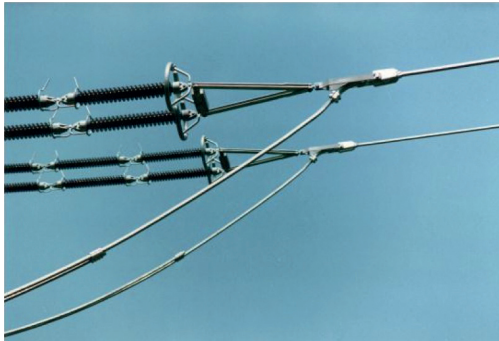


## Parallel groove clamps

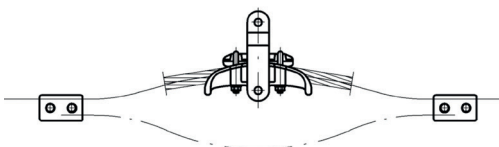
General	96
Parallel groove clamp with serrated grooves, forged for aluminium based conductors	98
Parallel groove clamp for earthwires and phase tension up to 132 kV for aluminium based conductors	98
Parallel groove clamp for steel and copper conductors	99



Loop guidance of a tension string

## General

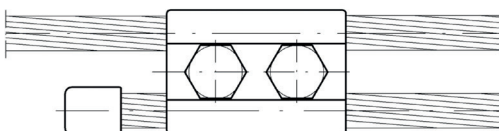
Parallel groove clamps provide **electrical connection** between two conductors, and mainly used in jumper loops with wedge type suspension clamps. Other applications include branch connection in substations, and ground wire earth continuity connections. Parallel groove clamps are also used in security loops of suspension strings, where sufficient conductor stabilisation force is required.



Security loop for a suspension string

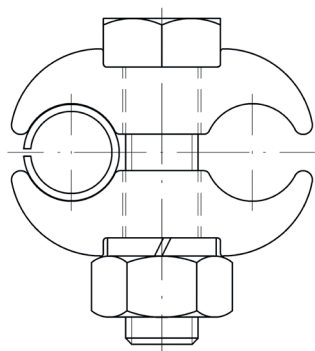
For safety reasons, it is recommended to mount at least two clamps for one loop.

Special types are required for vibration damping loops of **Brettelle dampers**. Clamps for Brettelle dampers see catalogue part [vibration dampers](#).



Parallel groove clamp with a dead end cap

The grooves of parallel groove clamps made of aluminium and designed for low electrical joint resistance and power transmission between conductors. The connection faces have specialised texture surfaces to establish better electrical and mechanical connection. Forged clamps have smooth outer profiles that are particularly suited to higher voltage fields where good corona discharge performance is required.



Parallel groove clamp with a reducing tube

Projecting ends of conductors can be protected using end caps to maintain high performance.

Parallel groove clamps can also be manufactured from extruded aluminium alloy, and particularly suited to earth wire applications. For power connections, this type is suitable for voltage  $\leq 132\text{kV}$ .

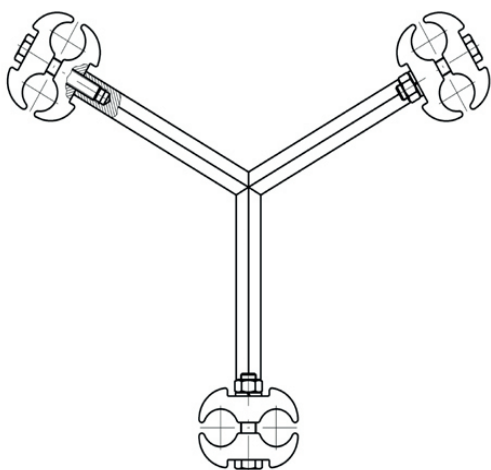
Clamps can also be provided with grooves of different sizes, with a range of reducing tubes in aluminium and bimetallic material on request (connecting Copper to Aluminium cable). Parallel groove clamps with spacers are obtainable for all bundle configurations. This is advantageous at using wedge clamps for conductor tensioning.



Jumper spacers for twin bundles

## Jumper spacers

Parallel groove clamps will also be used for spacing bundle conductors, when wedge type tension clamps are used to fix the conductors.

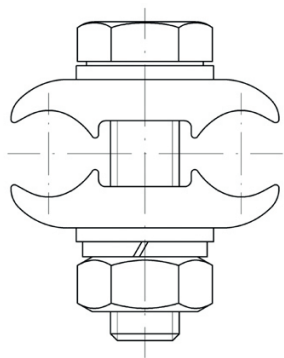


Jumper spacers for triple bundles

Various types for all conductor configurations are available upon request.



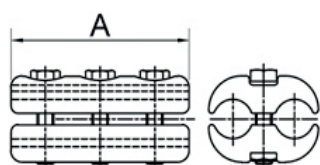
Jumper spacers for four bundles



Parallel groove clamp for copper conductors

Parallel groove clamps for **copper conductors** can be delivered in a forged and cast design. All clamps have are manufactured in high corrosion resistance materials, compatible with the conductors. Clamping screws can be supplied in stainless steel or hot dip galvanized steel.

## Parallel groove clamp with serrated grooves, forged for aluminium based conductors



material: aluminium, **forged**, steel, hot dip galvanized

L.-Nr.	cond. Ø (mm)	A (mm)	screws	kg
1PA100-020	9,0 - 9,9	70	2	0,28
1PA100-050	12,3 - 12,5	65	2	0,25
1PA100-070	12,6 - 14,9	90	3	0,36
1PA100-100	15,0 - 17,1	90	3	0,40
1PA100-140	17,2 - 19,0	100	3	0,42
1PA100-160	19,1 - 21,0	100	3	0,60
1PA100-200	21,1 - 23,4	120	3	0,83
1PA100-230	23,5 - 25,7	120	3	0,80
1PA100-260	25,8 - 27,8	130	3	0,90
1PA100-310	27,9 - 29,9	130	3	0,80
1PA100-350	30,0 - 31,9	140	3	1,20
1PA100-360	32,0 - 33,4	140	3	1,39
1PA100-460	33,0 - 36,2	180	4	2,50
1PA100-480	36,0 - 39,0	220	5	3,40

Parallel groove clamps with **reducing and bimetallic** are available upon request. Clamps with screws made of hot-dip-galvanized steel grade 8.8 as well as copper clamps can also be supplied.

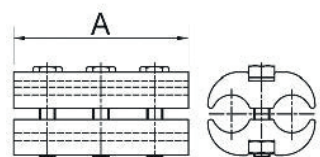
If parallel groove clamps are used for **Bretelle dampers**, the installation distances can be calculated.

**Parallel groove clamps with spacers** are available for all bundle configurations upon request.

The L.-Nr.: are for parallel groove clamps with stainless steel bolts A2-F80.

Parallel groove clamps with galvanized bolts have a + instead of a - within the number. as an example: 1PA100+350

## 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.	cond. Ø (mm)	A (mm)	screws	kg
4502.11	8,1 - 11,7	80	3	0,23
4502.12	11,8 - 15,8	95	3	0,41
4502.13	15,9 - 19,2	100	3	0,50
4502.14	19,3 - 24,8	110	3	0,80

These types can be used for nominal voltages up to 132 kV and can also be delivered with one or two screws.

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

Other types are available upon request.

## Parallel groove clamp for steel and copper conductors



**material: steel, hot dip galvanized**

L.-Nr.	cond. Ø (mm)	A (mm)	screws	kg
4503.10	5,1 - 8,1	60	2	0,36
4503.11	8,2 - 11,6	65	2	0,43
4503.12	11,7 - 15,7	65	2	0,74

Parallel groove clamps with one or three screws are available upon request.  
Other types are available upon request.

