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02

General

A-shaped tension tower

Suspension insulators with arcing horns

Arcing horn with piercing connector

The general requirements for overhead lines with voltages of 1 to 45 kV are referenced by the EN 50423 standard. For bare conductor medium-voltage lines up to 45 kV, the same standards apply as for high-voltage lines, with details described in our **high-voltage overhead line catalogue**.

As an alternative to bare overhead line conductors, **"partly insulated medium-voltage systems"** can be used which have reduced electrical insulation properties compared to fully insulated conductors. This type can only provide protection from coincidental contact with other insulated overhead line conductors or earthed parts and do not guarantee contact safety. This requires that this type of conductors are considered as bare overhead line conductors, where full consideration for safety is required. These requirements for both - conductor and their fittings - are described in EN 50397, parts 1 to 3.

Examples of the advantages of **insulated overhead** lines compared to bare lines include:

- The distance between phases can be much smaller due to insulation of the single conductors.
- The route width through forested areas can be reduced, and vegetation need not be removed immediately.
- Ice build-up on insulated lines is lower than at bare conductor lines.
- Operating and supply safety is increased avoiding short circuit due to falling tree branches and vegetation, avoiding the need for immediate repair work.
- Risks due to impact damage due to weather events, wind, ice and snow are reduced.
- New or additional conductor systems can be installed on existing structures, utilising existing cross arms and insulators.
- Higher construction costs are offset by lower maintenance, safety and supply reliability cost reductions.
- New construction costs can be reduced utilising smaller lighter cross arms, reducing support structure stress for design optimisation.
- Insulated plastic covered conductors protect wildlife and significantly reduce wild bird fatalities.

Bare conductor fitting designs for both suspension and tension clamps may be used for insulated lines. Both types can be installed over the conductor insulation with provision for adequate electrical potential control. Special compression dead end clamps are applied over the conductor insulation, providing a hermetically sealed connection with ground wire connecting bolts.

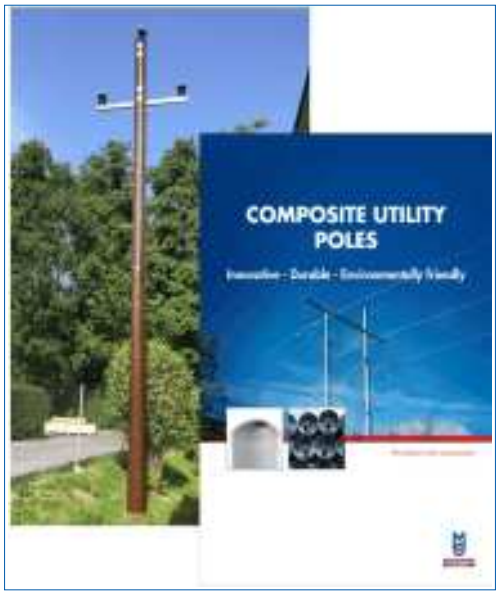
Dead end string with compression clamp

Similar to insulated low-voltage power networks, **insulated waterproof piercing connectors** are used to pierce the insulation for electrial joint connection.

Insulated conductor arcing horns or earthing devices are also affixed using insulation piercing connectors. These connectors are forged from corrosion resisting aluminium alloys, with special insulation piercing teeth making reliable electrical contact. The second connector cable channel is used to connect and divert the energy connection. Arcing horns or tap-off cables can be fixed separately using a nut connection.

The advantages of the connectors are:

- Following a short circuit event with a high current intensity, the arcing horn can be replaced without loosening the connector.
- The arcing horn is designed for a short-time current withstand of 10 kA.
- The connectors are tested for each cable application, certified and qualified to meet network requirements.
- Connection installation is made easier by parallel movement of the upper and lower connecting parts.
- Connectors can be specified with protective insulated sleeves on request.



Composite Poles

Including within this brochure fittings and systems described, **Mosdorfer offers the full range of accessories to meet your conductor system needs. This includes support structure materials, cross arms, earthing accessories, etc.**

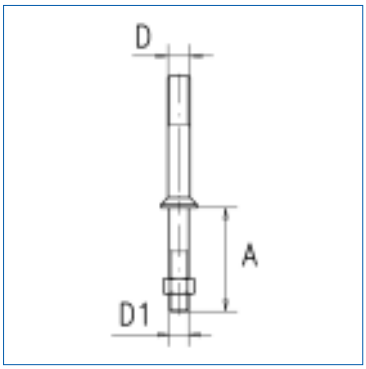
In addition, Mosdorfer offers complete **composite pole solutions** that includes all hardware, cross arms, climbing and safety fittings and construction installation materials, etc.
For further information, please see our dedicated Composite Pole brochure.

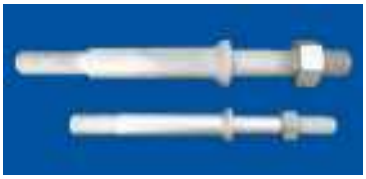
For brochure requests, please contact Mosdorfer directly.

Insulator pin straight with round thread
according to ÖNORM E4175

material: steel, hot dip galvanized

L.-Nr.	type	for insulator	dimensions in mm			version	kg
			D	A	D1		
1197.02	DST20G	VHD20G	28	130	M24	1	1,53
1196.02	DSW20G	VHD20G	28	150	M36	2	2,90
1197.04	DST30G	VHD30G	32	120	M24	1	2,32
1196.04	DSW30G	VHD30G	32	150	M36	2	4,10
1197.05	DST35G	VHD35G	36	120	M24	1	3,00
1196.05	DSW35G	VHD35G	36	150	M36	2	4,78





Version 1 for suspension poles

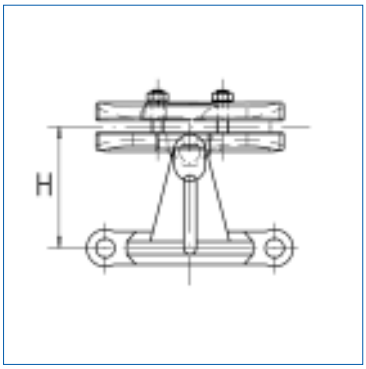
Version 2 for angle and tension poles

Other dimensions are available upon request.

Oscillating top clamp for aluminium based conductors

material: aluminium, casted; steel, hot dip galvanized

L.-Nr.	type	for insulator	dimensions in mm		kg
			cond.Ø mm	H	
2300.60	PK 10/II	VHD10	9 - 16	58	0,49
2300.62	PK 20/II	VHD20	9 - 16	63	0,56
2300.63	PK 25/II	VHD25	9 - 16	67,5	0,56
2300.64	PK 30/II	VHD30	9 - 16	67,5	0,57
2300.65	PK 35/II	VHD 35	9 - 16	70,5	0,60
2300.70	PK 10/III	VHD10	15 - 20	60	0,59
2300.72	PK 20/III	VHD20	15 - 20	65	0,63
2300.73	PK 25/III	VHD25	15 - 20	70	0,66
2300.74	PK 30/III	VHD 30	15 - 20	70	0,66
2300.75	PK 35/III	VHD35	15 - 20	73	0,70
2300.80	PKV 20/II	VKS20/25	9 - 16	62,5	0,48
2300.81	PKV 30/II	VKS30/35	9 - 16	67,5	0,51
2300.90	PKV 20/III	VKS20/25	15 - 20	65	0,58
2300.91	PKV 30/III	VKS30/35	15 - 20	70	0,60



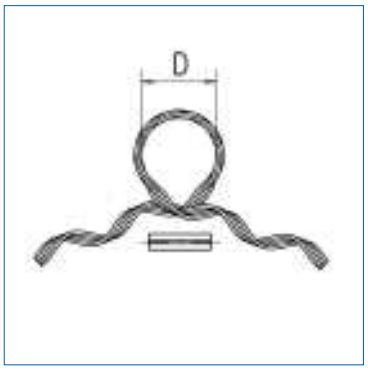
Oscillating top clamps are used on suspension points of medium voltage lines. Developed for hilly areas, now used extensively throughout due to quick installation.

Maximum line deviation 30° should not be exceeded. Special top clamp straps are available for angles exceeding 30°.

For conductors with diametes less than 9 mm aluminium-binding band shall be used.

Types for other insulators are available on request.

Side tie for aluminium based conductors



material: ACS; neopren

L.-Nr.	cond.Ø mm	dimensions in mm	kg
		D	
4772.602/1	7,42 - 7,71	85	0,08
4772.603/1	7,72 - 7,99	85	0,11
4772.604/1	8,00 - 8,32	85	0,14
4772.605/1	8,33-8,65	85	0,14
4772.606/1	8,66-8,98	85	0,14
4772.607/1	8,99-9,34	85	0,14
4772.608/1	9,35 - 9,69	85	0,14
4772.609/1	9,70-10,02	85	0,14
4772.610/1	10,03-10,45	85	0,14
4772.611/1	10,46 - 11,12	85	0,20
4772.612/1	11,13-11,78	85	0,20
4772.613/1	11,79 - 12,51	85	0,21
4772.614/1	12,52-13,27	85	0,21
4772.615/1	13,28-14,09	85	0,21
4772.616/1	14,10-15,10	85	0,21
4772.617/1	15,11-16,02	85	0,21
4772.618/1	16,03-16,93	85	0,22
4772.619/1	16,94-17,92	85	0,29
4772.620/1	17,93-18,98	85	0,29
4772.621/1	18,99-20,21	85	0,29
4772.622/1	20,22-21,38	85	0,29
4772.623/1	21,39-22,62	85	0,29
4772.624/1	22,63-23,97	85	0,29
4772.625/1	23,98-25,42	85	0,39
4772.626/1	25,43-26,94	85	0,39
4772.627/1	26,95-28,54	85	0,39

Side ties are used for fixing the conductor to line post insulators.

Variants:

.../3 D=80mm

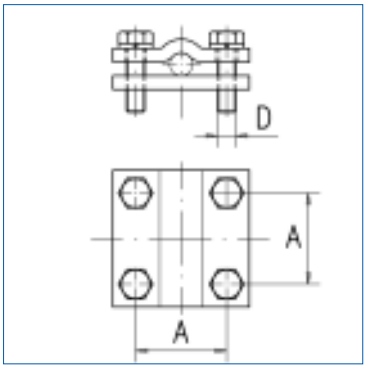
.../6 D=56mm

Other dimensions are available upon request.

Earthing clamp

material: steel, hot dip galvanized				
L.-Nr.		dimensions in mm		kg
		A	D	
4680.01	FL 30X3; RD 10	40	M8	0,37
4680.05	2 X RD 10	40	M8	0,56
4680.02	FL 40X4; RD 10	52	M10	0,68

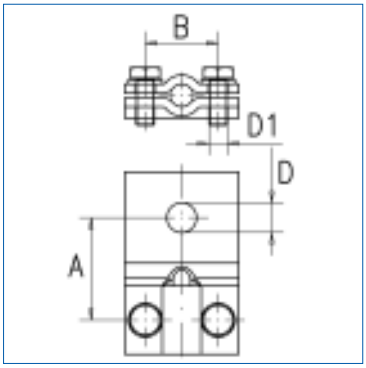
Other dimensions are available upon request.



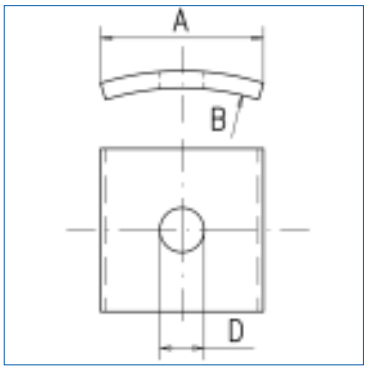
Cable lug

material: steel, hot dip galvanized						
L.-Nr.		dimensions in mm				kg
		D	A	B	D1	
4682.01	RD 10	13	45	32	M8	0,20

Other dimensions are available upon request.



Square washer



material: steel, hot dip galvanized					
L.-Nr.	dimensions in mm			version	kg
	D	A	B		
1056.01	12	40	4	3	0,05
1056.02	16	50	4	3	0,07
1058.02	18	50	5	1	0,07
1056.03	20	60	5	3	0,11
1058.03	22	60	5	1	0,11
1056.04	24	80	6	3	0,28
1058.04	26	80	6	1	0,24
1060.03	27	80	6	2	0,29

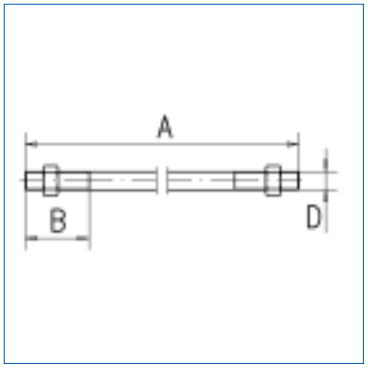
Version 1 bended

Version 2 bended with flat face

Version 3 flat

Other dimensions are available upon request.

Double arming bolt



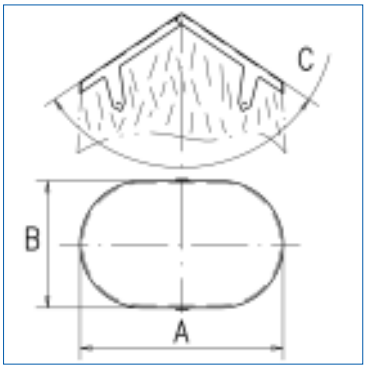
material: steel, hot dip galvanized				
L.-Nr.	dimensions in mm			kg
	D	A	B	
1030.01	M12	200	50	0,19
1030.02	M12	250	50	0,23
1030.03	M12	300	70	0,27
1030.11	M16	150	50	0,27
1030.11/1	M16	180	50	0,33
1030.12	M16	200	50	0,33
1030.13	M16	250	50	0,39
1030.14	M16	300	70	0,47
1030.15	M16	350	70	0,56
1030.16	M16	400	70	0,62
1030.17	M16	450	70	0,69
1030.18	M16	500	70	0,70
1030.19	M16	550	90	0,81
1030.20	M16	600	90	0,92
1030.21	M16	650	90	1,03
1030.22	M16	700	90	1,05
1030.31	M20	180	50	0,50
1030.32	M20	200	50	0,56
1030.33	M20	250	50	0,61
1030.34	M20	300	70	0,72
1030.35	M20	350	70	0,82
1030.36	M20	400	70	0,92
1030.37	M20	450	70	1,02
1030.38	M20	500	70	1,12
1030.39	M20	550	90	1,22
1030.40	M20	600	90	1,32
1030.41	M20	650	90	1,66

material: steel, hot dip galvanized				
L.-Nr.	dimensions in mm			kg
	D	A	B	
1030.42	M20	700	90	1,52
1030.43	M20	750	90	1,65
1030.44	M20	800	90	1,73
1030.45	M20	850	90	2,16
1030.46	M20	900	90	2,28
1030.47	M20	950	90	2,42
1030.48	M20	1000	90	2,52
1030.51	M20	1400	90	3,46
1030.52	M24	300	70	1,22
1030.53	M24	350	70	1,30
1030.54	M24	400	70	1,56
1030.55	M24	450	70	1,65
1030.56	M24	500	70	1,75
1030.57	M24	550	90	1,98
1030.58	M24	600	90	2,00
1030.59	M24	650	90	2,14
1030.60	M24	700	90	2,30
1030.61	M24	750	90	2,45
1030.62	M24	800	90	2,61
1030.63	M24	850	90	3,10
1030.64	M24	900	90	3,26
1030.65	M24	950	90	3,43
1030.66	M24	1000	90	3,20
1030.68	M24	1100	90	3,92
1030.70	M24	1200	90	4,28

Other dimensions are available upon request.

Pole shielding

material: aluminium					
L.-Nr.	dimensions in mm		angle in degrees	version	kg
	B	A	C		
2220.01	165	165	108	1	0,06
2220.02	180	180	114	1	0,07
2220.06	180	248	126	2	0,09
2220.03	200	200	118	1	0,08
2220.07	200	268	130	2	0,10



Version 1 for suspension poles

Version 2 for A-type poles

Other dimensions are available upon request.

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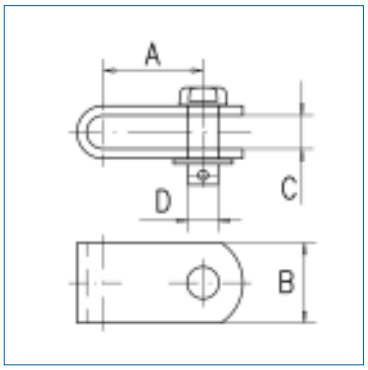
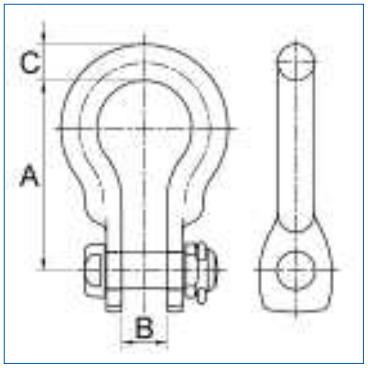
Strain hinge



material: steel, hot dip galvanized						
L.-Nr.	dimensions in mm				breaking load kN	kg
	B	A	D	C		
4140.01	40	54	13	21	40	0,43
4140.02	50	104	19	21	90	0,70
4140.10	70	65	19	20	85	0,80

Other dimensions are available upon request.

Straight bow shackle



material: steel, hot dip galvanized						
L.-Nr.	dimensions in mm			bolt	kN	kg
	A	B	C			
4250.0026	80	20	16	16	120	0,55
4250.0029	80	20	16	19	130	0,60

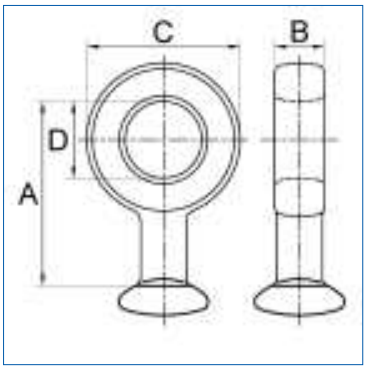
Other dimensions are available upon request.

Ball eye

according to IEC

material: steel, forged, hot dip galvanized								
L.-Nr.	dimensions in mm				ball eye	kN	kA 1s	kg
	A	B	C	D				
4210.15/1	48	13	40	20	11	60	7	0,12
4210.16/1	62	19	54	24	16	130	14	0,34
4210A16/11	60	19	54	20	16	130	14	0,35

Other dimensions are available upon request.

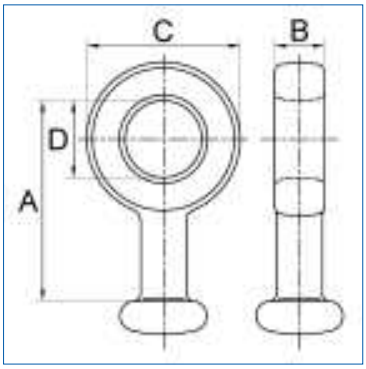


Ball eye

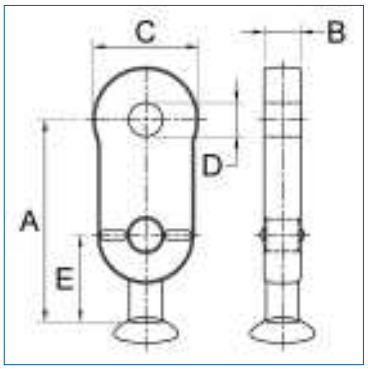
according to ÖNORM

material: steel, forged, hot dip galvanized								
L.-Nr.	dimensions in mm				ball eye	kN	kA 1s	kg
	A	B	C	D				
4210.16/2	62	16	56	24	16	130	14	0,31

Other dimensions are available upon request.



Ball eye straight, with arcing device attachment according to IEC

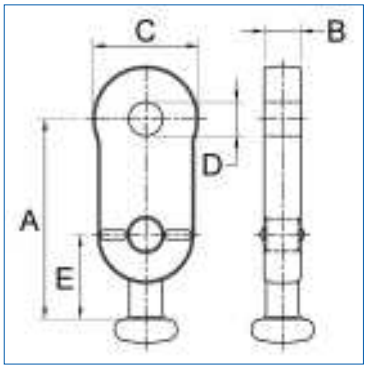


material: steel, forged, hot dip galvanized

L.-Nr.	dimensions in mm					ball eye	kN	kA 1s	version	kg
	A	B	C	D	E					
4213.00/0	80	13	40	20	32	11	60	12	1	0,22
4213.013/1	104	19	55	26	45	16	130	35	1	0,69
4213.011/1	104	19	55	24	45	16	130	40	1	0,71
4213.012/1	104	19	55	20	45	16	130	40	1	0,73
4213.0015	115	19	62	24	45	16	130	50	2	0,90

Version 2 has a two-hole arcing device attachment, hole distance 32mm for 2 screws M12.
The stated values for short circuit protection will only be applicable if arcing devices are actually used.Other dimensions are available upon request.

Ball eye straight, with arcing device attachment according to ÖNORM



material: steel, forged, hot dip galvanized

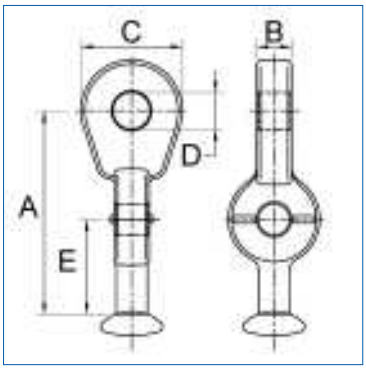
L.-Nr.	dimensions in mm					ball eye	kN	kA 1s	version	kg
	A	B	C	D	E					
4213.013/0	104	19	55	26	48	16	130	35	1	0,65
4213.011/0	104	19	55	24	48	16	130	40	1	0,69
4213.012/0	104	19	55	20	48	16	130	40	1	0,69

The stated values for short circuit protection will only be applicable if arcing devices are actually used.Other dimensions are available upon request.

Ball eye twisted, with arcing device attachment according to IEC

material: steel, forged, hot dip galvanized

L.-Nr.	dimensions in mm					ball eye	kN	kA 1s	version	kg
	A	B	C	D	E					
4213.09/0	70	13	40	20	32	11	60	12	1	0,20
4213.103/1	104	19	55	26	45	16	130	35	1	0,60
4213.101/1	104	19	55	24	45	16	130	40	1	0,62
4213.102/1	104	19	55	20	45	16	130	40	1	0,63
4213.101/2	130	19	62	24	50	16	130	50	3	1,00

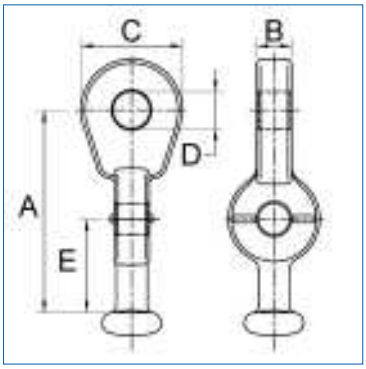


Version 3 has a two-hole arcing device attachment, hole distance 32mm for 2 screws M12.
The stated values for short circuit protection will only be applicable if arcing devices are actually used.Other dimensions are available upon request.

Ball eye twisted, with arcing device attachment according to ÖNORM

material: steel, forged, hot dip galvanized

L.-Nr.	dimensions in mm					ball eye	kN	kA 1s	version	kg
	A	B	C	D	E					
4213.103/0	110	19	55	26	48	16	130	35	1	0,64
4213.101/0	110	19	55	24	48	16	130	35	1	0,68



The stated values for short circuit protection will only be applicable if arcing devices are actually used.Other dimensions are available upon request.

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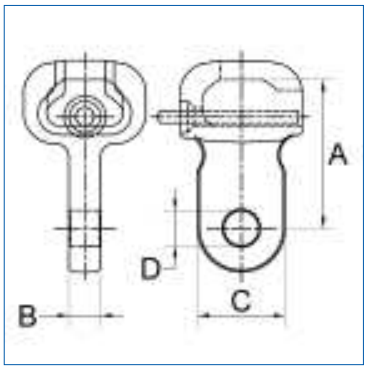
Socket eye casted
according to IEC

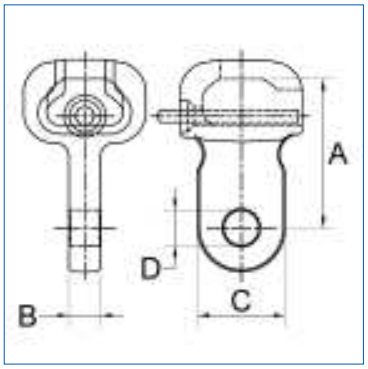


material: malleable or ductile iron, hot dip galvanised

L.-Nr.	dimensions in mm				ball eye	kN	kA 1s	kg
	A	B	C	D				
4220.08/1	71	19	50	20	16	130	14	0,82

Other dimensions are available upon request.

Socket eye forged
according to IEC



material: steel, forged, hot dip galvanized

L.-Nr.	dimensions in mm				ball eye	kN	kA 1s	kg
	A	B	C	D				
4220.02/1	71	19	45	20	16	130	14	0,69
4220.021/1	71	19	45	18	16	130	14	0,70

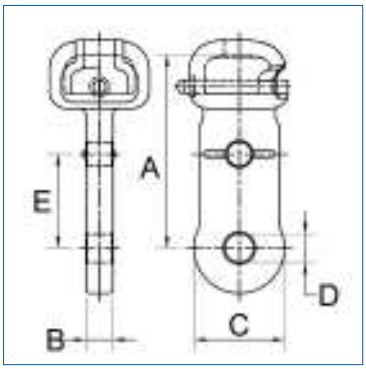
Other dimensions are available upon request.

Socket tongue casted, straight, with arcing horn attachment according to IEC

material: malleable or ductile iron, hot dip galvanised

L.-Nr.	dimensions in mm					ball eye	kN	kA 1s	version	kg
	A	B	C	D	E					
4220.206/1	106	19	50	20	51	16	130	30	1	0,98

The stated value for short circuit protection will only be applicable if arcing devices are actually used.Other dimensions are available upon request.

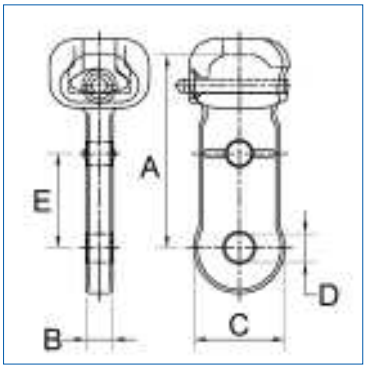


Socket tongue forged, straight, with arcing horn attachment according to IEC

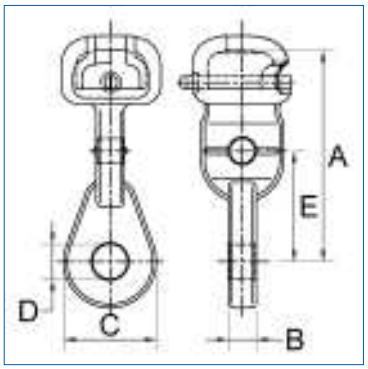
material: steel, forged, hot dip galvanized

L.-Nr.	dimensions in mm					ball eye	kN	kA 1s	version	kg
	A	B	C	D	E					
4220.20/1	120	19	56	20	63	16	130	40	1	1,16
4220.201/1	120	19	56	24	63	16	130	40	1	1,06

The stated values for short circuit protection will only be applicable if arcing devices are actually used.Other dimensions are available upon request.



Socket tongue casted, with arcing device attachment, twisted according to IEC

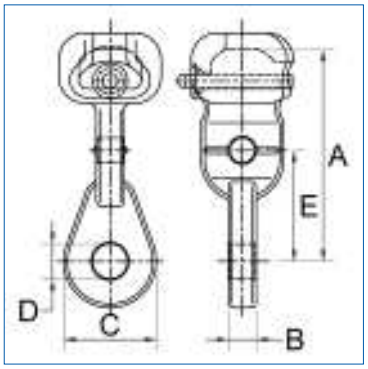


material: malleable or ductile iron, hot dip galvanised

L.-Nr.	dimensions in mm					ball eye	kN	kA 1s	version	kg
	A	B	C	D	E					
4220.301/2	128	19	50	20	71	16	130	30	1	1,15
4220.301/4	130	19	64	24	75	16	160	50	3	1,40
4220.301/5	135	19	64	20	80	16	160	40	3	1,40

Version 3 has a two-hole arcing device attachment, hole distance 32mm for 2 screws M12.
The stated values for short circuit protection will only be applicable if arcing devices are actually used.Other dimensions are available upon request.

Socket tongue forged, with arcing device attachment, twisted according to IEC



material: steel, forged, hot dip galvanized

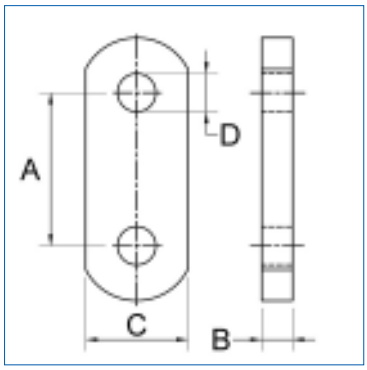
L.-Nr.	dimensions in mm						ball eye	kN	kA 1s	version	kg
	A	B	C	D1	D2	E					
4220.30/1	128	19	56	24	17	71	16	130	40	1	1,11
4220.301/1	128	19	56	20	17	71	16	130	40	1	1,11

The stated values for short circuit protection will only be applicable if arcing devices are actually used.Other dimensions are available upon request.

Double eye straight

material: steel, hot dip galvanized							
L.-Nr.	dimensions in mm				kN	kA 1s	kg
	A	B	C	D			
4260.01	50	13	40	22	60	10	0,29
4260.04	70	19	50	20	240	35	0,77
4260.04/1	100	19	50	20	240	35	0,99

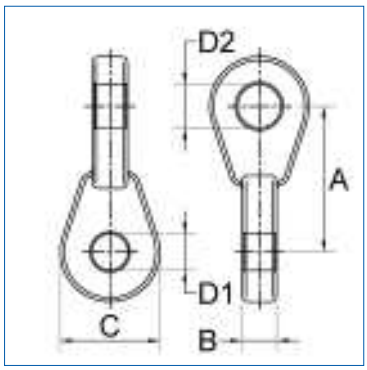
Other dimensions are available upon request.



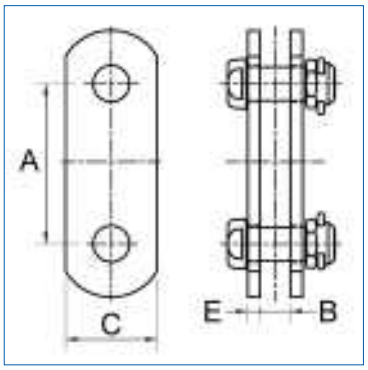
Double eye twisted, forged

material: steel, forged, hot dip galvanized								
L.-Nr.	dimensions in mm					kN	kA 1s	kg
	A	B	C	D1	D2			
4261.08/10	70	19	50	20	20	200	30	0,63
4261.08	80	19	55	20	20	200	40	0,83

Other dimensions are available upon request.



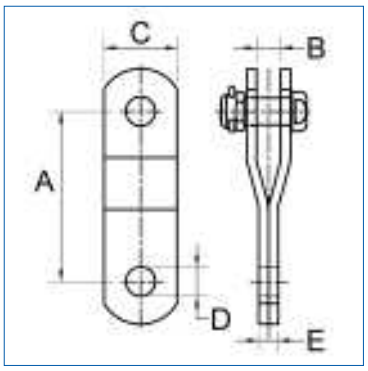
Double strap



material: steel, hot dip galvanized									
L.-Nr.	dimensions in mm				bolt 1	bolt 2	kN	kA 1s	kg
	A	B	C	E					
4263.10	70	20	40	6	19	19	75	15	0,66
4263.12	70	20	50	8	19	19	200	32	1,00

Other dimensions are available upon request.

Clevis eye straight



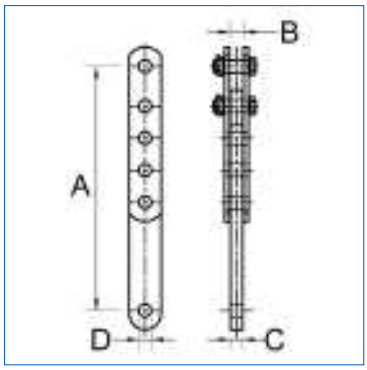
material: steel, hot dip galvanized									
L.-Nr.	dimensions in mm					bolt	kN	kA 1s	kg
	A	B	C	D	E				
4265.01	75	20	40	20	12	19	75	15	0,52
4265.01/1	100	20	40	20	12	19	75	15	0,65
4265.02/1	100	20	40	20	19	19	100	20	0,92
4265.04/30	100	20	60	20	19	19	240	40	1,30

Other dimensions are available upon request.

Adjustable extension link straight

material: steel, hot dip galvanized								
L.-Nr.	dimensions in mm				bolt	kN	kA 1s	kg
	A	B	C	D				
4266.10/3	235 - 340	20	19	20	19	160	32	2,95

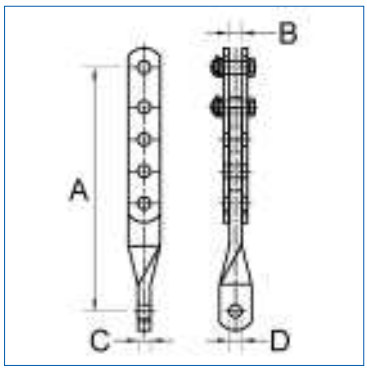
Other dimensions are available upon request.



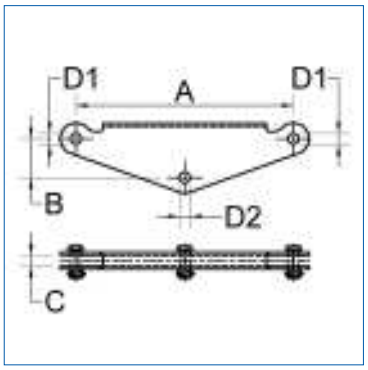
Adjustable extension link twisted

material: steel, hot dip galvanized								
L.-Nr.	dimensions in mm				bolt	kN	kA 1s	kg
	A	B	C	D				
4267.31/3	350 - 500	20	19	20	19	200	32	3,96
4267.31	350 - 500	20	19	21	19	160	32	3,96

Other dimensions are available upon request.



Triangular yoke bended



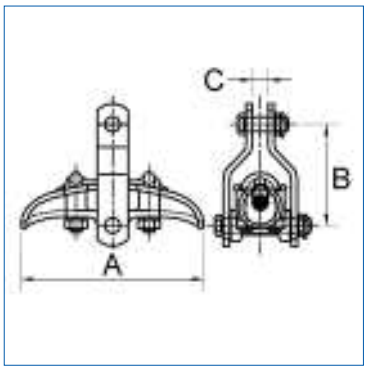
material: steel, hot dip galvanized

L.-Nr.	dimensions in mm					kN	kA 1s	kg
	A	B	C	D1 bolt	D2 bolt			
4270.02/1	280	50	20	19	19	70	16	1,75

Other types are available upon request.

Suspension clamp with bolt, casted

for aluminium based conductors



material: aluminium, casted; steel, hot dip galvanized

L.-Nr.	dimensions in mm				bolt	kN	kA 1s	kg
	cond.Ø	A	B	C				
4335.04/1	9,0 - 16,5	210	115	20	19	80	18	1,79
4335.05/1	16,5 - 22,1	230	133	20	19	100	32	2,38

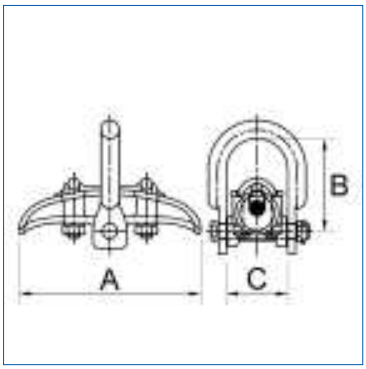
Other dimensions are available upon request.

Suspension clamp with bolt, casted, with shackle
for aluminium based conductors

material: aluminium, casted; steel, hot dip galvanized

L.-Nr.	dimensions in mm				kN	kA 1s	kg
	cond.Ø	A	B	C			
4326.01	9,0 - 16,5	210	80	55	80	18	1,60
4337.9001	15,0 - 18,5	190	133	64	100	32	2,90

Other dimensions are available upon request.



Wedge tension clamp without jumper guide
for aluminium based conductors

material: aluminium, forged; steel, hot dip galvanized

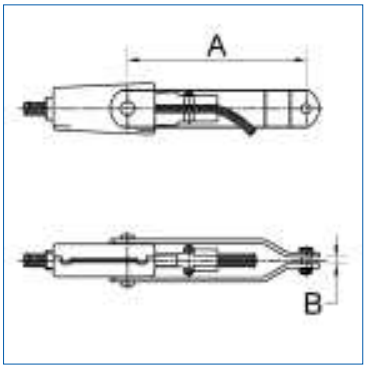
L.-Nr.	dimensions in mm				kN	kA 1s	kg
	cond.Ø	A	B	bolt			
566.01/24FA	9,1 - 10,5	210	20	19	55	15	1,50
566.01/34FA	10,6 - 11,7	210	20	19	55	15	1,42
566.11/34FA	10,6 - 11,7	210	20	19	70	18	1,76
566.01/44FA	11,8 - 14,0	210	20	19	55	15	1,48
566.13/34FA	14,1 - 15,8	270	20	19	100	20	3,80

The stated values of breaking load refer to the straps, including connecting pieces. The retaining force of the clamp depends on the conductor configuration.

In the articles of L.-Nr. **566.01/** ... the straps are riveted on the wedges.

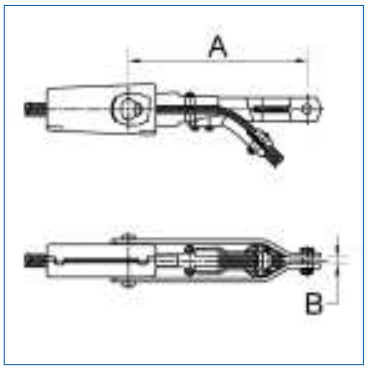
Models with other screws and/or split pins are available upon request.

Other dimensions are available upon request.



Wedge tension clamp with jumper guide

for aluminium based conductors



material: aluminium, forged; steel, hot dip galvanized

L.-Nr.	dimensions in mm				kN	kA 1s	kg
	cond.Ø	A	B	bolt			
566.03/24NA	12,6 - 14,0	270	20	19	100	20	2,93
566.03/34NA	14,1 - 15,8	270	20	19	100	20	2,95

The stated values of breaking load refer to the straps, including connecting pieces. The retaining force of the clamp depends on the conductor configuration.

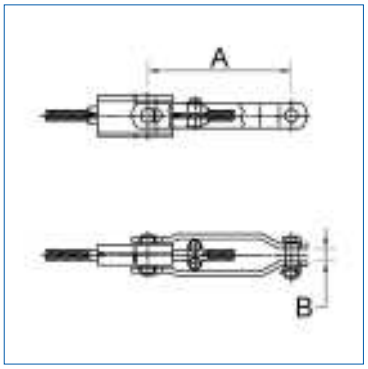
In the articles of L.-Nr. **566.03/** ... the straps are riveted on the wedges.

Models with other screws and/or split pins are available upon request.

Other dimensions are available upon request.

Double wedge tension clamp without jumper guide

for aluminium based conductors



material: aluminium, extruded; steel, hot dip galvanized

L.-Nr.	dimensions in mm				kN	kA 1s	kg
	cond.Ø	A	B	bolt			
4440.50/4	7,5 - 10,0	210	20	19	60	13	1,11
4440.51/3	10,5 - 12,5	210	20	19	60	13	1,09
4440.52/1	13,6 - 16,1	310	14	13	60	16	2,26
4440.53/1	13,6 - 16,1	310	20	19	80	22	2,35

The stated values of breaking load refer to the straps, including connecting pieces. The retaining force of the clamp depends on the conductor configuration.

Double wedge tension clamps have a connecting bolt that is made of steel and ensures that wear is limited, when connected with the steel eyes.

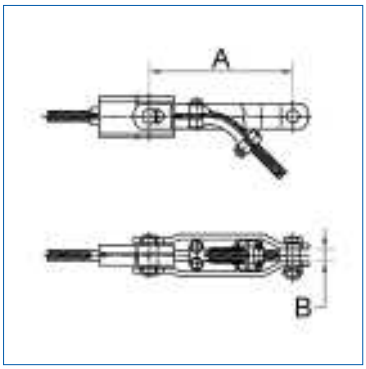
Other dimensions are available upon request.

Double wedge tension clamp with jumper guide

for aluminium based conductors

material: aluminium, extruded; steel, hot dip galvanized

L.-Nr.	dimensions in mm				kN	kA 1s	kg
	cond.Ø	A	B	bolt			
4440.52/4	13,6 - 16,1	310	14	13	60	18	2,40
4440.52/3	13,6 - 16,1	310	14	13	60	18	2,41
4440.53/3	13,6 - 16,1	310	20	19	80	22	2,51



The stated values of breaking load refer to the straps, including connecting pieces. The retaining force of the clamp depends on the conductor configuration.

Double wedge tension clamps have a connecting bolt that is made of steel and ensures that wear is limited, when connected with the steel eyes.

L.-Nr. **4440.52/3** with rivet bolts

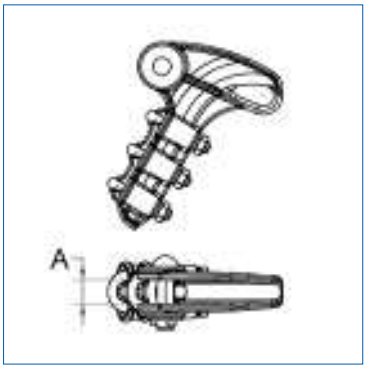
Other dimensions are available upon request.

Bolted type tension clamp

for aluminium based conductors

material: aluminium, casted; steel, hot dip galvanized

L.-Nr.	dimensions in mm		bolt	U-bolts	kN	kA 1s	kg
	cond.Ø	A					
4432.08	5,0 - 13,5	17	13	2 X M8	40	10	0,46
4432.08/1	7,0 - 15,0	20	16	2 X M8	50	25	0,54
4432.14/10	8,0 - 18,5	19	16	2 X M12	50	25	1,02
4432.14	9,0 - 16,0	23	16	3 X M10	60	25	0,98

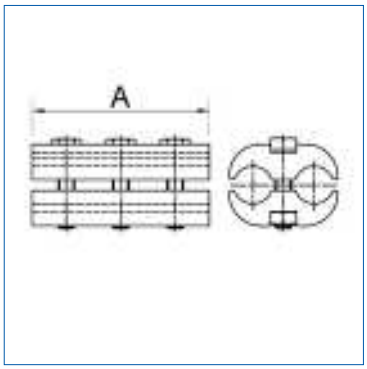


The stated values of breaking load refer to the clamp clevis detail, including connecting pieces.

The retaining force of the clamp depends on the conductor configuration.

Other versions or dimensions are available upon request.

Parallel groove clamp for earthwires and phase tension up to 132 kV
for aluminium based conductors



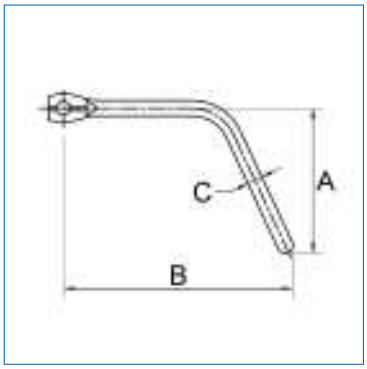
material: aluminium, extruded; steel, hot dip galvanized				
L.-Nr.	dimensions in mm			kg
	cond.Ø	A	screws	
4502.11	8,1 - 11,7	80	3	0,23
4502.12	11,8 - 15,8	95	3	0,41

These types can be used for nominal voltages up to 132 kV, single or double bolt types also available.

Parallel groove clamps with reducing sleeves or aluminium-copper-sleeves are available upon request.

Other types are available upon request.

Upper arcing horn for disc insulators, single



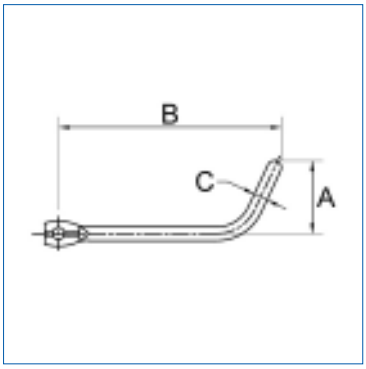
material: steel, hot dip galvanized					
L.-Nr.	dimensions in mm			kA 1s	kg
	A	B	C		
4726.05	190	250	16	16	0,75

Other types are available upon request.

Lower arcing horn for disc insulators, single

material: steel, hot dip galvanized					
L.-Nr.	dimensions in mm			kA 1s	kg
	A	B	C		
4726.06	105	250	16	16	0,70

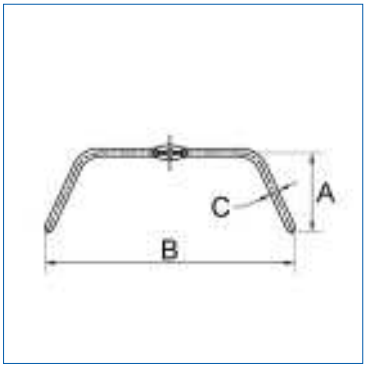
Other types are available upon request.



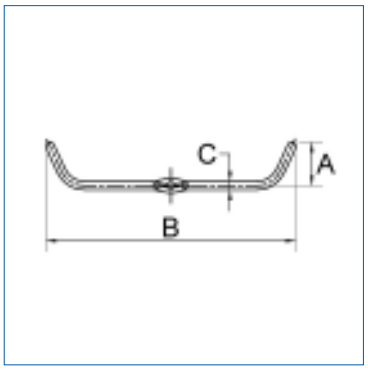
Upper arcing horn for disc insulators, double

material: steel, hot dip galvanized					
L.-Nr.	dimensions in mm			kA 1s	kg
	A	B	C		
4725.05	200	500	16	16	1,27

Other types are available upon request.



Lower arcing horn for disc insulators, double

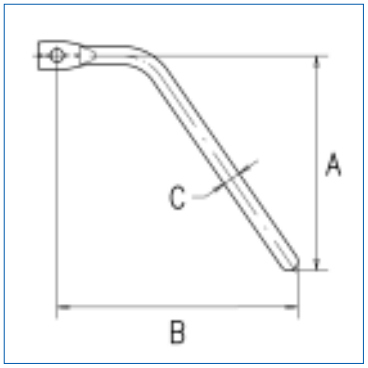


material: steel, hot dip galvanized

L.-Nr.	dimensions in mm			kA 1s	kg
	A	B	C		
4725.06	105	500	16	16	1,07

Other types are available upon request.

Arcing horn for long rod insulator



material: steel, hot dip galvanized

material:	dimensions in mm				breaking load kN	kA 1s	kg
	A	B	C	D			
4710	105	130	12		60	7	0,25

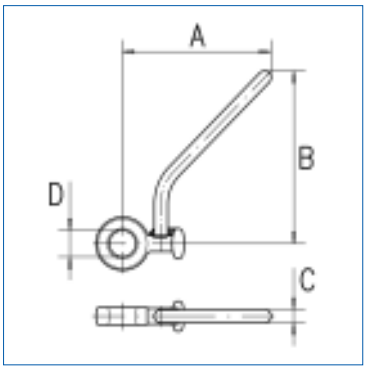
Other dimensions are available upon request.

Arcing horn straight with ball eye for long rod insulator

material: steel, hot dip galvanized

L.-Nr.	dimensions in mm				breaking load kN	kA 1s	kg
	A	B	C	D			
4210.15/1-A	112	130	10	20	60	6,5	0,20

Other dimensions are available upon request.

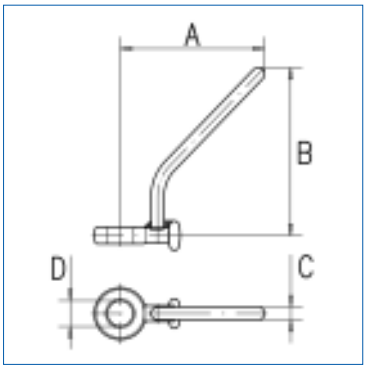


Arcing horn twisted with ball eye for long rod insulator

material: steel, hot dip galvanized

L.-Nr.	dimensions in mm				breaking load kN	kA 1s	kg
	A	B	C	D			
4210.15/1-B	112	130	10	20	60	7	0,20

Other dimensions are available upon request.

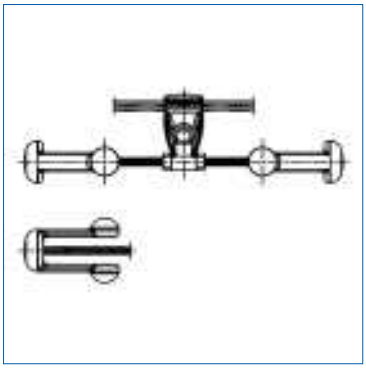


Stockbridge damper with casted clamp

for aluminium based conductors

material: aluminium, casted; steel, hot dip galvanized; cast iron, hot dip galvanized

L.-Nr.	dimensions in mm		version	kg
	cond.Ø	screws		
9301.01/G/1	7,0 - 14,0	M10	1	1,60
9301.0010	7,0 - 14,0	M10	2	1,45
9303.01/G/1	7,0 - 14,0	M10	2	2,10
9301.03/G/1	14,0 - 16,5	M10	1	1,81
9303.03/G/1	14,0 - 16,5	M10	2	2,20



Version 1 covers two resonant frequencies and **version 2** covers four resonant frequencies.

The weights are casted onto the messenger wire. Models with messenger wire protective sleeving or stainless steel messenger available on request.

Other types are available upon request.

Contents

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General

Tension tower

Insulated overhead lines have some significant advantages over bare overhead line conductors. By utilising electrically insulated cable, single phase conductors can be combined into one bundle. This provides easier line construction with distances between phases significantly reduced, offering particular advantages for densely populated areas and forest locations. In areas where there is reduced safety clearance, a compact insulated bundle provides special advantages where it is difficult to guarantee minimum electrical clearances, compared to conventional overhead line construction.

A fully insulated conductor system increases operating safety significantly, by eliminating short circuit interphase contact and system faults caused by unintentional contact.
Construction and maintenance safety is also maximised by the use of insulated tools for live line work, with the conductor insulation also providing protection against environmental and unintentional impact damage.

There are two main types of Aerial Bundle Cable systems. A **"self-supporting"** quadruple bundle for example, utilises identical insulated cables of the same material and size, providing equal electrical and mechanical properties, twisted together to form the bundle.
This type typically utilises two-wire to four-wire systems, with one neutral cable bundled together with the separate phase cables. The cable fittings at both suspension and tension points are connected, clamped and mechanically loaded together equally.

Self-supporting quadruple bundle

A second system type is mechanically supported by one neutral higher strength cable, with for example, three identical insulated phase cables twisted into one bundle. This system is commonly known as **"neutral supported"** or **"catenary supported"** ABC.
The neutral cable can be insulated or bare, and is mechanically clamped at tension and suspension points to carry the bundle.

In addition to two-wire to four-wire systems made up of phase and neutral cables, other bundle arrangements are possible that add and use smaller cross section cables, that can be utilised for street lighting and utility controllers.

Bundle with a carrying conductor and an additional conductor

All Mosdorfer fittings and systems are tested and qualified according to internationally recognised standards, in cooperation with accredited Austrian and international test and development institutions.
Mosdorfer Quality department testing systems and facilities routinely test products to demonstrate performance according to recognised international standards, and follow in-process quality inspection procedures to guarantee supply security and quality.
We offer both mechanical and electrical testing, to demonstrate compliance to customer requests and requirements, and demonstrate our product suitability to your specific needs.

The main Standard for low-voltage overhead line fittings up to 1kV references EN 50383 in its applicable version, according to country specific variations. It covers all products ranging from tension fittings, suspension clamps and joints. This Standard is supplemented by the general normative requirements for overhead lines as well as specific features of the individual materials used (e.g. plastics, steel, aluminium, copper) and the required surface treatment (e.g. corrosion prevention according to ISO 1461).

Generally all parts are checked for their mechanical strength, electrical properties (heat development, maintenance of the function of the insulated system, power transmission, etc.) as well as for long-term resistance to environmental conditions. All parts must resist the required mechanical loads, strains and stresses, and materials where necessary, and must be protected from corrosion.

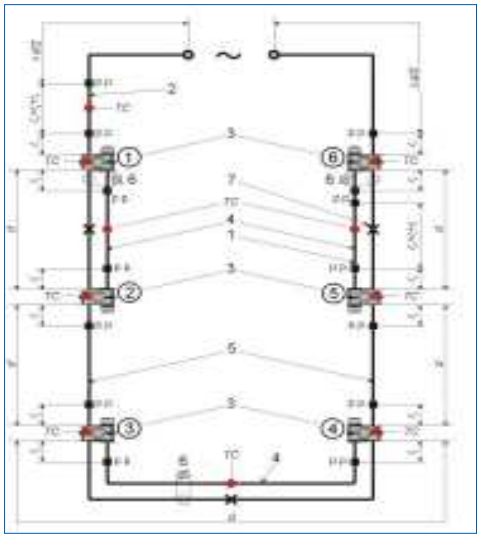
For tension and suspension clamps, product specific breaking and slipping loads will be tested on the insulated conductors intended for use. In all product testing cases, it is necessary to maintain the function of electrical insulation of the conductor, that is checked by dielectric testing between the conductor and conducting parts of the fittings.

Increased requirements are particularly placed on joints and connectors, e.g. **insulated piercing connectors**. In order to establish a suitable conductive connection between two insulated overhead conductors, the insulated cable needs to be pierced to make electrical contact. At the same time, the integrity of the insulation must be maintained, and penetration of humidity into live parts must be prevented. Moisture ingress can cause conductor corrosion damage, and reduce insulation properties making the system less safe with risks to life.

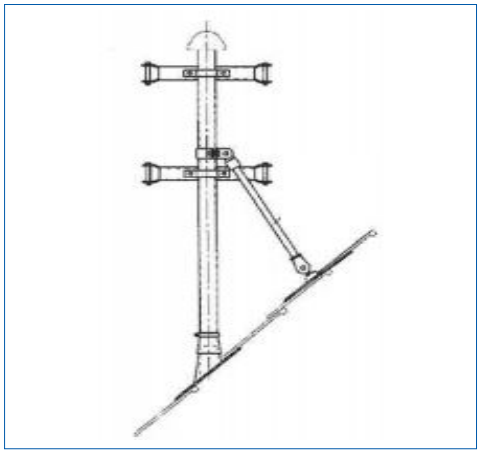
The general specifications and test requirements for **insulating fuse switch disconnectors** are referenced by the EN 60947 Standard. The most important tests in terms of this product group are the tests related to circuit breaking capacity, demonstration of the conditional rated short-circuit current for protection provided by fuses, thermal behaviour during operation and testing of the mechanical and thermal life cycle.

Material for bare conductors in distribution systems
Mosdorfer has a comprehensive range of products and protection fittings for bare and insulated conductor systems, including service connection materials. This catalogue does not contain a complete range of fittings and materials that Mosdorfer offer due to a wide range of international standards and localised power utility requirements.
Contact Mosdorfer directly for specific requirements.

Electrical testing lab



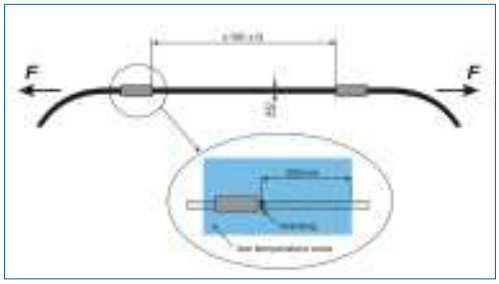
Example of the test configuration for ageing tests



Roof pole with ancor

Tension clamps for insulated overhead conductors

Tensioning on a roof pole



Tensile test on tension clamps according to EN50483-2

Tension pole

Tension clamps provide a full-tension splice between the conductors and the support poles or structures of the overhead line.
They provide conductor tensioning points at live ends or junctions, and are required to safely withstand tensions and holding forces according to standards and regulations.
It is highly important to ensure system designs protect the cable insulation, to ensure that it cannot become damaged in service. Any such damage, may lead to weak mechanical joints and current leakage, and cannot guarantee electrical insulation and safe operation.

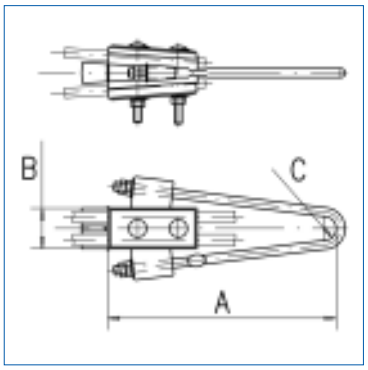
Tension clamp breaking loads must always be greater than the breaking load of the largest cables suitable for the clamp.
In accordance with the referenced standard EN 50483, the tension system, cable and clamp, must withstand 80 % of the minimum breaking load or 60 % for conductor areas that are larger than 95 mm².

Normative evidence requires that both mechanical and electrical integrity of the cable system with clamps shall be tested, combining mechanical, dielectric, environmental, corrosion and ageing tests on both metallic and plastic parts, to evaluating and qualify mechanical, electrical and insulation effects, including lifecycle and maintenance factors.

Mosdorfer product range offers various tension clamps for single or bundled cables (two to four single cables).
In the low-voltage range, wedge type tension clamps with screw adjustment are mainly used, bolted only clamps are seldom used.

The range of tension clamps can be divided into two;
Low voltage tension clamps for full tension pole-pole mounting, and smaller clamps for house service connections that have lower tensile stress requirements.
Connecting plates utilising rigid steel bolts and cover plates can be specified, with more flexible solutions using fine-stranded steel conductors are also available for general service cable connections.

Universal tension clamp

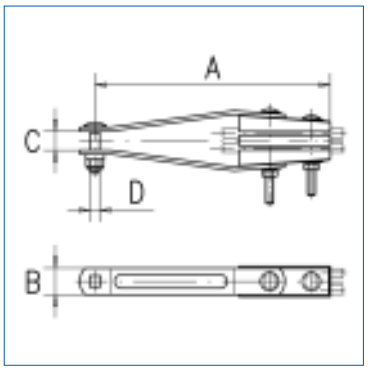


material: aluminium, casted; steel, hot dip galvanized; plastics, glas fibre reinforced					
L.-Nr.	cond. cross section sq mm	dimensions in mm			kg
		C	A	B	
5015	4 X 25	R14	325	38	0,61
5017/1	4 X 35-50	R14	360	45	1,14
5019/1	4 X 70-95	R12	432	55	2,02

An easy to install clamp uses preloaded open spring and flexible attachment Loop.

Other dimensions are available upon request.

Cover plate tension clamp



material: steel, hot dip galvanized; plastics, glas fibre reinforced						
L.-Nr.	cond. cross section sq mm	dimensions in mm				kg
		D	A	C	B	
5010	4 X 25-50	M12	314	15	35	1,22
5010/3F	4 X 25-50	M10	430	32	40	1,00
5010/B	4 X 25-50	M12	310	25	35	1,40
5011	4 X 70-95	M12	310	27	35	1,22
5011/3F	4 X 50-120	M10	430	35	35	1,00
5011/B	4 X 70-95	M12	310	25	35	1,38
5012/1	4 X 50-95	M12	310	30	35	1,32
5012/3F	3-4 X 50-95	M10	430	32	35	1,12
5014	4 X 120-150	M12	605	25	40	3,56

A universal clamp using rigid or flexible removeable connection cover plates.

Version F with flexible steel wire allows two clamps in one eye or hook.

5012/3F with flexible steel wire for 3 bundle.

B... moveable cover plate

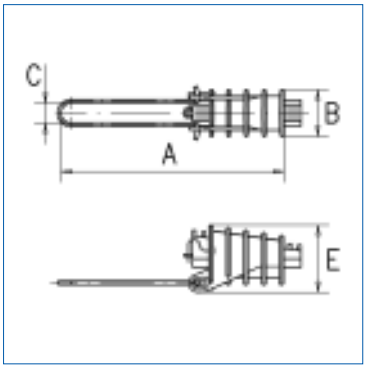
F... flexible steel wire

Other dimensions are available upon request.

Tension clamp for house connection

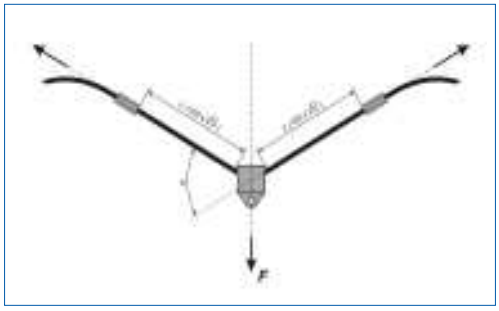
material: steel, hot dip galvanized; plastics, glas fibre reinforced						
L.-Nr.	cond. cross section sq mm	dimensions in mm				kg
		C	A	B	E	
5001/1	2 X 10-35	20	176	27	53	0,07
5001	2 X 25	22	170	40	45	0,43
5001/10	2 X 35-50	24	280	40	60	0,92
5904.2	2-4 X 4-25	20	200	44	63	0,10
5001/2	4 X 10-35	20	176	42	53	0,12

Other dimensions are available upon request.



Suspension clamps for insulated overhead conductors

Suspension pole



Tensile test on suspension clamps
according to EN50483-2

Roof pole with Roller suspension clamp

Suspension clamps provide a connection between the conductors and supporting structures of the overhead line that is not in tension. The conductors must be held and maintained in a safe position by the clamping forces. The connection to the support structure attaches the clamp to allow slipping of the conductors through the suspension clamp in the direction of the conductor at a pre-determined load, and the clamp design avoids damage to the insulation.

This is similar also for tension clamps and other fittings for insulated overhead lines. The fittings must protect the cables from insulation damage during any mechanical load event, and the dielectric properties of the cable and insulation must not be influenced negatively under any circumstances.

In order to avoid such damage to conductor insulation, most suspension clamps have inserts made of elastomer or plastic materials. This protects the cable from sharp metallic edges, protecting the insulation. The breaking load of the clamps is required to meet the highest calculated breaking load of the largest conductor applicable to the clamp design.

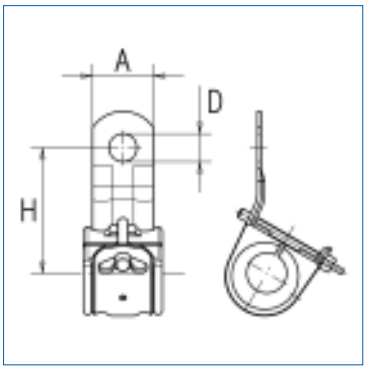
Suspension clamp line angle deviation limits, depend upon the clamp and the connecting structure arrangement to be used. Typically, single clamps have a maximum angle of 30° line deviation. Special arrangement types can accommodate angles up to 60° and can be specified where connecting structure hardware allows.

A special case is formed by the so-called **Roller suspension clamps**. They offer a simple combination between the function of a mounting roller and that of a suspension clamp. Mosdorfer's Roller Suspension clamp is equipped with a soft elastomer padding on the roller, which serves to avoid damage during the installation process. In combination with a big roller diameter, this will also help to furnish big angles of up to 60°. After the line has been erected, the conductor bundle can be fixed in the clamp by using a clamping system. This adapts the clamp to a suspension support clamp.
With this system, significant construction time is saved, avoiding the need for additional intervention at suspension points, additional tooling and fitting changes to suspension hardware following overhead line wiring.

Mosdorfer supply many suspension clamps for preferred applications, suitable for various pole connections. We supply different hardware options, namely simple or twisted cover plates made of steel, connections that use bolts or eyebolts to make suspension point construction easier.

Suspension clamp

material: steel, hot dip galvanized; neopren					
L.-Nr.	cond. cross section sq mm	dimensions in mm			kg
		D	H	A	
5020	4X25	23	92	50	0,46
5021	4X50 - 4X70	23	92	50	0,40
5023	4X95	23	92	50	0,44
5033	4X50	23	92	50	0,44
5035	4X35	23	92	50	0,48
5023/10	4X120-150	23	100	50	0,43



Special types for upward tension

The standard types are not suitable for upward tension as there is a possibility that separation from the pole can occur particularly when using open hook connections. In cases of clear upward tension the standard types can be used by installing them in reverse.

Variations:

- for fixing on wooden poles
- for fixing with collars

Special types:

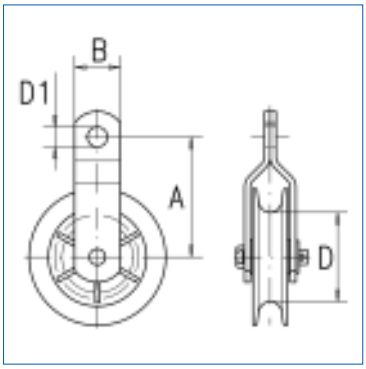
An al-bushing can be incorporated to standard types.

On request all typs can be supplied with safety clips for the bolts.

Other types are available upon request.

Suspension roller

material: steel, hot dip galvinzed; plastics					
L.-Nr.	dimensions in mm				kg
	cond. cross section sq mm	D1	D	A	
5030/1	4X25 - 4X50	22	150	175	1,40
5030/30	4X25 - 4X50	20	120	140	0,59
5030/31	4X25 - 4X50	22	120	160	0,85
5031	4X70 - 4X95	23	160	160	1,28



For line angles upto 60°.

This clamp is also used as a mounting roller.

Other dimensions are available upon request.

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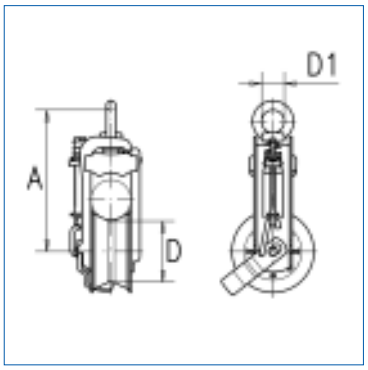
Roller suspension clamp



material: steel, hot dip galvinzed; plastics glas fibre reinforced; neopren

L.-Nr.	cond. cross section sq mm	dimensions in mm			kg
		D1	D	A	
5170.04	2X25 - 4X120	30	108	175	1,55
5170.06	2X25 - 4X120	40	108	190	1,72
5170.05	4X95 - 4X150	30	116	186	1,70

Suitable for angles of up to 60°.

This clamp is also used for installation.

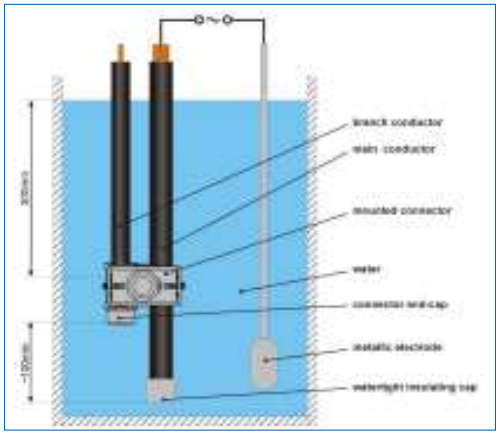
After the line has been erected, the bundle will be fixed by means of a snap lock.

The clamp does not need any tools for installation and has the major benefit of performing two distinct functions.

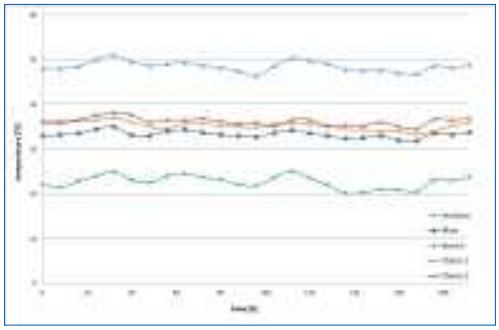
Further information is given in our special booklet "Roller Suspension Clamp".

Insulating piercing connectors for insulated overhead conductors

Piercing connectors on a suspension pole



Measurement of voltage drop



Heat raise test on piercing connectors

Insulated piercing connectors serve to establish tap-off cables and joints between insulated overhead conductors without having to remove the electric insulation of the conductors. The current carrying connection and electrical capacity is made by means of copper or aluminium teeth from inside the connector, piercing the insulation and making a controlled electrical connection.

The connectors are electrically insulated by use of high-grade glass fibre reinforced plastic housings, with greased sealing elastomer inserts made of thermoplastic material. The connector design perfectly adjusts to the insulated overhead line cable, maintains the required contact safely and prevents moisture ingress and humidity entering the cable system.

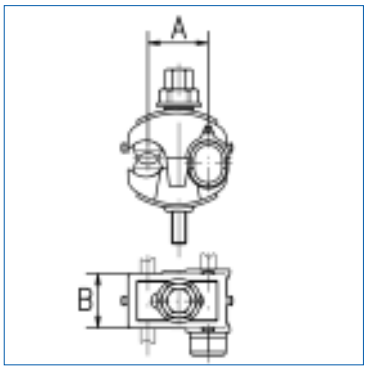
Mosdorfer's Insulated piercing connectors are developed to suit all combinations of standard cable types commonly installed on insulated power networks, ensuring operational safety.

Insulated piercing connectors manufactured by Mosdorfer are type test qualified according to EN 50483, in cooperation with independent test laboratories.
This standard, applicable worldwide, specifies all technical requirements to be met on insulated low-voltage overhead line components, including qualifying type tests to be made. It prescribes comprehensive inspection and testing of the mechanical and electrical properties including inspection and testing relating to environmental conditions that adversely affect the connectors operating performance. The testing checks functionality, possible accidental damage caused by clamps during installation, mechanical tensile tests, dielectric and electric ageing tests, moisture ingress, corrosion and UV testing.

Mosdorfer connectors offer shear head torque controlled caps that ensure correct installation of the connectors, with the option of steel pressure plates, and copper or aluminium teeth to suit the application.

Special types of connectors can be offered, connecting bare and insulated overhead lines cables, including clamps with a variable number of opened outlets, and end caps for conductor ends are also available.

Piercing connector standard type



material: plastics, glas fibre reinforced; copper tinned; steel, hot dip galvanized					
L.-Nr.	main cable cross section mm2	tap off cable mm2	dimensions in mm		kg
			A	B	
5210/3	6 - 70	4 - 35	43,5	35	0,12
5209/3	16 - 120	1,5 - 6	24	25	0,07
5214/3	16 - 120	6 - 70	30	36	0,15
5212/3	16 - 120	16 - 120	30	54	0,28
5216/3	16 - 120	16 - 120	30	35	0,15
5224/3	50 - 240	50 - 240	41	84	0,83
5220/3	95 - 240	16 - 120	62	62	0,49
5223/3	95 - 240	50 - 150	79	63	0,54

The standard type of MOSDORFER-piercing connector consists of two glassfibre reinforced polyamide case halves with penetration teeth.

The contact is achieved by tightening the bolts. A grease is used for protecting the contact points against Ingress of moisture.

The standard type is sufficient for all normal purposes. In polluted areas it is preferable to use the watertight version.

The types 5212/3, 5220/3, 5223/3, 5224/3 are with **two bolts.**

Version 1 L.-Nr. .../1 1 groove open

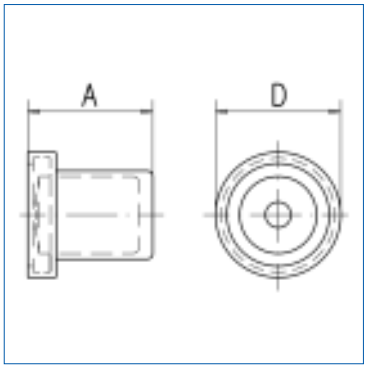
Version 2 L.-Nr. . . . /4 4 grooves open

Version 3 L.-Nr. . . . /./K with shear head nut

Version 4 L.-Nr. .../BL one side for bare cable

Special types on requrest.

End cap for piercing connectors



material: plastics, elastomere			
L.-Nr.	dimensions in mm		kg
	A	D	
5233/1	28	26	0,01
5233/2	22	20	0,01

End caps are used for sealing bare ends of a conductor.

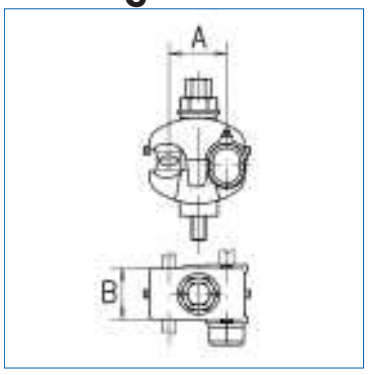
The polyamid sleeve is filled with grease for improved sealing.

Other dimensions are available upon request.

Piercing connector - waterproof type

One of the main problems with piercing connectors is the penetration of moisture.
This problem causes corrosion of the connector contact straps and electrolytic corrosion of the conductor, this will cause heating up of the connector and an increased voltage drop.
MOSDORFER waterproof piercing connectors consist of two glassfibre reinforced polyamide case halves with toothed contact straps, two pressure plates and a high tensile bolt.
The contact straps are enlosed in neopren rubber, which seals the points of contact against environmental penetration of moisture.
The end cap is filled with special grease and can be removed if required.

Piercing connector - waterproof type without pressure plate



with aluminium piercing elements, with plastic shear head cap

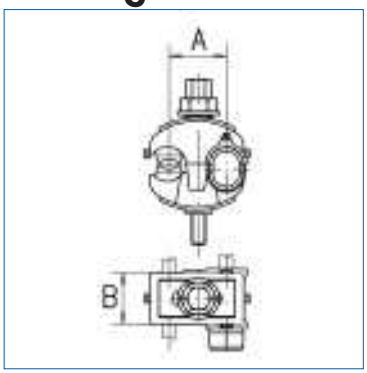
material: plastics, glas fibre reinforced; steel, hot dip galvanized				
L.-Nr.	cond. cross section sq mm2		bolt	kg
	main cable	tap off cable		
5920.2	16 - 95	4 - 54.6	1 X M8	0,105
5920.3	16 - 120	16 - 95	1 X M8	0,11
5920.4	16 - 120	16 - 120	1 X M8	0,135
5920.5	25 - 150	25 - 120	1 X M8	0,14
5920.6	25 - 185	25 - 185	2 X M10	0,425
5920.7	50 - 240	50 - 240	2 X M10	0,43

with copper piercing elements, with plastic shear head cap

material: plastics, glas fibre reinforced; steel, hot dip galvanized				
L.-Nr.	cond. cross section sq mm2		bolt	kg
	main cable	tap off cable		
5920.1C	6 - 95	1.5 - 10	1 X M8	0,07
5920.2C	16 - 95	4 - 54.6	1 X M8	0,125
5920.3C	16 - 120	16 -95	1 X M8	0,134
5920.4C	16 - 120	16 - 120	1 X M8	0,171
5920.5C	25 - 150	25 - 150	1 X M8	0,181
5920.6C	25 - 185	25 - 185	2 X M10	0,513
5920.7C	50 - 240	50 - 240	2 X M10	0,526

All variants available with zinc caps.
Other types are available upon request.

Piercing connector - waterproof type with pressure plate



with aluminium piercing elements, with plastic shear head cap

material: plastics, glas fibre reinforced; steel, hot dip galvanized				
L.-Nr.	cond. cross section sq mm2		bolt	kg
	main cable	tap off cable		
5920.2D	16 - 95	4 - 54.6	1 X M8	0,125
5920.3D	16 - 120	16 - 95	1 X M8	0,13
5920.4D	16 - 120	16 - 120	1 X M8	0,165
5920.5D	25 - 150	25 - 150	1 X M8	0,17
5920.6D	25 - 185	25 - 185	2 X M10	0,51
5920.7D	50 - 240	50 - 240	2 X M10	0,515

with copper piercing elements, with plastic shear head cap

material: plastics, glas fibre reinforced; steel, hot dip galvanized				
L.-Nr.	cond. cross section sq mm2		bolt	kg
	main cable	tap off cable		
5920.1DC	6 - 95	1.5 - 10	1 X M8	0,085
5920.2DC	16 - 95	4 - 54.6	1 X M8	0,145
5920.3DC	16 - 120	16 - 95	1 X M8	0,154
5920.4DC	16 - 120	16 - 120	1 X M8	0,201
5920.5DC	25 - 150	25 - 150	1 X M8	0,211
5920.6DC	25 - 185	25 -185	2 X M10	0,598
5920.7DC	50 - 240	50 - 240	2 X M10	0,611

All variants available with zinc caps.
Other types are available upon request.

Pre-insulated compression joints for insulated overhead lines

Pre-insulated compression joints

Test report

In addition to the Insulated piercing connectors, Mosdorfer offers Pre-insulated compression joints for the insulated low-voltage overhead line system.

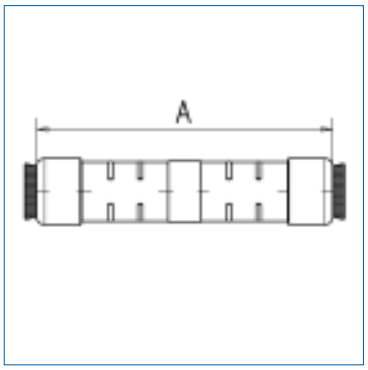
These compression joints are basically made of an aluminium sleeve to be pressed onto the electrical conductor, which is embedded in a plastic housing.

Integral elastomer seals for each conductor size with grease provide a waterproof connection preventing moisture ingress into the cable system. When correctly installed, these compression joints provide safe and reliable long term connections. In addition to standard joint fittings, extended full tension versions are also available.

In accordance with Insulated piercing connector standards, Pre-insulated compression joints are designed and tested to applicable worldwide standards, meeting the requirements of EN 50483. This demonstrates safe worldwide application, providing application reliability. Qualification testing requires pre insulated joints meet the full range of tests prescribed by EN 50483, and are subjected to the same test requirements as Insulating piercing connectors. These tests include mechanical, electrical, corrosion and environmental test qualification to provide system reliability.

Mosdorfer Pre-insulated compression joints are available in commonly used conductor sizes; 16mm^2 - 95mm^2.

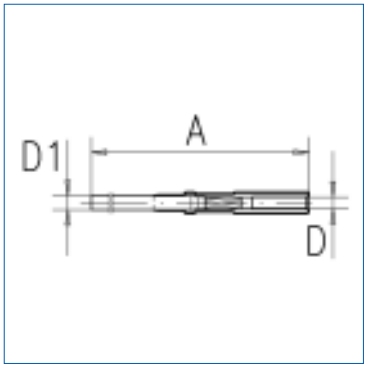
Preinsulated compression joint



material: plastics; aluminium			
L.-Nr.	cond. cross section sq mm	dimensions in mm	kg
		A	
5905.1	16	70	4772307,00
5905.2	25	70	0,06
5905.3	35	70	0,06
5905.4	50	70	0,05
5905.5	54,6N	130	0,08
5905.6	70	70	0,04
5905.7	70N	130	0,08
5905.8	95	70	0,04

Other dimensions are available upon request.

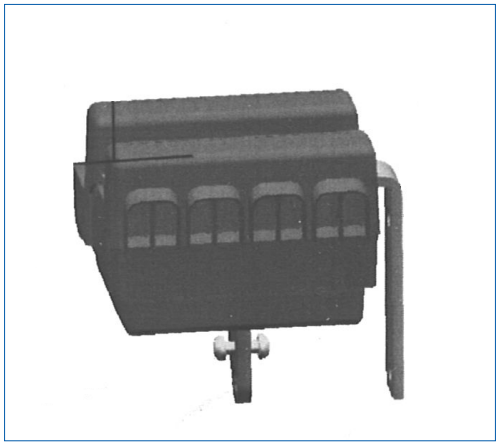
Arrestor connection



material: aluminium, isolated				
L.-Nr.	dimensions in mm			kg
	D1	D	A	
5250/1	10	M8	355	0,05

Other dimensions are available upon request.

Low-voltage fuse switch Disconnectors



Compact design

Modular design

Cross section through a disconnector chamber

Mosdorfer's fuse switch Disconnectors provide safe controlled disconnection of electrical power to individual users and power units in combination with short circuit devices, that allows safe maintenance intervention by protecting against short circuit and earth current leakage.

The fuse switch Disconnectors consist of a glass fibre reinforced plastic housing and a dismountable switch flap which contains the fuses. The base body carries the connecting terminals which connects the fuse contacts. Arc suppressing chambers above the fuse contacts limit and quench the power arc that may occur during switching, preventing thermal overload of the fuse switch connector. Both aluminium and copper conductors can be connected to the disconnector.

The switch flaps are equipped with fuse holders suitable for NH fuse inserts, disconnecting links or short-circuit devices.

Mosdorfer also offers fuse switch Disconnectors in **compact design** (3 phases + neutral conductor in one housing) in addition to **modular designs.** These provide the user with multiple phase options, including an additional neutral conductor, and offers the user in opportunity to switch individual phases, or all phases simultaneously.

The two types of the fuse switch Disconnector are available for different NH fuses:

LTS-00: for NH Fuse Size 00 (max. 160 A)
for disconnecting blades of no more than max. 250 A

LTS-1-2: for NH Fuse Size 1 (max. 250 A)
for NH Fuse Size 2 (max. 400 A)
for disconnecting blades of no more than max. 630 A

Both sizes offer various connection possibilities, are completely weather-proof and offer touch safe contact for wild life. A mechanical and electrical fuse indicator option that shows if fuses are mounted and ready for use can be specified.

Mosdorfer offer a full range of adapters for different types of operating systems, including additional attachment available on request.

Test example

Mosdorfer's low-voltage fuse switch Disconnectors have been subjected to comprehensive type testing in accordance with IEC 60947 at independent external accredited test laboratories. The qualification regulations include testing of the rated breaking load and contact capacity, demonstration of conditional rated short-circuit current to check fuse protection capacity, and qualify mechanical and electrical life cycle durability.

The connectors can be equipped with mechanical and/or electric fuse indicators.

- Mechanical indicator:
  Indicates fuse condidtion, used or not.
- Electric indicator:
  Indicates if fuse is serviceable or not.

Technical data ISO-LTS-00 - 160 A:

- Rated current capacity I_N: 160A (with blades 250A)
- Rated making capacity: 5 x 3 I_N at 380 V
- Rated breaking capacity: 5 x 3 I_N at 380 V
- Rated insulated voltage U_i: 1000 V
- Working frequency f: 50 - 60 Hz
- Utilisation category according to IEC 60947:
  AC 21-B 660 V cos 0,95
  AC 22-B 500 V cos 0,65
- Terminals:
  Incoming: 2 x 16mm² - 2 x 95 mm²
  Outgoing: 2 x 16mm² - 2 x 95 mm²
  Suitable for aluminium and copper cables.
- NH fuse sizes: 00

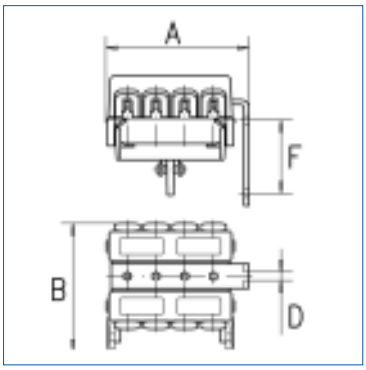
Technical Data ISO-LTS-1-2 - 400 A:

- Rated current capacity I_N: 400A (with blades 630A)
- Rated making capacity: 5 x 3 I_N at 380 V
- Rated breaking capacity: 5 x 3 I_N at 380 V
- Rated insulated voltage U_i: 1000 V
- Working frequency f: 50 - 60 Hz
- Utilisation category according to IEC 60947:
  AC 21-B 500 V cos 0,95
  AC 22-B 400 V cos 0,80
- Terminals:
  Incoming: 2 x 50mm² - 2 x 240 mm²
  Outgoing: 2 x 50mm² - 2 x 240 mm²
  Suitable for aluminium and copper cables.
- NH fuse sizes: 1-2

Disconnecting fuse switches Compacted type for Al- and Cu-strands

material: plastics, glas fibre reinforced; aluminium; copper tinned; steel, hot dip galvanized

L.-Nr.	type	dimensions in mm				kg
		A	B	F	D	
5501/002	LTS00	230	210	120	14	3,55
5505/002	LTS 1-2	340	350	200	14	9,50



Optionally for use with NH fuses, disconnecting blades and a short-circuit device. The frame holds the 3 phases and the neutral. **LTS00 – 160 A**

5501/002... Standard type with one incoming and 2 outgoing terminals. 3 phases with permanently connected neutral. For fixing on **wooden poles**

5501/003... Standard type with one incoming and 2 outgoing terminals. For house **service connections**

LTS 1-2 – 400 A

5505/002... Standard type with one incoming and 2 outgoing terminals. 3 phases with permanently connected neutral. For fixing on **wooden poles**

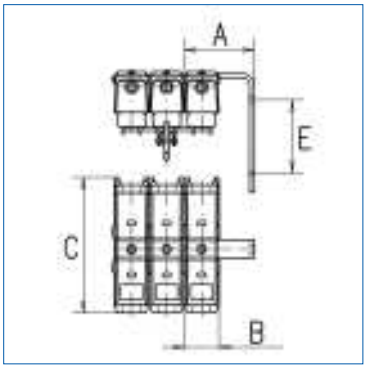
5505/.../L with optcal indicator

5505/.../M with mechanical indicator

Other dimensions are available upon request.

Disconnecting fuse switch Modular type for Al- and Cu-strands

The number and design of the elements can be chosen according to the following numbering system.



Material: glassfibre reinforced polyamide
aluminium-alloy
copper, tinned
steels, hot dip galvanized

L.-Nr.	Dimensions in mm				kg
	C	B	A	E	
LTS00	235	65	115	90	1,5
LTS 1-2	298	80	160	200	2,00

The number of disconnecting elements needed can be chosen specifically to the customer´s requirements. For this purpose, there are the corresponding connecting links.
To describe the variations which are available the numbering sytem is shown below.

Numbering system

Number 1 to 3	L.-Nr.	Size	Modular types
	562	160A/00	Individual operation of all segments
	564	160A/00	To operate together
	566	400A/1-2	Individual operation of all segments
	568	400A/1-2	To operate together

Number 4 to 5	L.-Nr.	Number of phases
	1/	1 phase; no neutral
	2/	2 phase; no neutral
	3/	3 phases; no neutral
	1N	1 phase and 1 neutral link
	2N	2 phases and 1 neutral link
	3N	3 phases and 1 neutral link

Number 6	L.-Nr.	Number of terminals	
		Incoming	Outgoing
	1	1	1
	2	1	2
	3	2	1
	4	2	2

Number 7 to 9	L.-Nr.	Composition of terminals
	VC1	V-terminal with counter piece Cu; 1 bolt
	VI1	V-terminal with counter piece Cu; 1 socket head screw
	L13	Connection with cable lug 13mm

Number 10	L.-Nr.	Indicator
	A	Inspection glass, transparent
	B	Mechanical indicator, yellow
	D	Signal lamp in case fuse is failing
	E	Mechanical indicator, yellow and signal lamp in case fuse is failing

Number 11	L.-Nr.	Shear head nut
	X	Without shear head nut
	K	With shear head nut

Example: L.-Nr. 5643/1VC1AK

Number	1	2	3	4	5	6	7	8	9	10	11
	5	6	4	3	/	1	V	C	1	A	K

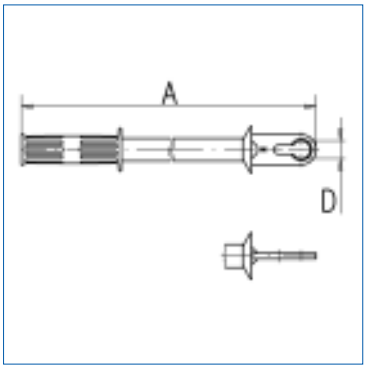
Number	Description
1,2,3	size 160/00, to operate jointly
4,5	3 phases, no neutral
6	one incoming and one outgoing terminal
7,8,9	V-terminal with counter piece: Cu; 1 bolt
10	Inspection glass, transparent
11	with shear head nut

Operating rod suitable for LTS00 + LTS 1-2

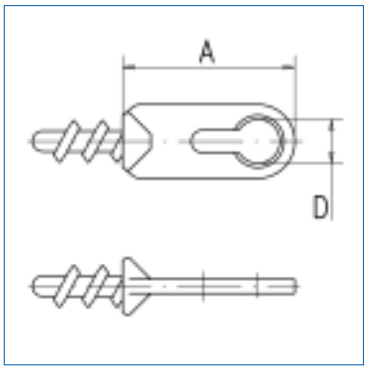
material: plastic

L.-Nr.	dimensions in mm	kg
	A	
5503	1000	0,44
5503/2	2000	0,73

Other dimensions are available upon request.



Operating rod adaptors suitable for LTS00 + LTS 1-2

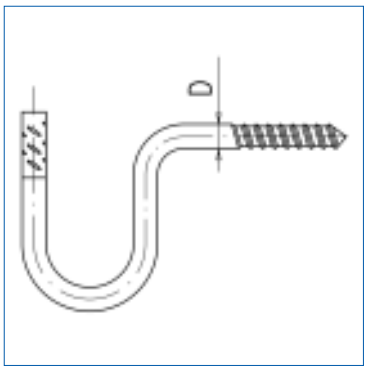


material: plastic

L.-Nr.	type	kg
ZS200.020	OHNE ARRETIERUNG	0,03
ZS200.025	MIT ARRETIERUNG	0,03

Other dimensions are available upon request.

Insulator pin for low voltage



material: steel, hot dip galvanized

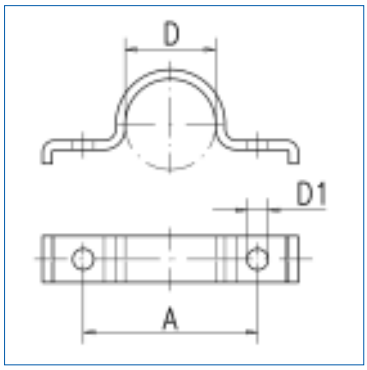
L.-Nr.	type	for insulator	dimensions in mm	kg
			D	
1181.02	NSG95	N95	19,5	0,98

Other dimensions are available upon request.

Fixing collar

material: steel, hot dip galvanized				
L.-Nr.	dimensions in mm			kg
	D	D1	A	
2030.02	91	18	170	0,81
2030.03	104	18	170	0,87

Other dimensions are available upon request.

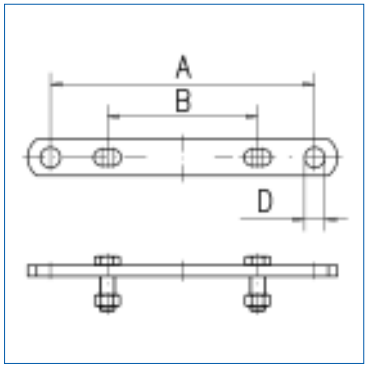


Strap for roof pole elongated

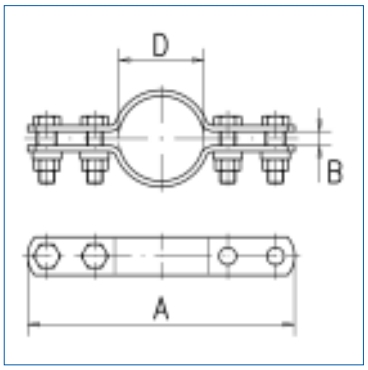
material: steel, hot dip galvanized				
L.-Nr.	dimensions in mm			kg
	A	B	D	
5101	340	165	22	1,37

with 2 bolts M16 x 50

Other dimensions are available upon request.



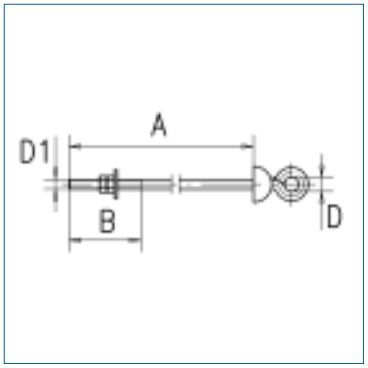
Double fixing collar



material: steel, hot dip galvanized				
L.-Nr.	dimensions in mm			kg
	D	B	A	
5130	76	15	290	1,69
5131	89	15	310	1,78
5133	89	13	276	2,00
5132	102	15	330	1,89
5134	102	13	276	2,02

Other dimensions are available upon request.

Eye bolt with special washer



material: steel, hot dip galvanized						
L.-Nr.	dimensions in mm				breaking load kN	kg
	D1	A	B	D		
2120.11/3	20	250	78	30	40	1,56
2120.31	20	300	78	30	40	1,66
2120.32	20	350	78	30	40	1,80
2120.11	20	400	78	30	40	1,92
2120.11/1	20	500	78	30	40	2,17
2120.11/2	20	550	78	30	40	2,60
2120.11/4	20	600	78	30	40	2,42
2120.12	24	400	150	32	60	2,68
2120.13	24	500	150	32	60	3,10
2120.14	24	600	150	32	60	3,60

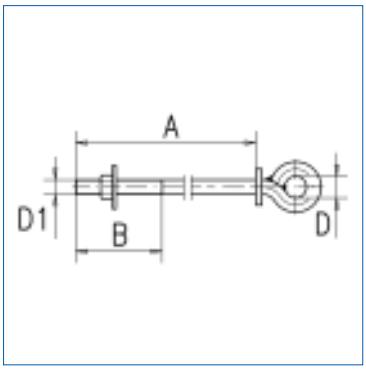
Other dimensions are available upon request.

Eye bolt

material: steel, hot dip galvanized

L.-Nr.	dimensions in mm				breaking load		kg
	D1	A	B	D	horizontal breaking load	vertical breaking load	
5050	M16	250	100	30	60	7	0,85
5051	M16	380	100	30	60	7	1,00
5050/11	M20	230	120	30	60	13	1,11
5050/12	M20	350	120	30	60	13	1,35
5050/13	M20	400	120	30	60	13	1,69

Other dimensions are available upon request.

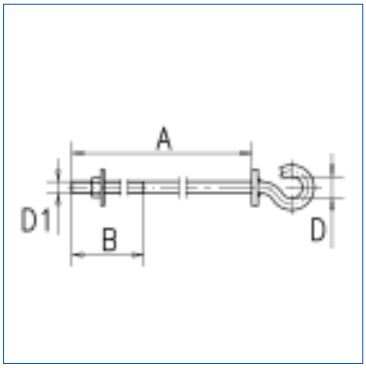


Hook bolt

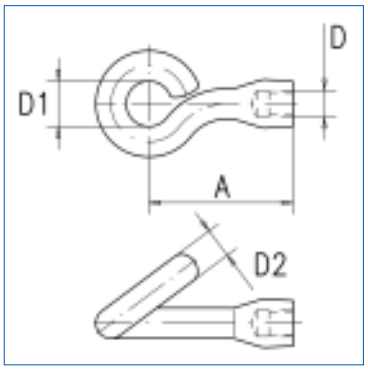
material: steel, hot dip galvanized

L.-Nr.	dimensions in mm				breaking load kN		kg
	D1	A	B	D	horizontal breaking load	vertical breaking load	
5060	M16	250	100	30	6	6	0,82
5060/1	M16	315	250	30	6	6	0,95
5060/2	M16	345	250	30	6	6	0,95
5061	M16	380	100	30	6	6	0,95
5062	M20	250	100	30	13	13	1,13
5063	M20	380	100	30	13	13	1,37

Other dimensions are available upon request.



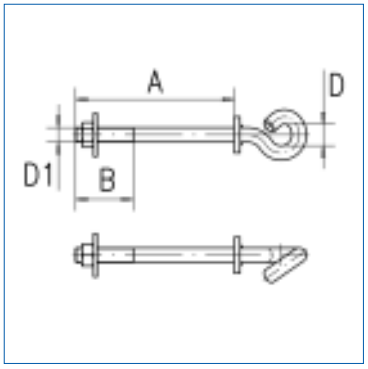
Security hook



material: steel, hot dip galvanized							
L.-Nr.	dimensions in mm				breaking load		kg
	D	D1	A	D2	horizontal breaking load	vertical breaking load	
5092/1	16	30	95	16	20	20	0,40
5092/3	16	30	95	20	20	20	0,56
5092	20	30	95	20	24	20	0,58

Other dimensions are available upon request.

Security hook bolt



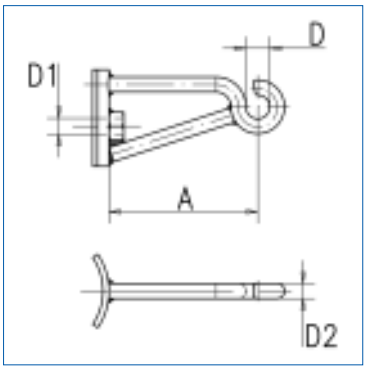
material: steel, hot dip galvanized							
L.-Nr.	dimensions in mm				breaking load		kg
	D1	A	B	D	horizontal breaking load	vertical breaking load	
5070	M20	220	80	30	13	13	1,13
5071	M20	380	100	30	13	13	1,46

Other dimensions are available upon request.

Outrigger hook

material: steel, hot dip galvanized							
L.-Nr.	dimensions in mm				breaking load		kg
	D1	D	D2	A	horizontal breaking load	vertical breaking load	
5091/10	M20	32	22	413	13,6	7,4	2,70
5091/11	M20	32	22	453	13,6	7,4	2,80
5091/12	M20	32	22	533	13,6	7,4	3,00
5091	M22	32	20	208	6,0	6,0	2,26
5091/3	M22	32	20	275	5,5	5,5	2,60

Other dimensions are available upon request.

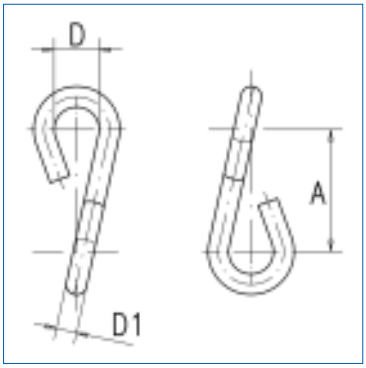


Weak link

material: steel, hot dip galvanized					
L.-Nr.	failing load kN +/-10%	dimensions in mm			kg
		D	A	D1	
5360/1	4	22	100	8	0,08
5096/3	6	22	80	10	0,13
5094	8	22	80	10	0,11
5096/4	9	22	80	10	0,13
5096/5	15	22	80	12	0,18

In areas, where damage of ABC-Systems could be expected due to tree´s falling across the line, the use of mechanical weak links is recommended. They can be installed between the pole fitting ie. hook bolt and the standard suspension clamp.

Other dimensions are available upon request.



Mounting roller

material: plastics, glas fibre reinforced; steel, hot dip galvanized		
L.-Nr.	cond. cross section sq mm	kg
5300/3	4 X 95	2,96

The running out roller is used for installing the insulated cables and consists of a plastic roller, a steel loop and a swivelling suspension hook.

The plastic roller is shaped to avoid any damage to the conductor bundle during running out.

Maximum rated tension 15kN with safety hook.

Other dimensions are available upon request.

Draw vice

material: aluminium; steel, painted		
L.-Nr.	cond. cross section sq mm	kg
5340	4X25 - 4X50	2,57
5341	4X70 - 4X120	5,50

Draw vices are required for running out and partly, for pulling the cable towards the pole at line angles.

These tools offer the great advantage that it is possible to clamp the cable without any bolted connection.

The grip on the cable increases with increasing tension on the draw vice ensuring safe clamping under any load condition.

Other dimensions are available upon request.