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GENERAL

Suspension clamps are used to connect the conductors to the insulators. The product range comprises products for all purposes. Some of the types have heliformed rods already integrated, whereas others can be used with or without such rods.

Besides the standard designs special slipping clamps, which allow slipping between two defined values, are available.

Our design fulfills also the following important criteria:

- | | |
|---------------------------------|---|
| Vibrations | <ul style="list-style-type: none"> • To minimize oscillation effects most of the clamps are of an oscillating or trunnion type with trumpet shaped grooves generating low specific pressure onto the conductor. |
| Corona | <ul style="list-style-type: none"> • Good corona and radio interference voltage (RIV) behaviour due to rounded shapes. |
| Magnetic losses | <ul style="list-style-type: none"> • Low magnetic losses and avoidance of electrolytic corrosion because of the use of the same materials as used for the conductors. |
| Holding strength | <ul style="list-style-type: none"> • The holding capability is sufficient and slipping is avoided at normal differential loads. An exception is the slipping type which allows defined slipping. |
| Dynamic loads | <ul style="list-style-type: none"> • The holding strength is not affected by dynamic loads. |
| Counterweights | <ul style="list-style-type: none"> • Counterweights can be applied on all types. |
| Short circuit capability | <ul style="list-style-type: none"> • The short circuit capability is excellent due to a narrow ranged groove which leads to a large contact area. <p>The connecting parts of the clamps are adjusted to suit requirements.</p> |

Standards

The **connecting bolts** acc. DIN 48073/5.6 or 8.8.

Split pins are made of stainless steel or tinned copper.

Clevis eye connections acc. DIN 48074 resp. IEC 471 .

Hot dip galvanising

Steel hardware is hot dip galvanised in Mosdorfer's own plant.

Galvanising can be done in accordance to national and international standards.

abbreviation for bolts:

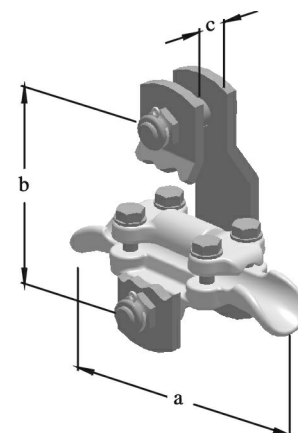
S = screw bolt

N = rivet bolt

Oscillating type suspension clamps forged for aluminium-, al-alloy-, ACSR-, AACSR- and alumoweld conductors.

Material: Body: high strength al-alloy, forged
Keeper piece: high strength al-alloy, forged
Screws: steel 8.8, hot dip galvanised
Other parts: steel, hot dip galvanised

L.-Nr.	Dimensions in mm				Connec- ting bolt	Breaking strength kN	Short cir- cuit cur- rent kA	Weight kg
	Conductor Ø	a	b	c				
637.02/101	9,0–14,0	140	67	14	S 13	50	12	1,00
637.02/102	9,0–14,0	140	67	20	S 19	50	12	1,00
637.03/101	13,5–17,5	170	77	20	S 19	50	20	1,30
637.04/104	18,5–23,0	190	98	20	S 19	85	32	2,10
135-001-690	20,0–23,0	230	130	20	S 19	160	40	2,70
135-002-117	20,0–23,0	230	130	20	S 22	160	40	2,80
135-001-693	23,5–27,5	230	130	20	S 19	160	40	2,70
135-001-851	23,5–27,5	230	130	20	S 22	160	40	2,90
135-001-714	28,0–33,0	250	130	20	S 19	160	40	2,90
135-002-120	28,0–33,0	250	130	20	S 22	160	40	3,00
135-001-916	33,0–36,5	250	150	20	S 19	200	50	3,50
135-001-715	33,0–36,5	250	150	20	S 22	240	50	3,50
135-002-122	36,5–40,0	250	150	20	S 19	240	50	3,60
135-001-717	36,5–40,0	250	150	20	S 22	240	50	3,60
135-001-864	40,0–46,0	250	150	20	S 19	240	50	3,70
135-001-716	40,0–46,0	250	150	20	S 22	240	50	3,70

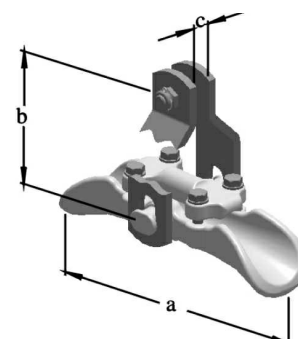


Higher short circuit currents and breaking loads on request.

Suspension clamps, trunnion type forged for aluminium-, al-alloy-, ACSR-, AACSR- and alumoweld conductors.

Material: Body: high strength al-alloy, forged
Keeper piece: high strength al-alloy, forged
Screws: steel 8.8, hot dip galvanised
Other parts: steel, hot dip galvanised

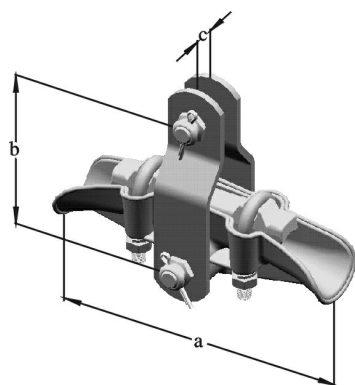
L.-Nr.	Dimensions in mm				Connec- ting bolt	Breaking strength kN	Short cir- cuit cur- rent kA	Weight kg
	Conductor Ø	a	b	c				
636.05/109	23,1–29,5	250	130	20	S 19	100	40	2,60
636.05/107	23,1–29,5	250	130	20	S 22	100	36	2,60
636.06/107	29,0–36,0	300	150	20	S 19	150	50	3,70
636.06/108	29,0–36,0	300	150	20	S 22	150	50	3,70
636.07/123	35,0–52,0	250	140	20	S 19	150	50	4,40
636.07/121	35,0–52,0	250	140	20	S 22	150	50	4,40
636.08/109	50,0–65,0	300	180	20	S 19	150	50	5,70
636.08/103	50,0–65,0	300	180	20	S 22	150	50	5,70



Higher short circuit currents and breaking loads on request.

Suspension clamps

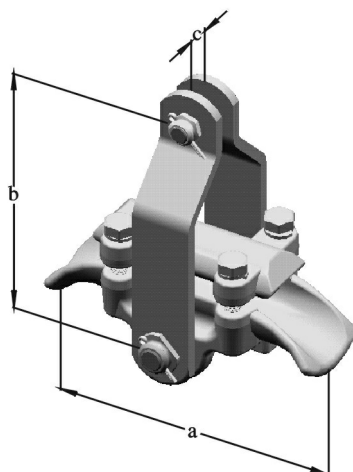
Oscillating type suspension clamps^{cast} with U-bolts, for aluminium-, al-alloy-, ACSR-, AACSR- and alumoweld conductors



Material: Body: cast aluminium
Keeper piece: cast aluminium
Other parts: steel, hot dip galvanised

L.-Nr.	Dimensions in mm				Connecting bolt	Breaking strength kN	Short circuit current kA	Weight kg
	Conductor Ø	a	b	c				
4335.04	9,0–16,5	210	115	14	S 13	80	10	1,75
4335.04/1	9,0–16,5	210	115	20	S 19	80	17	1,85
4335.05/1	16,5–22,1	230	133	20	S 19	80	30	2,60
4335.05/1/0	16,5–22,1	230	113	20	S 19	120	30	2,50
4335.05/2	16,5–22,1	230	133	20	S 22	120	30	2,75
4335.06	21,0–25,0	250	145	20	S 19	120	30	3,00
4335.06/1	21,0–25,0	250	145	20	S 22	120	30	3,15
4335.07	25,0–32,0	250	165	20	S 19	160	30	3,65
4335.11	32,0–36,0	270	182	20	S 19	160	40	4,05
4335.11/1	32,0–36,0	270	182	20	S 22	160	40	4,20
4335.16	36,0–47,0	290	185	20	S 19	160	40	4,50
4335.16/1	36,0–47,0	290	185	20	S 22	160	40	4,50

Higher short circuit currents on request.



Oscillating type suspension clamps^{cast} with hexagonal bolts, for aluminium-, al-alloy-, ACSR-, AACSR- and alumoweld conductors

Material: Body: cast aluminium
Keeper piece: cast aluminium
Other parts: steel, hot dip galvanised

L.-Nr.	Dimensions in mm				Connecting bolt	Breaking strength kN	Short circuit current kA	Weight kg
	Conductor Ø	a	b	c				
4336.05	47,0–62,0	290	220	52	S 22	130	45	7,20
4336.06	47,0–62,0	290	220	20	S 22	130	45	7,20

Oscillating type suspension clamps for steel- and copper-conductors see catalogue part 8/3

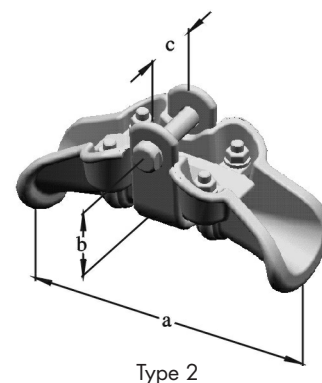
Suspension clamps

Envelope type suspension clamps cast for aluminium-, al-alloy-, ACSR-, AACSR- and alumoweld conductors

Material: Body and keeper piece: cast aluminium
U-strap: extruded aluminium alloy
Other parts: steel, hot dip galvanised

L.-Nr.	Type	Dimensions in mm				Connec- ting bolt	Breaking strength kN	Short cir- cuit cur- rent kA	Weight kg
		Cond. Ø	a	b	c				
4301.02	1	9,1-15,0	160	56	18	S 13	45	30	0,55
4301.10/0	2	25,0-32,0	280	85	55	S 19	107	40	2,20
4301.11	2	32,0-36,5	280	90	55	S 19	100	40	2,40
4301.12	2	36,0-43,0	280	90	70	S 19	120	40	2,90
4301.13/0	2	43,0-52,0	280	95	81	S 19	120	40	3,20

Type 1: inverted U-bolt without strap.



Spring loaded suspension clamps

for aluminium-, al-alloy-, ACSR-, AACSR- and alumoweld conductors

It is possible to adjust the slipping force very accurately.

After releasing of the conductor there is still a certain force remaining thus ensuring that the conductor does not slip completely.

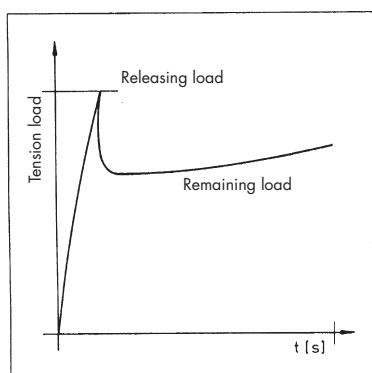
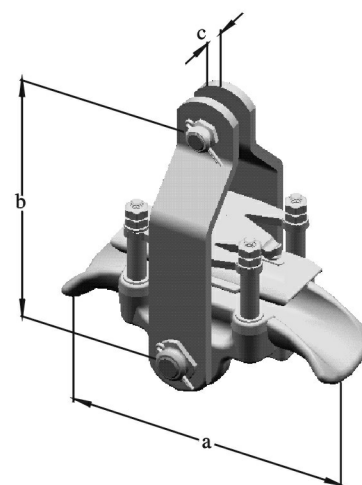
Static and dynamic tests have shown the successful operation of the clamps.

Material: Body: cast aluminium or high strength aluminium-alloy, forged.
Keeper piece: high strength aluminium-alloy, forged
Other parts: steel, hot dip galvanised

L.-Nr.	Conductor Ø	Maße in mm			Connec- ting bolt	Breaking strength kN	Short cir- cuit cur- rent kA	Weight kg
		a	b	c				
4351.01	32,0-36,0	275	195	20	S 22	130	40	4,10
4351.05/3	47,0-62,0	290	220	20	S 22	130	45	7,80

Other types on request.

Slipping loads by agreement.

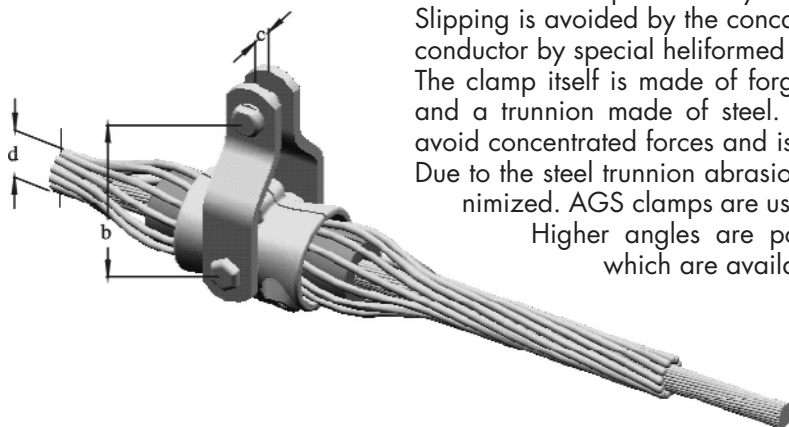


Typical load time relation.

Suspension clamps

Armour grip suspension clamps

trunnion type,
for aluminium-, al-alloy-, ACSR-, AACSR-conductors



The conductor is protected by neoprene inserts. Slipping is avoided by the concave shape of this insert which is fixed onto the conductor by special heliformed rods.

The clamp itself is made of forged aluminium with the same concave shape and a trunnion made of steel. This special design offers the advantage to avoid concentrated forces and is therefore a good solution against vibrations. Due to the steel trunnion abrasion between this part and the steel straps is minimized. AGS clamps are usually used up to a line deviation angle of 30°.

Higher angles are possible by using specially designed clamps which are available upon request.

Material: Body: high strength aluminium-alloy, forged
Insert: neoprene
Preformed rods: aluminium-alloy
Trunnion: steel, hot dip galvanised
Straps: steel, hot dip galvanised

L.-Nr.	Dimensions in mm					Connecting bolt	d	Breaking strength kN	Short circuit current kA	Weight kg
	Conductor Ø	Rod length	b	c						
4361.01	9,91–10,28	910	80	20		S19	17,33–17,62	50	25	1,50
4361.02	10,29–10,63	910	80	20		S19	17,33–18,05	50	25	1,50
4361.03	10,64–11,04	910	80	20		S19	18,06–18,46	50	25	1,50
4361.04	11,05–11,45	910	80	20		S19	18,47–18,87	50	25	1,50
4361.05	11,46–11,95	910	80	20		S19	18,88–19,37	50	25	1,50
4361.06	11,96–12,23	910	80	20		S19	19,38–19,65	50	25	1,50
4361.07	12,24–12,69	1020	80	20		S19	20,72–21,17	50	25	1,70
4361.08	12,70–13,02	1020	80	20		S19	21,18–21,50	50	25	1,70
4361.09	13,03–13,48	1040	80	20		S19	21,51–21,96	50	25	1,70
4361.10	13,49–13,78	1040	80	20		S19	21,97–22,26	50	25	1,70
4361.11	13,79–14,11	1120	90	20		S19	23,03–23,35	80	32	2,00
4361.12	14,12–14,57	1120	90	20		S19	23,36–23,81	80	32	2,00
4361.13	14,58–15,10	1140	90	20		S19	23,82–24,34	80	32	2,10
4361.14	15,11–15,41	1170	90	20		S19	24,35–24,65	80	32	2,10
4361.15	15,42–15,74	1170	90	20		S19	24,66–24,98	80	32	2,10
4361.16	15,75–16,40	1270	90	20		S19	24,99–25,64	80	32	2,20
4361.17	16,41–17,11	1370	90	20		S19	26,77–27,47	80	32	2,70
4361.18	17,12–17,54	1370	90	20		S19	27,48–27,90	80	32	2,70
4361.19	17,55–18,05	1370	90	20		S19	27,91–28,41	80	32	2,70
4361.20	18,06–18,58	1400	90	20		S19	28,42–28,94	80	32	2,80
4361.21	18,59–19,07	1420	90	20		S19	28,95–29,43	80	32	2,80
4361.22	19,08–19,52	1520	120	20		S19	31,78–32,22	110	35	4,00
4361.23	19,53–20,21	1520	120	20		S19	32,23–32,91	110	35	4,10
4361.24	20,22–20,95	1550	120	20		S19	32,92–33,65	110	35	4,10
4361.25	20,96–21,48	1630	120	20		S19	33,66–34,18	110	35	4,20
4361.26	21,49–22,11	1630	120	20		S19	34,19–34,81	110	35	4,20
4361.27	22,12–22,70	1650	120	20		S19	34,82–35,40	110	35	4,40

Other types next page

Suspension clamps

L.-Nr.	Dimensions in mm					Connecting bolt	d	Breaking strength kN	Short circuit current kA	Weight kg
	Conductor Ø	Rod length	b	c						
4361.28	22,71–23,05	1650	120	20	S19	35,41–35,75	110	35	4,40	
4361.29	23,06–23,38	1680	140	20	S19	35,76–36,08	110	35	5,20	
4361.30	23,39–23,82	1680	140	20	S19	36,09–36,52	110	35	5,20	
4361.31	23,83–24,45	1700	140	20	S19	36,53–37,15	110	35	5,30	
4361.32	24,46–25,06	1730	140	20	S19	37,16–37,76	110	35	5,50	
4361.33	25,07–25,54	1750	140	20	S19	37,77–38,24	110	35	5,50	
4361.34	25,55–25,97	2030	150	20	S19	41,29–41,71	110	35	8,70	
4361.35	25,98–26,43	2080	150	20	S19	41,72–42,17	110	35	8,70	
4361.36	26,44–27,30	2080	150	20	S19	42,18–43,04	110	35	8,70	
4361.37	27,31–27,70	2080	150	20	S19	43,05–43,44	110	35	9,00	
4361.38	27,71–28,41	2080	150	20	S19	43,45–44,15	110	35	9,00	
4361.39	28,42–28,87	2080	150	20	S19	44,16–44,61	110	35	9,00	
4361.40	28,88–29,28	2080	150	20	S19	44,62–45,02	110	35	9,00	
4361.41	29,29–29,86	2080	150	20	S19	45,03–45,60	110	35	9,00	
4361.42	29,87–30,70	2080	150	20	S19	45,61–46,44	110	35	9,00	
4361.43	30,71–31,16	2240	155	20	S19	49,25–49,70	120	40	11,10	
4361.44	31,17–31,99	2240	155	20	S19	49,71–50,53	120	40	11,20	
4361.45	32,00–32,68	2240	155	20	S19	50,54–51,22	120	40	11,50	
4361.46	32,69–33,39	2240	155	20	S19	51,23–51,93	120	40	11,50	
4361.47	33,40–34,43	2240	155	20	S19	51,94–52,97	120	40	11,50	

for alumoweld conductors

Material: Body: high strength aluminium-alloy, forged
 Insert: neoprene
 Preformed rods: aluminium-alloy
 Trunnion: steel, hot dip galvanised
 Straps: steel, hot dip galvanised

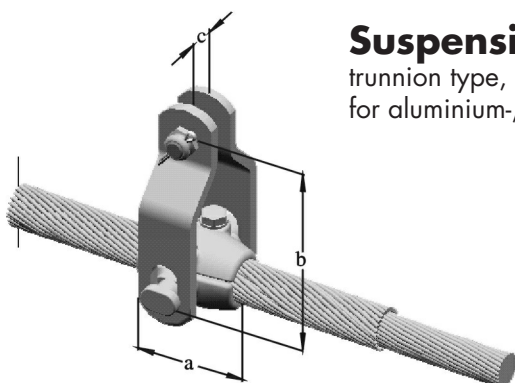
L.-Nr.	Dimensions in mm					Connecting bolt	d	Breaking strength kN	Short circuit current kA	Weight kg
	Conductor Ø	Rod length	b	c						
4364.01	8,71– 9,03	850	80	20	S19	16,13–16,45	50	25	1,70	
4364.02	9,04– 9,52	820	80	20	S19	16,46–16,94	50	25	1,70	
4364.03	9,53– 9,90	850	80	20	S19	16,95–17,32	50	25	1,80	
4364.04	9,91–10,28	1140	80	20	S19	17,33–17,70	50	25	2,10	
4364.05	10,29–10,63	1140	80	20	S19	17,71–18,05	50	25	2,10	
4364.06	10,64–11,04	1140	80	20	S19	18,06–18,46	50	25	2,10	
4364.07	11,05–11,45	1140	80	20	S19	18,47–18,87	50	25	2,20	
4364.08	11,46–11,95	1140	80	20	S19	18,88–19,37	50	25	2,20	
4364.09	11,96–12,23	1140	80	20	S19	19,38–19,65	50	25	2,20	
4364.10	12,24–12,69	1140	80	20	S19	21,48–21,93	50	25	2,40	
4364.11	12,70–13,02	1270	80	20	S19	21,94–22,26	50	25	3,00	
4364.12	13,03–13,48	1300	80	20	S19	22,27–22,72	50	25	3,10	
4364.13	13,49–13,78	1300	80	20	S19	22,73–23,02	50	25	3,10	
4364.14	13,79–14,11	1400	90	20	S19	23,03–23,35	80	80	3,40	
4364.15	14,12–14,57	1400	90	20	S19	23,36–23,81	80	80	3,40	
4364.16	14,58–15,10	1420	90	20	S19	23,82–24,34	80	80	3,60	
4364.17	15,11–15,74	1450	90	20	S19	24,35–24,98	80	80	3,70	
4364.18	15,75–16,40	1600	90	20	S19	24,99–25,64	80	80	3,90	
4364.19	16,41–17,11	1730	90	20	S19	26,77–27,47	80	80	4,60	
4364.20	17,12–17,54	1730	90	20	S19	27,48–27,90	80	80	4,60	
4364.21	17,55–18,05	1730	90	20	S19	27,91–28,41	80	80	4,60	
4364.22	18,06–18,58	1730	90	20	S19	28,42–28,94	80	80	4,70	

Lay direction of outer layer to be stated.

L.N° refers to right hand lay, for left hand lay please add/L, for example 4361.03/L.

Other dimensions on request.

Suspension clamps



Suspension clamps with line guards
trunnion type,
for aluminium-, al-alloy-, ACSR-, AACSR- and alumoweld conductors

Material: Body: high strength aluminium-alloy, forged
Line guards: aluminium-alloy
Other parts: hot dip galvanised

L.-Nr.	Dimensions in mm						Rod length	Connecting bolt	Breaking strength kN	Short circuit current kA	Weight kg
	Conductor Ø	Bolts	a	b	c	Rod Ø					
4352.01	10,52-11,09	2 x M10	80	115	20	3,07	640	S 19	60	30	1,90
4352.02	11,10-11,78	2 x M10	80	115	20	3,07	690	S 19	60	30	1,90
4352.03	11,79-12,46	2 x M10	80	115	20	3,07	690	S 19	60	30	1,90
4352.04	12,47-13,25	2 x M10	80	115	20	3,07	740	S 19	60	30	1,90
4352.05	13,26-14,01	2 x M10	80	115	20	3,07	740	S 19	60	30	1,95
4352.06	14,02-14,87	2 x M10	80	115	20	3,07	790	S 19	60	30	1,95
4352.07	14,88-15,41	2 x M10	80	115	20	3,71	790	S 19	60	30	2,00
4352.08	15,42-16,02	2 x M10	80	115	20	3,71	840	S 19	60	30	2,00
4352.09	16,03-16,65	2 x M10	80	115	20	3,71	840	S 19	60	30	2,00
4352.10	16,66-17,26	2 x M10	80	115	20	3,71	890	S 19	60	30	2,00
4352.11	17,27-17,87	2 x M12	80	115	20	3,71	890	S 19	60	30	2,90
4352.12	17,88-18,81	2 x M12	90	135	20	3,71	940	S 19	100	35	2,90
4352.13	18,82-20,13	2 x M12	90	135	20	3,71	990	S 19	100	35	2,90
4352.14	20,14-21,35	2 x M12	90	135	20	3,71	990	S 19	100	35	3,00
4352.15	21,36-22,82	2 x M12	90	135	20	3,71	1040	S 19	100	35	3,00
4352.16	22,83-24,25	2 x M12	90	135	20	4,24	1090	S 19	100	35	3,20
4352.17	24,26-25,06	2 x M12	90	135	20	4,62	1140	S 19	100	35	3,20
4352.18	25,07-25,82	2 x M12	100	140	20	4,62	1140	S 19	100	35	3,65
4352.19	25,83-27,04	2 x M12	100	140	20	4,62	1190	S 19	120	40	3,65
4352.20	27,05-27,90	4 x M12	110	150	20	5,18	1240	S 19	120	40	4,35
4352.21	27,91-29,30	4 x M12	110	150	20	6,35	1240	S 19	120	40	4,50
4352.22	29,31-30,70	4 x M12	110	150	20	6,35	1300	S 19	120	40	5,10
4352.23	30,71-32,22	4 x M12	110	150	20	6,35	1350	S 19	120	40	5,10
4352.24	32,23-33,72	4 x M12	110	150	20	6,35	1350	S 19	120	40	5,30
4352.25	33,73-35,32	4 x M12	110	150	20	6,35	1400	S 19	120	40	5,30
4352.26	35,33-36,59	4 x M12	120	155	20	7,87	1450	S 19	150	40	6,25
4352.27	36,60-38,32	4 x M12	120	155	20	7,87	1500	S 19	150	40	6,25
4352.28	38,33-40,10	4 x M12	120	155	20	7,87	1550	S 19	150	40	6,90
4352.29	40,11-41,95	4 x M12	120	155	20	7,87	1600	S 19	150	40	6,90

Lay direction of outer layer to be stated.

L.N° refers to right hand lay, for left hand lay please add/L, for example 4352.01/L.

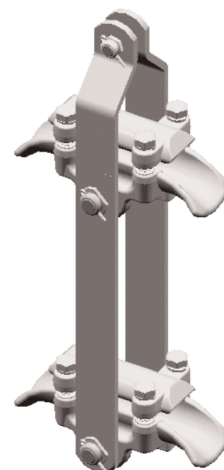
Other dimensions on request.

Suspension clamps for bundle conductors

for aluminium-, al-alloy-, ACSR-, AACSR- and alumoweld conductors

Material: Body and keeper piece: high strength aluminium-alloy, forged
Screws: steel 8.8, hot dip galvanised
Other parts: steel, hot dip galvanised

This clamp combination is possible for all types. The distance between the clamps can be changed acc. to requirements.

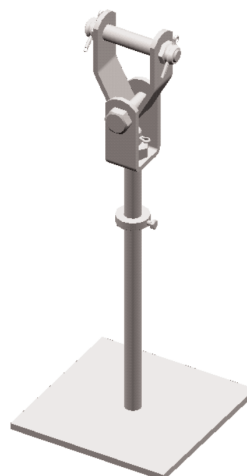


Counterweight device

for counterweights

Material: Steel, hot dip galvanised

These or similar types are available for all suspension clamps. The length depends on the number of weights needed.



Counterweights

Diameter 350 mm

Material: Cast iron, hot dip galvanised

L.-Nr.	Dimensions in mm		Weight kg
	h	a	
4371.01	30	45	20,00
4371.02	37	52	25,00
4371.03	45	60	30,00

Other dimensions and types on request.

