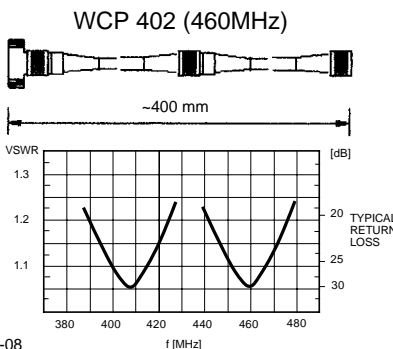
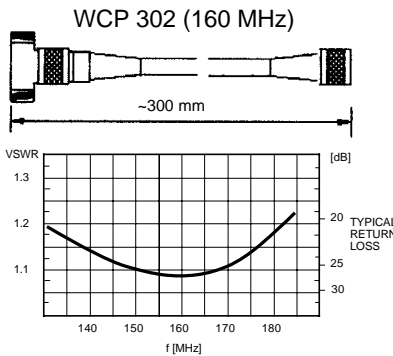
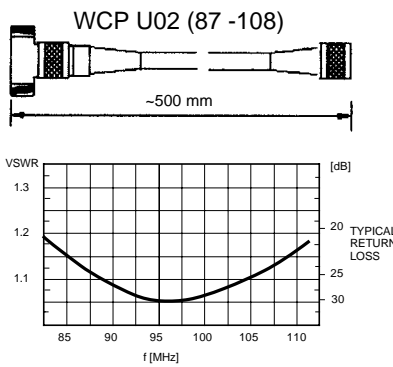
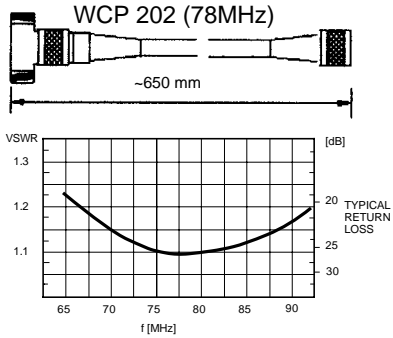
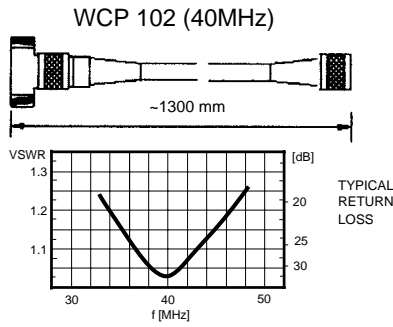


ARTICLE	DESCRIPTION
WCP .02	Coupler for 2 antennas
WCP .03	Coupler for 3 antennas
WCP .04	Coupler for 4 antennas
WCP .06	Coupler for 6 antennas
WPS .02 ..	Power splitter for 2 antennas
WAK1, WAK 3	Junktion boxes
Cables	29 - 60 $\Omega$
WG ..	Mounting clamps and brackets
Flange no.	Flanges



TYPE NO.	Frequency Range
WCP 102	25 .. 68 MHz
WCP 202	68 .. 87.5 MHz
WCP U02 (87 - 108)	87.5 - 108 MHz
WCP 302	108 .. 225 MHz
WCP 402	225 .. 800 MHz
WCP 402 (400 - 470)	400 - 470 MHz

**DESCRIPTION** 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)

**IMPEDANCE** 50 Ω or 75 Ω nominal

**VSWR** < 1.1 on tuned frequency  
 ≤ 1.15 for WCP U02 and WCP 402 400 - 470

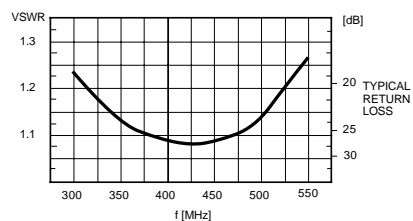
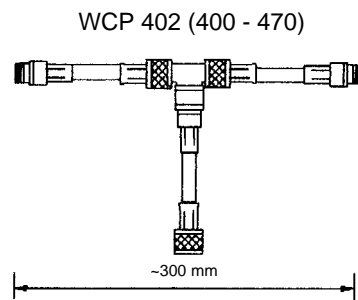
POWER	Frequency	Power
40 MHz	1000 watts	
90 MHz	800 watts	
160 MHz	400 watts	
430 MHz	300 watts	
700 MHz	150 watts	

**OPERATING** -30 to +50° C

**TERMINATION**

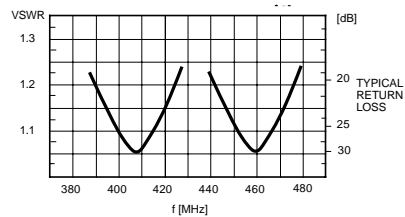
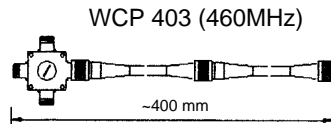
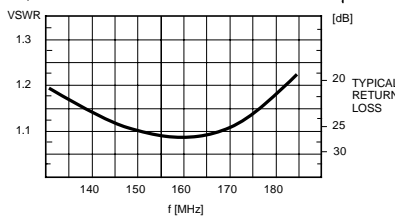
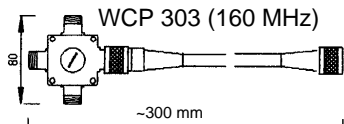
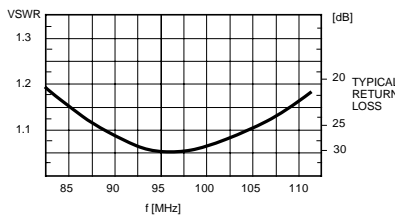
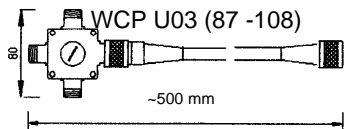
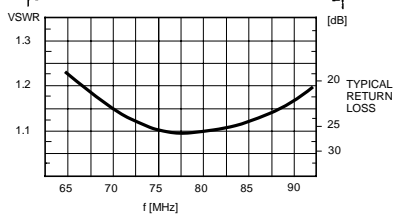
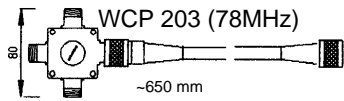
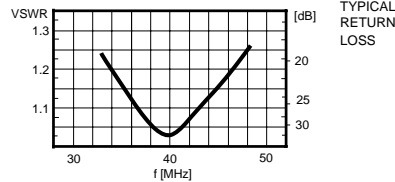
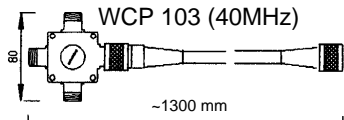
to antennas	N female
to transmitter/receiver	N male
other termination	special order

**ORDERING** please give type, frequency and impedance:  
 WCP 202 (165 MHz), 50 Ω  
 WCP U02 87.5 - 108, 75 Ω

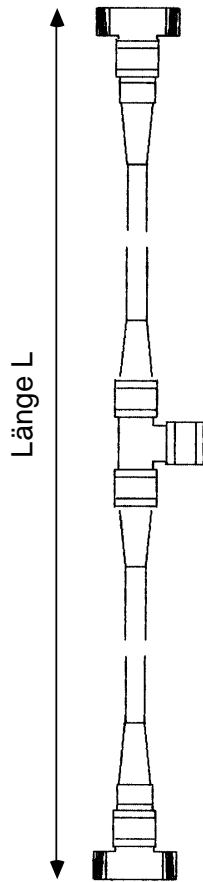


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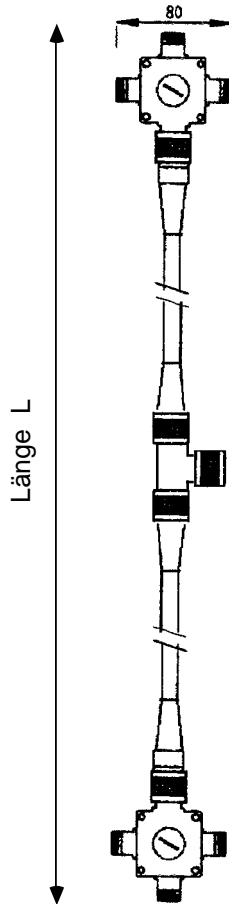
WIPIC reserves the right to amend specifications in the light of continuing development.



<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	



<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	

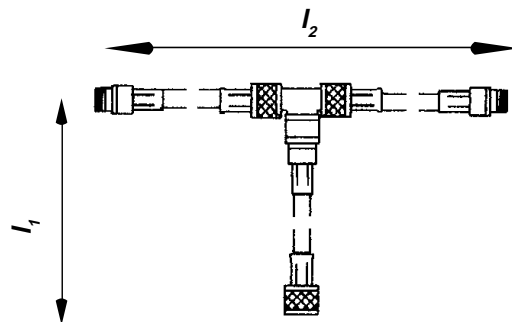


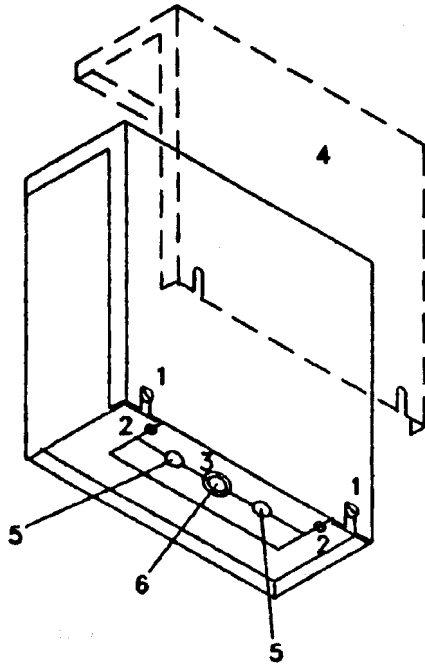
<b>TYPE NO.</b>	<b>WCP 106</b>	25 .. 68 MHz
	<b>WCP 206</b>	68 .. 87.5 MHz
	<b>WCP U06 (87 - 108)</b>	87.5 - 108 MHz
	<b>WCP 306</b>	108 .. 225 MHz
	<b>WCP 406</b>	225 .. 800 MHz
<b>DESCRIPTION</b>	fabricated of HF-cable tuned to the requested frequency, except: WCP U06 (87 - 108) power splitting: 1:1:1:1:1:1 (other splitting on request)	
<b>IMPEDANCE</b>	50 $\Omega$ or 75 $\Omega$ nominal	
<b>VSWR</b>	< 1.1 on tuned frequency $\leq$ 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 $\Omega$ WCP U06 (87 - 108), 75 $\Omega$	

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

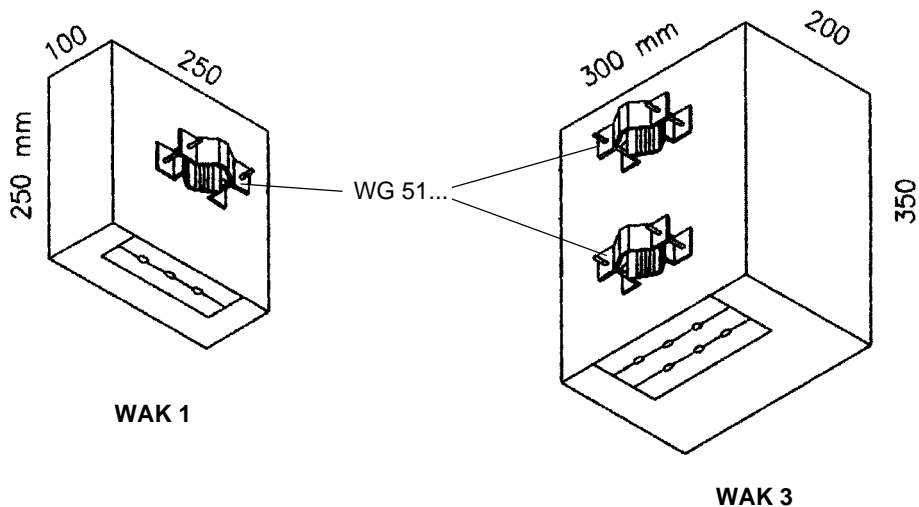
other frequency and other splitting ratios on request

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

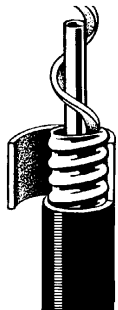
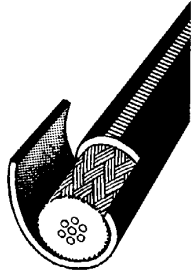




<b>TYPE</b>	<b>WAK 1 (please indicate mast <math>\varnothing</math>)</b> <b>WAK 3 (please indicate mast <math>\varnothing</math>)</b>	
<b>DESCRIPTION</b>	weather-resistant case for antenna couplers	
<b>MOUNTING</b>	<i>mast-<math>\varnothing</math></i> <i>clamp (see chapt. 10)</i> 40 - 80 mm    WG 51-40-80 (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>	WAK 1	WAK 3
<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>	<p>unscrew the two M5 bolts 1 and lift the cover 4</p> <p>unscrew the two M5 bolts 2 and pull out the plastic plate 3</p> <p>insert antenna cable (e. g. RG 213/U) through the wholes 5</p> <p>insert the cable to the emitter/receiver ( e.g.1/2" cable) through the whole 6</p> <p>fix the cables with the plate 3 and the bolts 2</p> <p>close the case with the cover and the bolts 1</p>	



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

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

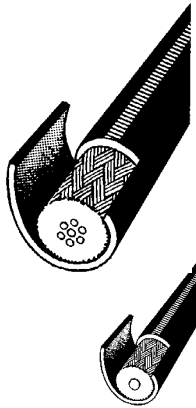
**LETRONA AG**

Schulstrasse 22, CH-9504 Friltschen  
Tel.: +41 071 654 64 64, Fax : +41 071 654 64 65  
E-Mail: info@letrona.ch



Management-System  
Zertifiziert ISO 9001  
Reg. - Nr. 11996

## KOAXIALCABLE 50 Ω



Type	Outer- $\varnothing$ 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 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	$\varnothing$ 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

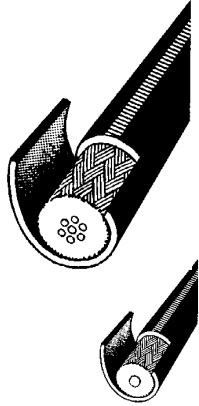
further cable types on request

### Abbreviations:

AICu	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

## 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

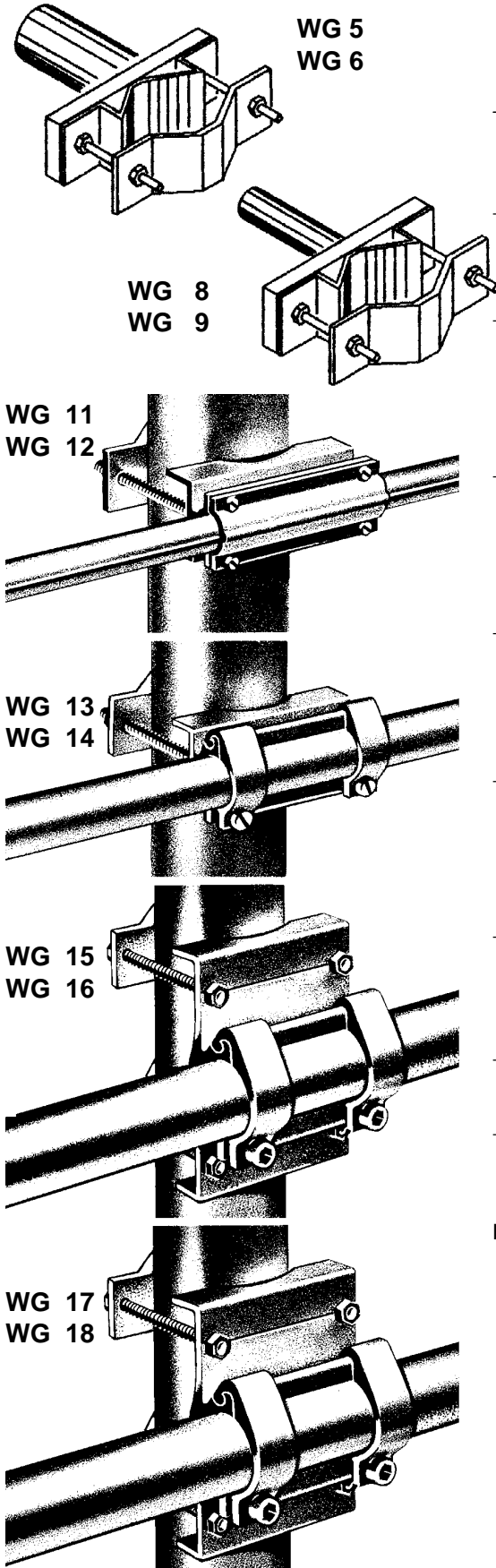
### Other cables 75 Ω

other cable types on request

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

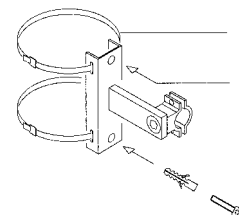
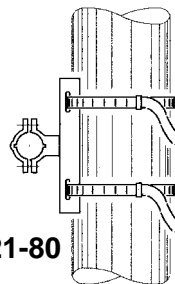
29, 36, 40, 42, 60 Ω

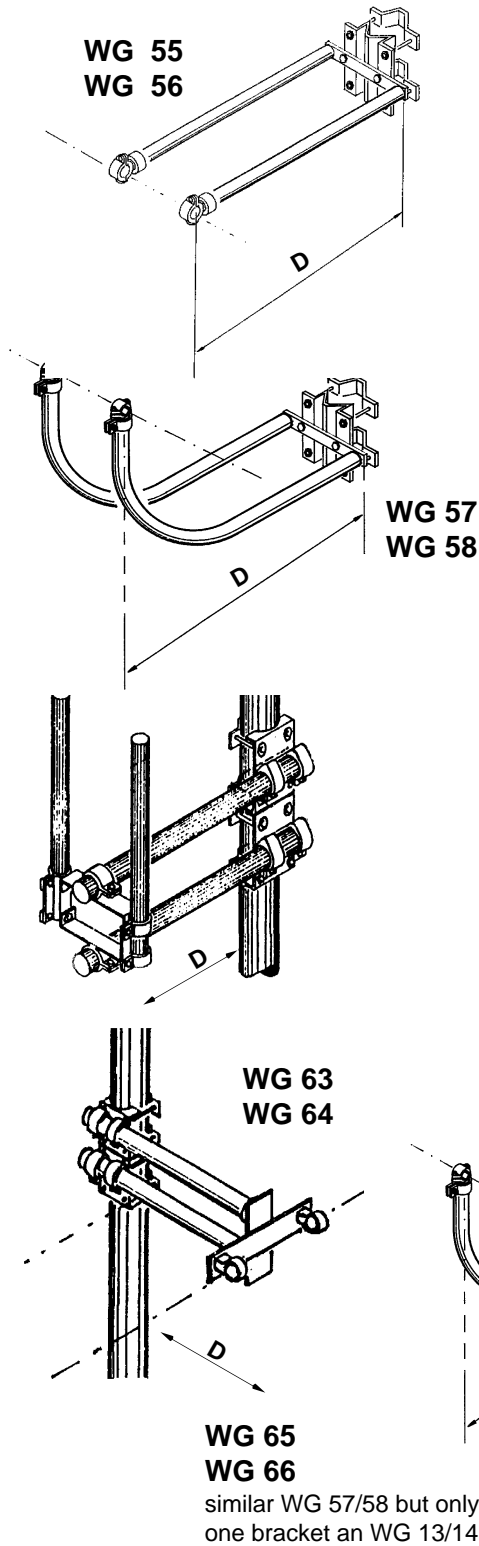
\*c = speed of light  
= 299 792 km/s



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
WG 15	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

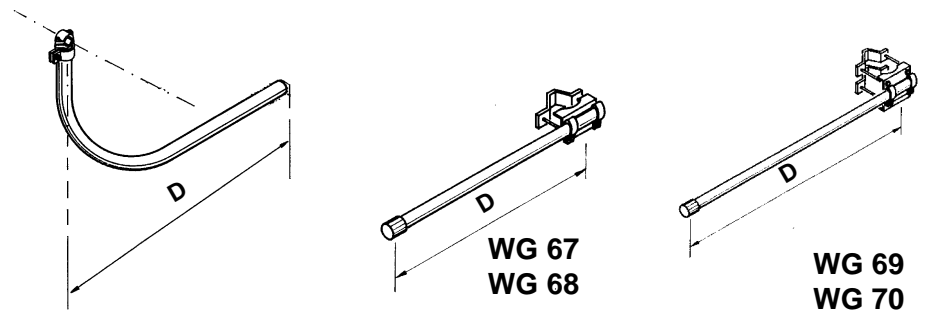


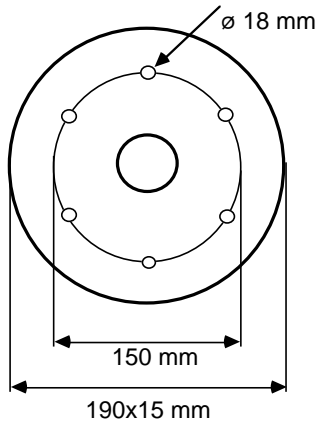


Type	horizontal tube ø [mm]	vertical mast ø [mm]		specifications
WG 55	2x30	30-80	1.5*	please give desired distance D
WG 56	2x30	50-104	1.7*	
WG 57	2x30	30-80	1.9*	please give desired distance D
WG 58	2x30	50-104	2.0*	
WG 63	2x45	30-80	4.7*	please give desired distance D
WG 64	2x45	50-104	5.1*	
WG 65	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





**TYPE No.**

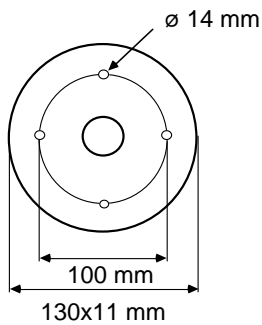
**Flange No. 1**

**MATERIAL**

Hot dip galvanized steel  
with plug- $\varnothing$  70 to 90 mm

**WEIGHT**

7 kg (plug- $\varnothing$  80 mm)



**TYPE No.**

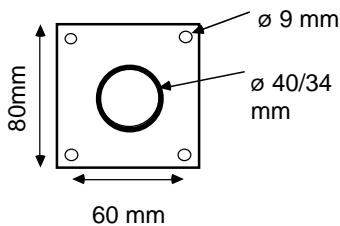
**Flange No. 2**

**MATERIAL**

Hot dip galvanized steel  
with plug- $\varnothing$  45 to 66 mm

**WEIGHT**

~2.5 kg



**TYPE No.**

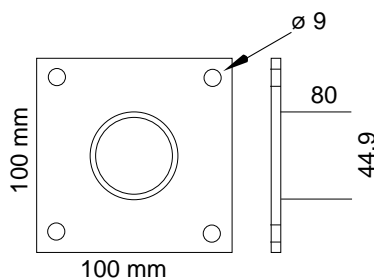
**Flange No. 11**

**MATERIAL**

Hot dip galvanized steel  
with plug- $\varnothing$  40 mm

**WEIGHT**

~0.4 kg



**TYPE No.**

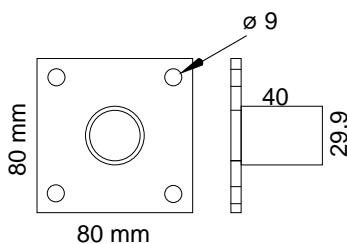
**Flange No. 12**

**MATERIAL**

Hot dip galvanized steel  
with plug- $\varnothing$  44.9 mm

**WEIGHT**

0.6 kg



**TYPE No.**

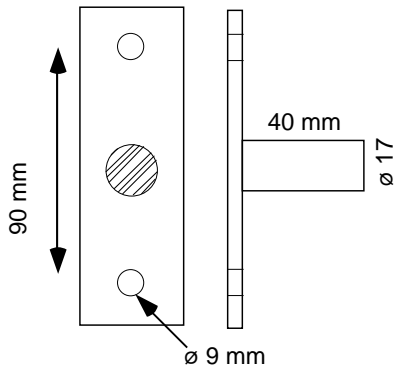
**Flange No. 13**

**MATERIAL**

Hot dip galvanized steel  
with plug- $\varnothing$  70 to 80 mm

**WEIGHT**

7 kg (plug- $\varnothing$  80 mm)



**TYPE No.**

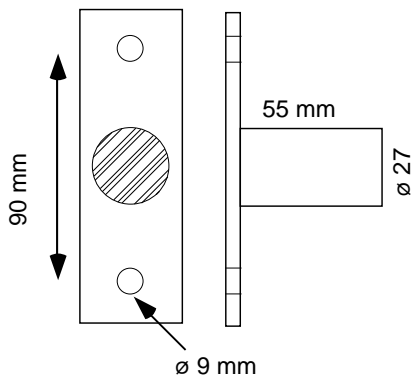
**Flange No. 21 / 9003154**

**MATERIAL**

Aluminium, plate 108x35x10 mm  
bolts of stainless steel

**WEIGHT**

0.13 kg



**TYPE No.**

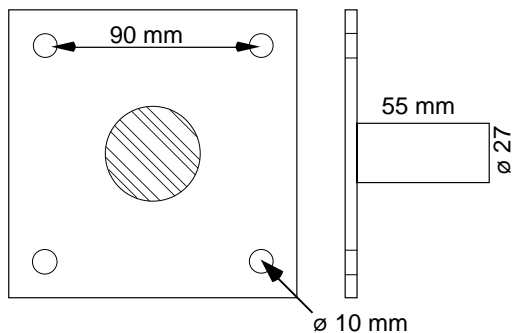
**Flange No. 22 / 9003186**

**MATERIAL**

Aluminium, plate 108x35x10 mm  
bolts of stainless steel

**WEIGHT**

0.2 kg



**TYPE No.**

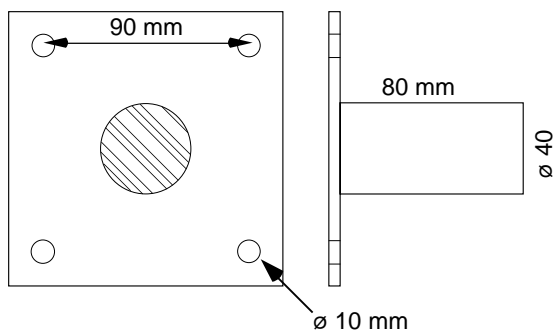
**Flange No. 23 / 9003158**

**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