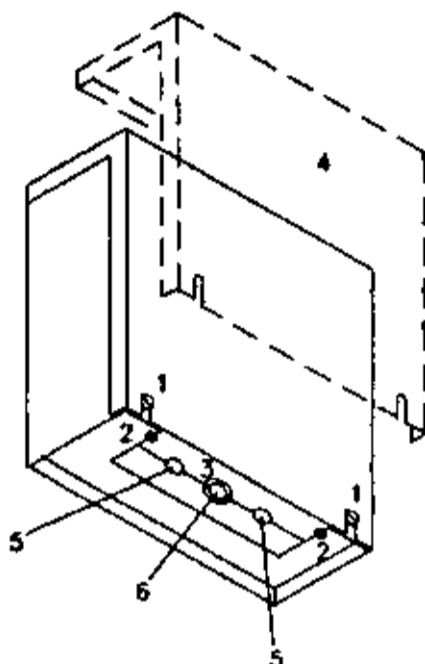
other frequency and other splitting ratios on request

<b>DESCRIPTION</b>	fabricated of HF-cable tuned on the ordered frequency	
<b>IMPEDANCE</b>	50 $\Omega$ (75 $\Omega$ on request)	
<b>VSWR</b>	< 1.15 on tuned frequency	
<b>POWER</b>	40 MHz	1000 Watt
	90 MHz	800 Watt
	160 MHz	400 Watt
	430 MHz	300 Watt
	700 MHz	150 Watt
<b>TOLERANCE</b>	$\pm$ 10% (splitting)	
<b>LOST</b>	~ 1.5%	
<b>TEMPERATURE</b>	-30 to +50° C	
<b>TERMINATION</b>	to antennas	N female
	to transmitter/receiver	N male
	other terminations	option
<b>ORDERING</b>	Type, splitting, frequency : WPS 302, 3:1, 160 MHz	

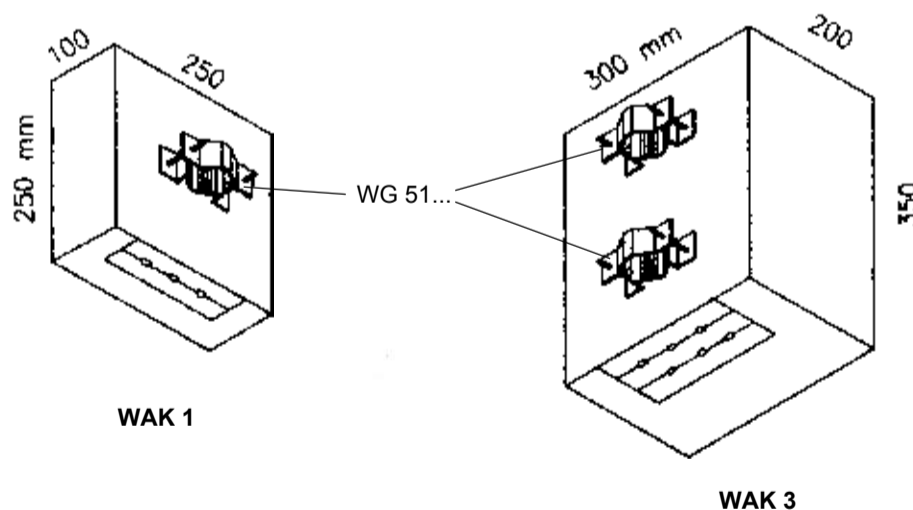


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WIPIC reserves the right to amend specifications in the light of continuing development.


**JUNCTION BOX WAK 1 UND WAK 3 FOR COUPLERS**


<b>TYPE</b>	<b>WAK 1 (please indicate mast <math>\varnothing</math>)</b> <b>WAK 3 (please indicate mast <math>\varnothing</math>)</b>	
<b>DESCRIPTION</b>	weather-resistant case for antenna couplers	
<b>MOUNTING</b>	<i>mast-<math>\varnothing</math></i> <i>clamp (see chapt. 10)</i> 40 - 80 mm      WG 51-40-80 (standard) 50 - 104 mm    WG 51-50-104 (option) clamps for other mast- $\varnothing$ on request	
<b>MATERIAL</b>	aluminium, bolts of stainless steel, weather-resistant plastics	
<b>WEIGHT</b>	<i>WAK 1</i>	<i>WAK 3</i>
<b>WIND AREA</b>	1.7 kg	3.2 kg
<b>WINDLOAD</b>	0.07 m <sup>2</sup>	0.13 m <sup>2</sup>
	89 N (150 km/h)	166 N (150 km/h)
	67 N (130 km/h)	124 N (130 km/h)
<b>MOUNTING INSTRUCTION</b>	unscrew the two M5 bolts 1 and lift the cover 4  unscrew the two M5 bolts 2 and pull out the plastic plate 3  insert antenna cable (e. g. RG 213/U) through the wholes 5  insert the cable to the emitter/receiver ( e.g. 1/2" cable) through the whole 6  fix the cables with the plate 3 and the bolts 2  close the case with the cover and the bolts 1	



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**KOAXIALCABLE 50 Ω**

Type	Outer ø in mm	Colour	Screen	Dielectric	Center conductor	Velocity of signal in% of c*	Bending rad. 1x nx in mm	Weight kg/100m	Attenuation in dB/100m at MHz						
									30	80	150	450	900	1500	2000
RG 58 C/U	5.0	black	CuSn	PE solid	19x0.18 strand	66	25 75	3.7	8.5	14	19	35	51	70	85
RG 223 /U	5.35	„	2xCuAg	PE solid	ø 0.88 mm CuAg wire	66	25 75	5.5	8.5	14	19	35	51	70	85
RG 213 /U	10.3	„	Cu	PE solid	7x0.75 strand	66	51 155	15.3	3.3	5.5	8	15	25	35	43
RG 214 /U	10.8	„	2xCuAg	PE solid	7x0.75 strand	66	54 160	18.5	3.3	5.5	8	15	25	35	43
HCF 3/8"	10.3	„	Cu	SPE	ø 2.65 mm AlCu	82	25 25	11.2	2.29	3.65	5.1	8.7	13.6	17.6	20.5
Cellflex 1/2 LCF 1/2" Cu 2Y	16.0		Cu	SPE	ø 4.9 mm Cu wire	88	70 210	24	1.2	1.9	2.6	4.8	6.9	9.2	10.9
Cellflex 7/8 LCF 7/8" Cu 2Y	28.0	black	Cu	SPE	ø 9.1 mm Cu tube	88	120 360	62	0.6	1.0	1.4	2.7	4.1	5.5	6.5
Flexwell 3/8 Zoll HF 3/8" Cu 2Y	15.7	„	Cu	air PE helix	ø 4 mm Cu wire	89	50 150	37	1.53	2.7	3.8	6.6	9.5	11.9	14
Flexwell 5/8 Zoll HF 5/8" Cu 2Y	22.3	„	Cu	air PE helix	ø 6.3 mm Cu wire	92	80 250	77	1.0	1.6	2.2	3.9	5.6	7.4	8.7
Flexwell 7/8 Zoll HF 7/8" Cu 2Y	29	„	Cu	air PE helix	ø 9.1 mm Cu-tube	92	100 350	87	0.6	1.0	1.4	2.6	3.7	4.8	5.8
Flexwell 1 1/8 Zoll HF 1 1/8" Cu 2Y	37		Cu	air PE helix	ø 12 mm Cu-tube	92	130 400	120	0.5	0.9	1.1	2.0	2.9	3.9	4.6

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30 80 150 450 900 1500 2000  
Attenuation in dB/100m  
at MHz



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**KOAXIALCABLE 50 Ω**


Type	Outer- $\emptyset$ in mm	Colour	Screen	Dielectric	Center conductor	Velocity of signal in % of c*	Bending rad.		Weight kg/100m	Attenuation in dB/100m MHz						
							1x in mm	nx in mm		30	80	150	450	900	1500	2000
RG 393/U	9.9	brown	2xCuAg	PFA	CuAg strand 2.46	69	50	150	23	3.8	6.3	9.0	16	23.7	33	40
RG 188	2.8	black	CuAg	PTFE	StCuAg strand 7x0.17	71	13	39	17	15	24	36	62	88	115	130
RG 303/ U	4.3	brown	CuAg	PTFE	$\emptyset$ 0.95 mm wire	71	21	65	4.48	7.3	12	16	31		60	70
GX 07272	10.3	black	Cu	PEX	strand	66	51	155	16.1	see RG 213/U						

**Other cables 50 Ω**

further cable types on request

**Abbreviations:**

AlCu	Copper - plated Alu-wire
CuAg	Silver-plated copper wire
Cu	Bare copper wire
CuSn	Tin-plated copper wire
PE	Polyethylene
PEX	Crosslinked polymers
PFA	Perfluoralkoxy Copolymer
PTFE	Polytetrafluorethylene
SPE	Foamed Polyethylene

\*c = speed of light  
= 299 792 km/s

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**KOAXIALCABLE 75 Ω**


Type	Outer-ø in mm	Colour	Screen	Dielectric	Center conductor	Velocity of signal in % of c*	Bending rad. 1x nx in mm	Weight kg/100m	Attenuation in dB/100m MHz						
									30	80	150	450	900	1500	2000
RG 59 B/U	6.1	black	CuSn	PE	0.58 strand	66	25 75	5	6	10	15	27	40	56	68
RG 11 A/U	10.3	black	CuAg	PE	1.2 mm strand	66	51 155	13.3	3.7	6.1	9	17	29	37	45

**Other cables 75 Ω**

other cable types on request

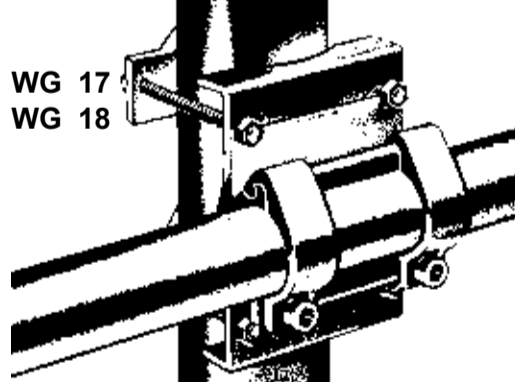
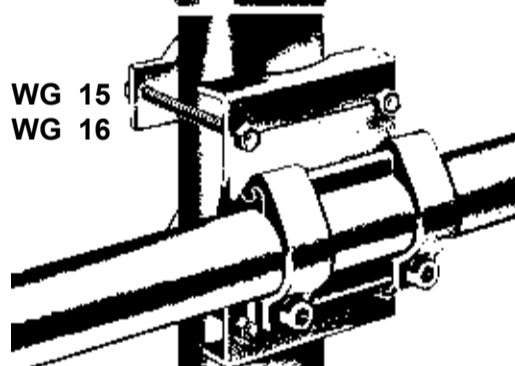
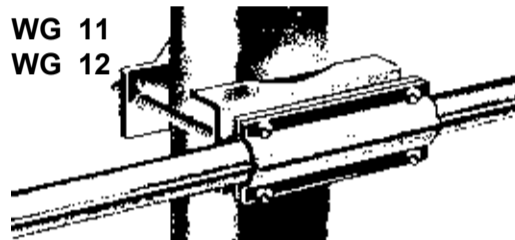
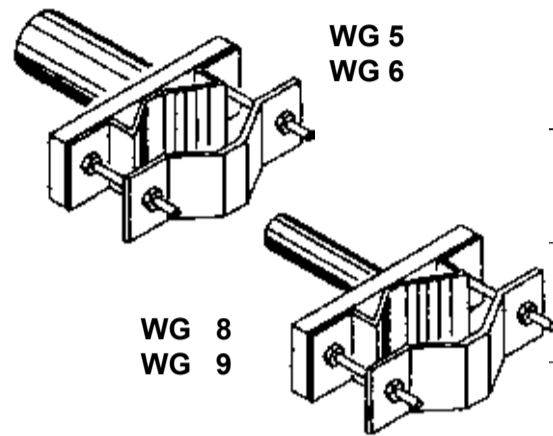
**Cables with following impedances can be delivered from stock:**

29, 36, 40, 42, 60 Ω

\*c = speed of light  
= 299 792 km/s

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CLAMPS AND BRACKETS (1) Chap. 10



Type	horizontal tube ø [mm]	vertikal Mast ø [mm]	weight[kg]	spezifikationen
WG 5	(spec. id)	30-80	0.4	
WG 6	(spec. id)	50-104	0.45	larger ø on request
WG 8	(spec. id)	40-80	0.3	
WG 9	(spec. id)	50-104	0.35	larger ø on request
WG 11	20	30-80	0.4	
WG 12	20	50-104	0.5	
WG 12-160	20	104 ... 160	0.7	please give mast ø
WG 13	30	30-80	0.45	
WG 14	30	50-104	0.55	
WG 14-160	30	104... 160	0.8	please give mast ø
WG15	30	30-80	0.7	
WG 16	30	50-104	0.9	
WG 16-160	30	104 ... 160	1.1	please give exact mast ø
WG 17	45	30-80	0.9	
WG 18	45	50-104	1.1	
WG 18-160	45	104... 160	1.0	please give exact mast ø
WG 21-80	20	30-80	0.12	
WG 21-80-30	30	30-80	0.14	
WG 51-40-80 D = 90 mm		40 -80	0.25	
WG 51-50-104 D = 114 mm		50-104	0.3	

**MATERIAL:** aluminium, bolts of stainless steel, thread plugs: stainless steel M8

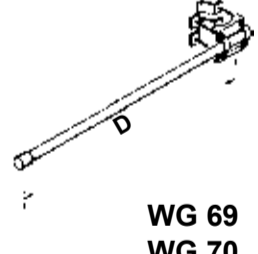
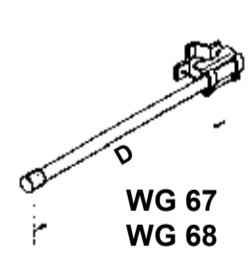
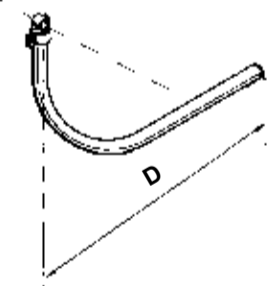
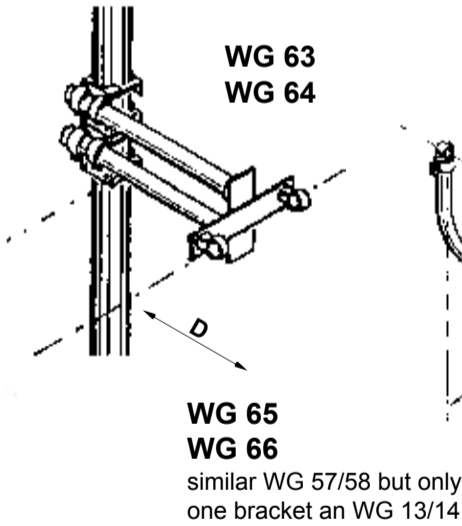
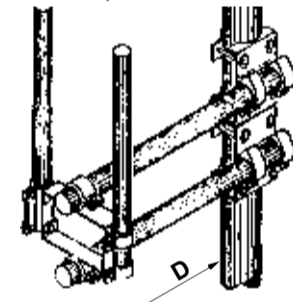
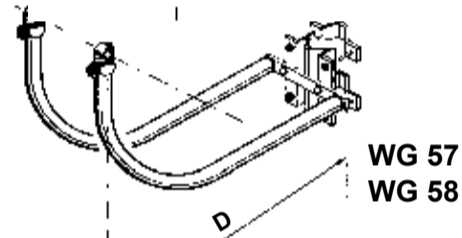
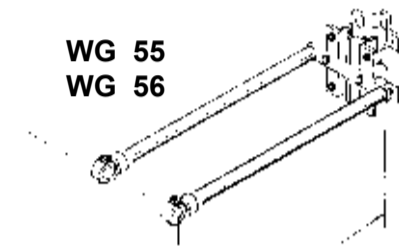


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WIPIC reserves the right to amend specifications in the light of continuing development.



### Mounting Clamps and Brackets for Antennas (2)



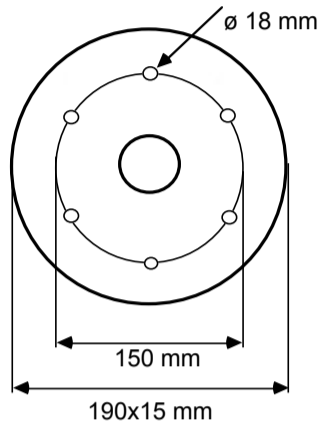
Type	horizontal tube ø [mm]	vertical mast ø [mm]	weight [kg]	specifications
WG 55	2x30	30-80	1.5*	please give desired distance D
WG 56	2x30	50-104	1.7*	
WG 57	2x30	30-80	1.9*	please give desired distance D
WG 58	2x30	50-104	2.0*	
WG 63	2x45	30-80	4.7*	please give desired distance D
WG 64	2x45	50-104	5.1*	
WG 65	1x30	30-80	0.9*	please give desired distance D
WG 66	1x30	50-104	1.1*	
WG 67	1x30	30-80	0.7*	please give desired distance D
WG 68	1x30	50-104	0.8*	
WG 69	1x45	30-80	1.5*	please give desired distance D
WG 70	1x45	50-104	1.7*	

\*weight for D = 600 mm

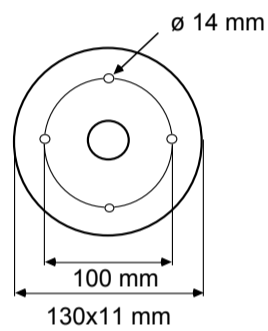
**MATERIAL:** aluminium, bolts of stainless steel, thread plugs:  
stainless steel M8

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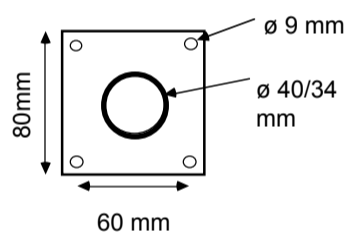
WIPIC reserves the right to amend specifications in the light of continuing development.

**wipic**
**FLANGES**


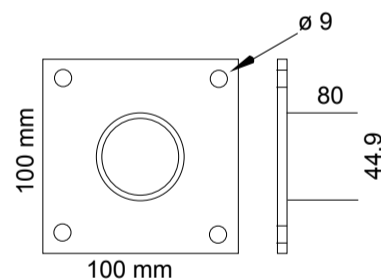
**TYPE No.** Flange No. 1  
**MATERIAL** Hot dip galvanized steel with plug- $\varnothing$  70 to 90 mm  
**WEIGHT** 7 kg (plug- $\varnothing$  80 mm)



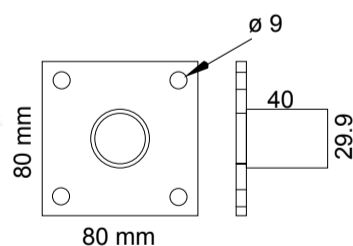
**TYPE No.** Flange No. 2  
**MATERIAL** Hot dip galvanized steel with plug- $\varnothing$  45 to 66 mm  
**WEIGHT** ~2.5 kg



**TYPE No.** Flange No. 11  
**MATERIAL** Hot dip galvanized steel with plug- $\varnothing$  40 mm  
**WEIGHT** ~0.4 kg



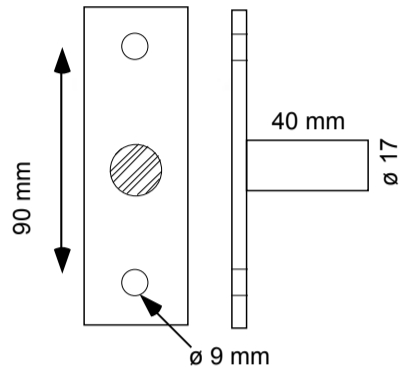
**TYPE No.** Flange No. 12  
**MATERIAL** Hot dip galvanized steel with plug- $\varnothing$  44.9 mm  
**WEIGHT** 0.6 kg



**TYPE No.** Flange No. 13  
**MATERIAL** Hot dip galvanized steel with plug- $\varnothing$  70 to 80 mm  
**WEIGHT** 7 kg (plug- $\varnothing$  80 mm)

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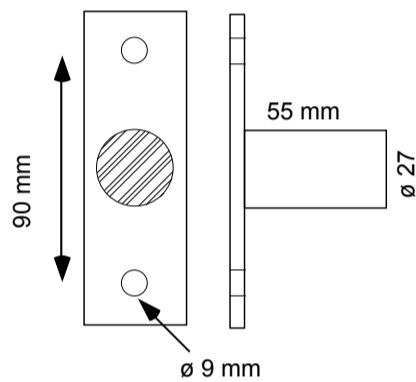
WIPIC reserves the right to amend specifications in the light of continuing development.


**FLANGES**


**TYPE No.** Flange No. 21 / 9003154

**MATERIAL** Aluminium, plate 108x35x10 mm  
bolts of stainless steel

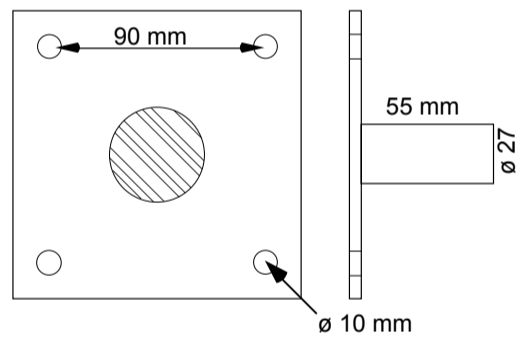
**WEIGHT** 0.13 kg



**TYPE No.** Flange No. 22 / 9003186

**MATERIAL** Aluminium, plate 108x35x10 mm  
bolts of stainless steel

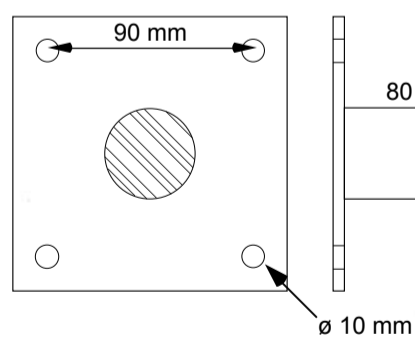
**WEIGHT** 0.2 kg



**TYPE No.** Flange No. 23 / 9003158

**MATERIAL** Aluminium, plate 120x120x10 mm  
bolts of stainless steel

**WEIGHT** 0.45 kg



**TYPE No.** Flange No. 24 / 9003164

**MATERIAL** Aluminium, plate 120x120x10 mm  
bolts of stainless steel

**WEIGHT** 0.55 kg

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