

Certificates







Programs





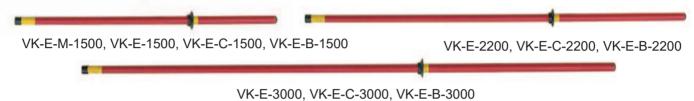




Field of application

These rods are made of fibreglass reinforced synthetic resin tubes filled with poliurethane foam. It is suitable for applying different devices (short-circuiter, voltage detector, rescuing hook, cleaning tools, etc) on the SV, MV and HV networks. The different head shapes allow to connect the fittings or devices to the rod more easely. The one section rod types, the rod head shapes as well as the fittings which can be connecter are summarized in the following table.

Basic rods without shaped heads



| Operating rod types a | Operating rod types and the rod head's shapes lenght of 1500 mm | | | | | | |
|-----------------------|---|--------------------------|-----------------------|---------------|------------|--|--|
| Туре | Product code | Rated voltage (kV) | Effective lenght (mm) | Weight (g) | Head shape | | |
| VK-E-1500 | 536600 | 36 | 1500 | 800 | | | |
| VK-E-C-1500 | 536610 | 36 | 1500 | 830 | | | |
| VK-E-B-1500 | 536620 | 36 | 1500 | 890 | | | |

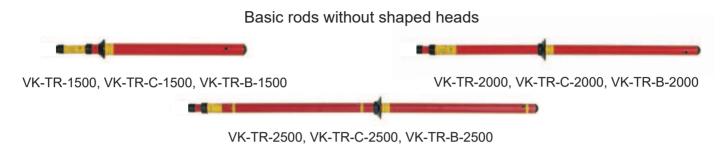
| Operating rod types a | Operating rod types and the rod head's shapes lenght of 2200 mm | | | | | | |
|-----------------------|--|--------------------------|-----------------------|---------------|------------|--|--|
| Туре | Product code | Rated Voltage (kV) | Effective lenght (mm) | Weight (g) | Head shape | | |
| VK-E-2200 | 536700 | 36 | 2200 | 1000 | | | |
| VK-E-C-2200 | 536710 | 36 | 2200 | 1030 | | | |
| VK-E-B-2200 | 536720 | 36 | 2200 | 1090 | | | |

| Operating rod types a | Operating rod types and the rod head's shapes lenght of 3000 mm | | | | | | |
|-----------------------|---|--------------------------|-----------------------|---------------|------------|--|--|
| Туре | Product code | Rated voltage (kV) | Effective lenght (mm) | Weight (g) | Head shape | | |
| VK-E-3000 | 536900 | 132 | 3000 | 1400 | | | |
| VK-E-C-3000 | 536000 | 132 | 3000 | 1430 | | | |
| VK-E-B-3000 | 536910 | 132 | 3000 | 1490 | | | |

TELESCOPIC OPERATING RODS

Field of application

These rods are made of fibreglass reinforced synthetic resin. The tube with the smallest diameter is filled with poliurethane foam. It is suitable for applying different devices (short-circuiter, voltage detector, rescuing hook, cleaning tools, etc) on the SV, MV and HV networks. The segments of the telescopic rod are fixed in their extended state by spring-type locking buttons. They can be transported in their nested state by car. The different head shapes allow to connect the fittings or devices to the rod more easely. The telescopic rod types, the rod head shapes as well as the fittings which can be connecter are summarized in the following table.



| Operating rod type | s and the rod h | ead's shapes | lenght of 150 | 00 mm EN | N 62193 | EN60855 | EN 60832 |
|--------------------|-----------------|--------------------------|-----------------------|-----------------------------|--------------------|------------|------------|
| Туре | Product code | Rated Voltage (kV) | Effective lenght (mm) | Transport lenght (mm) | No. of rod segment | Weight (g) | Head shape |
| VK-TR-1500 | 526310 | 36 | 1500 | 790 | 3 | 930 | |
| VK-TR-C-1500 | 526300 | 36 | 1500 | 790 | 3 | 970 | |
| VK-TR-B-1500 | 526320 | 36 | 1500 | 790 | 3 | 1000 | |

| Operating rod type | s and the rod h | ead's shapes | lenght of 200 | 00 mm EN | N 62193 | EN 60855 | EN 60832 |
|--------------------|-----------------|--------------------------|-----------------------|-----------------------------|--------------------|------------|------------|
| Туре | Product code | Rated Voltage (kV) | Effective lenght (mm) | Transport lenght (mm) | No. of rod segment | Weight (g) | Head shape |
| VK-TR-2000 | 546420 | 36 | 2000 | 1170 | 2 | 1000 | |
| VK-TR-C-2000 | 546400 | 36 | 2000 | 1170 | 2 | 1080 | |
| VK-TR-B-2000 | 546430 | 36 | 2000 | 1170 | 2 | 1110 | |

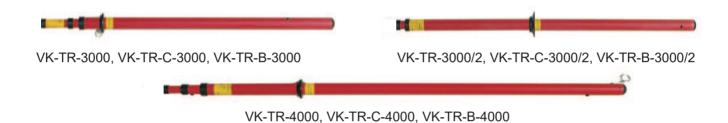
| Operating rod type | s and the rod h | ead's shapes | lenght of 250 | 00 mm EN | l 62193 | EN 60855 | EN 60832 |
|--------------------|-----------------|--------------------------|-----------------------|-----------------------------|--------------------|------------|------------|
| Туре | Product code | Rated Voltage (kV) | Effective lenght (mm) | Transport lenght (mm) | No. of rod segment | Weight (g) | Head shape |
| VK-TR-2500 | 546510 | 10, 36, 132 | 2500 | 1400 | 2 | 1370 | |
| VK-TR-C-2500 | 546500 | 10, 36, 132 | 2500 | 1400 | 2 | 1400 | |
| VK-TR-B-2500 | 546520 | 10, 36, 132 | 2500 | 1400 | 2 | 1430 | |



Field of application

These rods are made of fibreglass reinforced synthetic resin. The tube with the smallest diameter is filled with poliurethane foam. It is suitable for applying different devices (short-circuiter, voltage detector, rescuing hook, cleaning tools, etc) on the SV, MV and HV networks. The segments of the telescopic rod are fixed in their extended state by spring-type locking buttons. They can be transported in their nested state by car. The different head shapes allow to connect the fittings or devices to the rod more easely. The telescopic rod types, the rod head shapes as well as the fittings which can be connecter are summarized in the following table.

Basic rods without shaped heads



| Operating rod type | es and the rod | head's shapes | lenght of | 3000 mm | EN 62193 | EN60855 | EN 60832 |
|--------------------|----------------|--------------------------|-----------------------|-----------------------------|--------------------|---------------|------------|
| Туре | Product code | Rated Voltage (kV) | Effective lenght (mm) | Transport lenght (mm) | No. of rod segment | Weight (g) | Head shape |
| VK-TR-3000 | 536110 | 132 | 3000 | 1340 | 3 | 1690 | |
| VK-TR-C-3000 | 536100 | 132 | 3000 | 1340 | 3 | 1720 | |
| VK-TR-B-3000 | 536120 | 132 | 3000 | 1340 | 3 | 1770 | |
| VK-TR-3000/2 | 536130 | 132 | 3000 | 1700 | 2 | 1500 | |
| VK-TR-C-3000/2 | 536150 | 132 | 3000 | 1700 | 2 | 1530 | |
| VK-TR-B-3000/2 | 536140 | 132 | 3000 | 1700 | 2 | 1580 | |

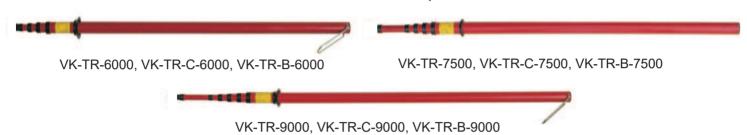
| Operating rod typ | es and the rod | head's shapes | s lenght of 4 | 1000 mm | EN 62193 | EN60855 | EN 60832 |
|-------------------|----------------|--------------------------|-----------------------|-----------------------------|--------------------|------------|------------|
| Туре | Product code | Rated Voltage (kV) | Effective lenght (mm) | Transport lenght (mm) | No. of rod segment | Weight (g) | Head shape |
| VK-TR-4000 | 536210 | 132 | 4000 | 1600 | 3 | 1970 | |
| VK-TR-C-4000 | 536200 | 132 | 4000 | 1600 | 3 | 2000 | |
| VK-TR-B-4000 | 536220 | 132 | 4000 | 1600 | 3 | 2030 | |

TELESCOPIC OPERATING RODS

Field of application

These rods are made of fibreglass reinforced synthetic resin. The tube with the smallest diameter is filled with poliurethane foam. It is suitable for applying different devices (short-circuiter, voltage detector, rescuing hook, cleaning tools, etc) on the SV, MV and HV networks. The segments of the telescopic rod are fixed in their extended state by spring-type locking buttons. They can be transported in their nested state by car. The different head shapes allow to connect the fittings or devices to the rod more easely. The telescopic rod types, the rod head shapes as well as the fittings which can be connecter are summarized in the following table.

Basic rods without shaped heads



| Operating rod types and the rod head's shapes lenght of 6000 mm | | | | | EN 62193 | EN60855 | EN 60832 |
|---|--------------|--------------------------|-----------------------|-----------------------------|--------------------|---------------|------------|
| Туре | Product code | Rated Voltage (kV) | Effective lenght (mm) | Transport lenght (mm) | No. of rod segment | Weight (g) | Head shape |
| VK-TR-6000 | 536410 | 132 | 6000 | 1890 | 4 | 3370 | |
| VK-TR-C-6000 | 536400 | 132 | 6000 | 1890 | 4 | 3400 | |
| VK-TR-B-6000 | 536420 | 132 | 6000 | 1890 | 4 | 3430 | |

| Operating rod types and the rod head's shapes lenght of 7500 mm | | | | | EN 62193 | EN60855 | EN 60832 |
|---|--------------|--------------------------|-----------------------|-----------------------------|--------------------|---------------|------------|
| Туре | Product code | Rated Voltage (kV) | Effective lenght (mm) | Transport lenght (mm) | No. of rod segment | Weight (g) | Head shape |
| VK-TR-7500 | 536450 | 132 | 7500 | 2040 | 5 | 3620 | |
| VK-TR-C-7500 | 536460 | 132 | 7500 | 2040 | 5 | 3650 | |
| VK-TR-B-7500 | 536470 | 132 | 7500 | 2040 | 5 | 3680 | === |

| Operating rod type | es and the rod h | nead's shap | es lenght o | f 9000 mm | EN 62193 | EN60855 | EN 60832 |
|--------------------|------------------|--------------------------|-----------------------|-----------------------------|--------------------|---------------|------------|
| Туре | Product code | Rated Voltage (kV) | Effective lenght (mm) | Transport lenght (mm) | No. of rod segment | Weight (g) | Head shape |
| VK-TR-9000 | 536510 | 132 | 9000 | 2070 | 6 | 4880 | |
| VK-TR-C-9000 | 536500 | 132 | 9000 | 2070 | 6 | 4910 | |
| VK-TR-B-9000 | 536520 | 132 | 9000 | 2070 | 6 | 4940 | |





C type head (hexagon)

Product code 536411



VK-C-B (hexagon - bayonet)

Product code 536461



VK-B-C (bayonet - hexagon)

Product code 536472



VK-UDI-C (UDI - hexagon)

Product code 536473



B type head (bayonet)

Product code 536471



VK-C-UDI (hexagon - UDI)

Product code 536462



VK-B-U (bayonet - universal)

Product code 536417



VK-U-C

(switch)

Product code

590437

VK-EN-C (switch)

Product code 536476



U type head (universal)

Product code 536412



VK-C-H (hexagon - hook)

Product code 536416



VK-U-H (universal - hook)

Product code 536418



VK-EN-U (switch)

Product code 536419



VK-K maneuvering hook

Product code 536475



VK-C-U (hexagon - universal)

Product code 536463



VK-U-B (universal - bayonet)

Product code 536413



VK-GO-C (button - hexagonal)

Product code 590067



RESCUE ROD, HEIGHT MEASURING ROD, OPERATING



VK-EM-1500 Insulating rescue rod

The rescue rod can be used to rescue the person injured by electric shock from the circuit.

| Lenght | 1500 mm |
|----------------|---------|
| Insulated hook | 400 mm |
| Weight | 1,5 kg |
| Product code | 537300 |

Height measuring rod A-12

The material of the height measuring telescopic rod is fiberglass resin. The measured height can be easily read from the scale marked on the bar.

| Lenght | 12 m |
|---------------------|--------|
| No. of rod segment | 12 |
| Transporting lenght | 1,2 m |
| Weight | 3,5 kg |
| Product code | A-12 |

Telescopic operating triangular rod

EN 62193 EN 60855 VK-TR-C-9000/ R EN 60832

The rod structure consists of telescopically slidable fiberglass resin tubes having triangular profile in several different sizes. The end of the first PU foam-filled element has a fixed combined gripping head, which is suitable for connecting the fittings in a detachable manner.

The elements can be pushed together or pulled apart and can be locked together by a plastic button which pops out through the hole of the outer tube.

Weight 4,5kg.

Closed length 170cm. Total length: 9m.

| Number of elements | Rated Voltage (kV) |
|-------------------------|-----------------------|
| 1.and 2. | 0-132 |
| 1; 2. and 3. | 0-132 |
| 1; 2; 3 and 4. | 0-300 |
| 1; 2; 3; 4; and 5. | 0-400 |
| 1; 2; 3; 4; 5 and 6. | 0-400 |
| 1; 2; 3; 4; 5; 6 and 7. | 0-400 |
| Product code | 536503 |





| VK-RB-2006-H | EN 61230 C€ |
|-----------------------|-------------|
| Thermic limit current | 18 kA/2 s |
| Dynamic limit current | 45 kA |
| Gripping capacity | Ø5-30 mm |
| Product code | 522780 |



| KÖF-C-9007-H | Е | N 61230 C€ |
|-----------------------|----------------|---------------------|
| | For rail | 23 kA/1 s 18 kA/2 s |
| Thermic limit current | For wire | 23 kA/1 s 18 kA/2 s |
| | Spherical stud | 23 kA/1 s 18 kA/3 s |
| | For rail | 57,5 kA |
| Dynamic limit current | For wire | 57,5 kA |
| | Spherical stud | 57,5 kA |
| | Ø30x10 mm rail | |
| Gripping capacity | Ø8-25 mm wire | |
| | Ø25 mm stud | |
| Product code | 522781 | |

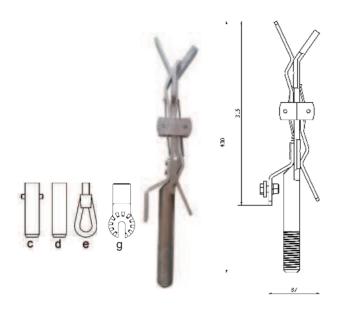


| PC-400-H | EN 61230 | C€ |
|-----------------------|-----------|----|
| Thermic limit current | 18 kA/2 s | |
| Product code | 510427 | |



| KÖF-C-9004-H | EN 61230 C€ |
|-----------------------|-------------|
| Thermic limit current | 18 kA/1 s |
| Dynamic limit current | 57,5 kA |
| Gripping capacity | Ø0-27 mm |
| Product code | 522783 |
| Gripping capacity | Ø0-30 mm |
| Product code | 522784 |





VK-NAF-2011/RR phase clamp

€

The VK-NAF-2011/RR phase clamp can be built in or can be connected to various operating rods and with copper wire an earthing whip can be obtained. The earthing whip can be used for earthing of stranded wire structured phase line of transformer stations and power plants. The clamp can only be pulled on the phase line.

| Thermic limit current | 5 kA/1 s | | |
|-----------------------|--|--|--|
| Dynamic limit current | 12,5 kA | | |
| Gripping capacity | Ø12-30 mm | | |
| Product code | b: 536803 c: 536802 d: 536801 g: 536804 | | |

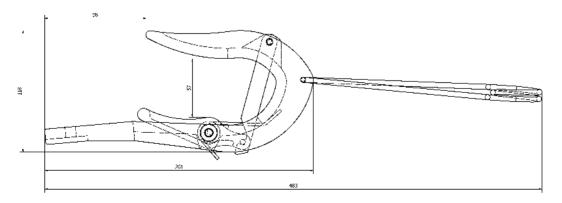


NAF-2021 automatic phase clamp

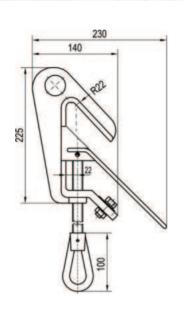
Œ

The purpose of the NAF-2021 automatic phase clamp is to ground and short-circuit the line section to be maintained in the de-energization process of high-voltage aerial line networks. The clamp is placed on the phase conductor with the help of a rope, and it is also removed and pulled down with the rope.

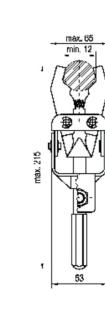
| Thermal limit current | 25 kA/1 s | |
|--------------------------|-----------|--|
| Dynamic boundary current | 73 kA | |
| Capability | 20-59 Ømm | |
| Product code | 505066 | |







max.130



KN-9005/PC phase clamp

EN 61230 C€

The KN-9005/PC phase clamp can be built in or can be connected to various operating rods and with copper wire we can get an earthing whip. The earthing whip can be used for earthing of wire or pipe structured bus bars of transformer stations and power plants as well as the phase lines of the aerial lines.

| Thermic limit current | 40 kA/1 s | | |
|-----------------------|--|--|--|
| Dynamic limit current | 100 kA | | |
| Gripping capacity | Ø5-70 mm | | |
| Product code | b: 510003 c: 510004 d: 510002 e: 510001 | | |

NAF-2003/ATR phase clamp EN 61230 C€

The NAF 2003/ATR phase clamp can be built in or can be connected to various operating rods and with copper wire we can get an earthing whip. The earthing whip can be used for earthing of wire structured phase line of transformer stations and power plants.

| Thermic limit current | 7,2 kA/0,81 s | | |
|-----------------------|----------------|----------------------------|--|
| Dynamic limit current | 15,9 kA | | |
| Gripping capacity | Ø18-30 mm | | |
| Product code | b: c: d: | 536902 536903 536901 | |

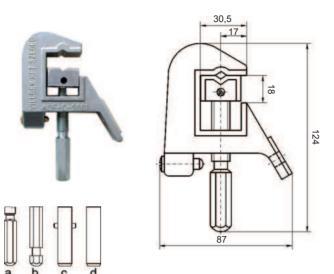
KÖF-9006/PC phase clamp EN 61230 C€

The KÖF-9006/PC phase clamp can be built in or can be connected to various operating rods and with copper wire we can get an earthing/short circuiting device. The earthing devicecan be used for earthing of tube or wire structured bus bars of transformer stations and power plants as well as earhtig of installed earthing studs and cable heads.

| Thermic limit current | 20 kA / 1 s | | |
|-----------------------|--|--|--|
| Dynamic limit current | 25 kA | | |
| Gripping capacity | Ø12-40 mm | | |
| Product code | a: 541001 b: 541003 c: 541004 d: 541002 | | |

Œ

ACCESSORIES CONNECTING TO THE ROD HEAD

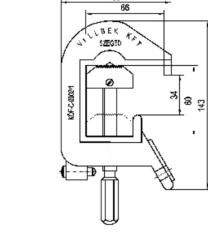


KÖF-C-9001 phase clamp EN 61230

The KÖF-C-9001 phase clamp can be built in or can be connected to various operating rods and with copper wire we can get an earthing/short-circuiting device. The earthing device can be used for short-circuiting of rail structured bus bars of transformer stations and power plants.

| Thermic limit current | For rail | 16 kA/1 s | |
|-----------------------|----------|-------------|--|
| | For wire | 16 kA/1 s | |
| Dynamic limit current | For rail | 40 kA | |
| | For wire | 40 kA | |
| Gripping capacity | Ø30 m | Ø30 mm rail | |
| | Ø6-18 | mm stud | |
| Product code | a: 5 | 521504 | |
| | b: 5 | 521503 | |
| | C 5 | 521502 | |
| | d: 5 | 521505 | |



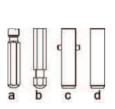


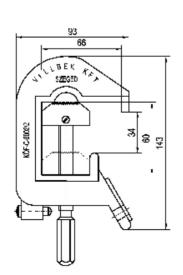
KÖF-C-9002/1 phase clamp EN 61230 C€

The KÖF-C-9002/1 phase clamp can be built in or can be connected to various operating rods and with copper wire we can get an earthing/short-circuiting device. The shortcircuiting device can be used for short-circuiting of rail or wire structured bus bars of transformer stations and power plants.

| Thermic limit current | For rail | 20 kA/1 s |
|------------------------|----------|-----------|
| Thermic limit carrent | For wire | 20 kA/1 s |
| Dynamic limit current | For rail | 50 kA |
| Bynamic iiinit current | For wire | 50 kA |
| Gripping capacity | Ø60x10 | mm rail |
| | Ø8-30 n | nm wire |
| | a: | 521205 |
| Product code | b: | 521206 |
| | c: | 521207 |
| | d: | 521208 |







KÖF-C-9002/2 phase clamp EN 61230 €

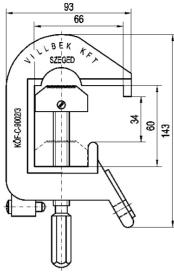
The KÖF-C-9002/2 phase clamp can be built in or can be connected to various operating rods and with copper wire we earthing/short-circuiting get an The short-circuiting device can be used for short-circuiting of bus bars of transformer stations and power plants and can be put on theearthing studs shown below.

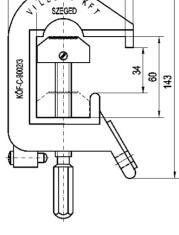
| For rail | 16 kA/1 s |
|--|---|
| 28 mm stud | 16 kA/1 s |
| For rail | 40 kA |
| 28 mm stud | 40 kA |
| Ø60x10 mm rail Ø25 mm earthing stud | |
| a: ! | 521506 |
| b: ! | 521515 |
| c: ! | 521516 |
| d: | 521517 |
| | 28 mm stud For rail 28 mm stud Ø60x10 i Ø25 mm a: b: c: |

VILLBEK Ltd.

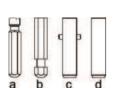
ACCESSORIES CONNECTING TO THE ROD



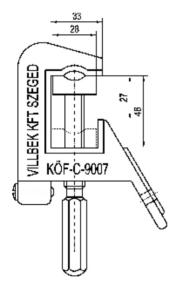


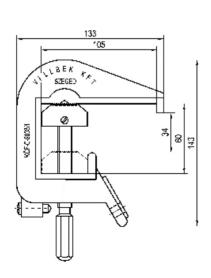












KÖF-C-9002/3 phase clamp EN 61230 €

The KÖF-C-9002/3 phase clamp can be built in or can be connected to various operating rods and with copper wire we can get an earthing/short-circuiting device. The shortcircuiting device can be used for short-circuiting of rail or wire structured bus bars of transformer stations and power

| Thermic limit current | For rail | 20 kA/1 s |
|-------------------------|----------|-----------|
| Thermic illilit current | For wire | 20 kA/1 s |
| Dynamic limit current | For rail | 50 kA |
| Dynamic iiinii cunent | For wire | 50 kA |
| Gripping capacity | Ø60x10 m | nm rail |
| | Ø30 mm v | wire |
| | a: | 521522 |
| Product code | b: | 521523 |
| | c: | 521524 |
| | d: | 521525 |

KÖF-C-9007 phase clamp EN 61230 €

The KÖF-C-9007 phase clamp can be built in or can be connected to various operating rods and with copper wire we can get an earthing/short-circuiting device. The shortcircuiting device can be used for short-circuiting of

rail or wire structured bus bars of transformer stations and power plants as well as can be put on the spherical studs shown below.

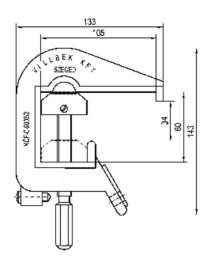
| | For rail 23 | kA/1 s 18 kA/2 s |
|-----------------------|--------------------|------------------|
| Thermic limit current | For wire 23 | kA/1 s 18 kA/2 s |
| | Spherical stud 23 | kA/1 s 18 kA/2 s |
| | For rail 57, | 5 kA |
| Dynamic limit current | Fro wire 57, | 5 kA |
| | Spherical stud 57, | 5 kA |
| | Ø30x10 mm | rail |
| Gripping capacity | Ø8-25 mm v | vire |
| | Ø25 mm spl | nerical stud |
| | a: 52 | 1512 |
| Product code | 1. | 1511 |
| Product code | | 1513 |
| | | 1514 |
| | u. J2 | 1017 |

KÖF-C-9003/1 phase clamp EN 61230

The KÖF-C-9003/1 phase clamp can be built in or can be connected to various operating rods and with copper wire we can get an earthing/short-circuiting device. The shortcircuiting device can be used for short-circuiting of rail or wire structured bus bars of transformer stations and power plants.

| Thermic limit current | For rail | 20 kA/1 s |
|-------------------------|-----------------|-----------|
| Thermic illilit current | For wire | 20 kA/1 s |
| Dynamic limit current | For rail | 50 kA |
| Dynamic illilit current | For wire | 50 kA |
| Gripping capacity | Ø100x10 mm rail | |
| | Ø8-3 mm | wire |
| | a: | 521533 |
| Product code | b: | 521508 |
| | c: | 521531 |
| | d: | 521532 |



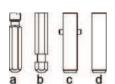


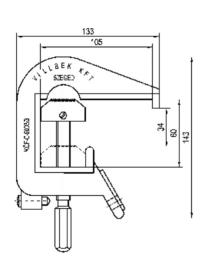
KÖF-C-9003/2 phase clamp € EN 61230

The KÖF-C-9003/2 phase clamp can be built in or can be connected to various operating rods and with copper wire we can get an earthing/short-circuiting device. The shortcircuiting device can be put on bus bars of transformer stations and power plants as well as can be put on the earthing studs shown below.

| Thermic limit current | For rail | 16 kA/1 s |
|------------------------|-----------------|-----------|
| Thermic iiiiii current | 28 mm stud | 16 kA/1 s |
| Dynamic limit current | For rail | 40 kA |
| Dynamic iiinii current | 28 mm stud | 40 kA |
| Gripping capacity | Ø100x10 mm rail | |
| Gripping capacity | Ø28 mm w | /ire |
| | a: 52 | 1507 |
| Product code | b: 52 | 1541 |
| Toddot oodc | c: 52 | 1542 |
| | d: 52 | 1543 |



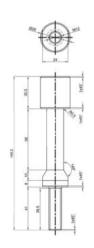


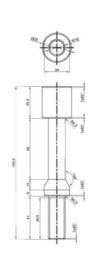


KÖF-C-9003/3 phase clamp EN 61230 C€

The KÖF-C-9003/3 phase clamp can be built in or can be connected to various operating rods and with copper wire we can get an earthing/short-circuiting device. The shortcircuiting device can be used for short-circuiting of rail or wire structured bus bars of transformer stations and power plants.

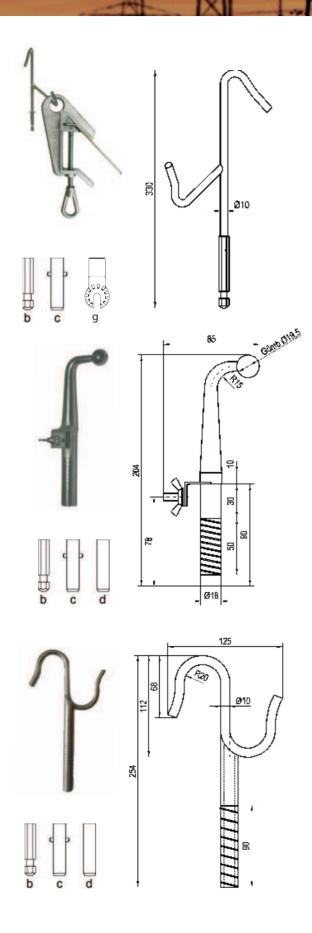
| Thermic limit current | Sínre | 20 kA/1 s |
|-----------------------|-----------------|-----------|
| Themic iiiii cuitent | Sodronyra | 20 kA/1 s |
| Dynamic limit current | Sínre | 50 kA |
| Dynamic iiinii cuncii | Sodronyra | 50 kA |
| Gripping capacity | Ø100x10 mm rail | |
| Cripping capacity | Ø30 mm wire | |
| | a: 5 | 521554 |
| Product code | b: 5 | 521551 |
| | c: 5 | 21552 |
| | d: 5 | 21553 |





Earthing studs for KÖF-C-9003/2 and KÖF-C-9002/2 phase clamp

M12: 521521 Product code M16: 521521



KN-9005/Fh applicating hook

for KN-9005/PC phase clamp

EN 61230

€

By means of the lower arm of the applicating hook KN-9005/Fh the KN-9005/PC can be put on the phase line of the tube or wire structured bus bars and aerial lines. Having puton, by means of the upper arm, the threaded rod can be rotated fixing the clamp on the phase line.

| Product code | b: c: | 510011 510012 |
|--------------|----------|------------------|
| Troduct code | g: | 510010 |

Spherical switching head

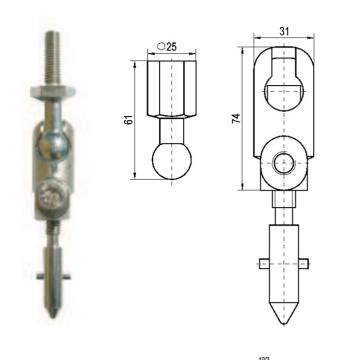
The spherical switching head can be built in orcan be put on various operating rods. So we can use it for swithching the manually controlled disconnectors.

| Product code | b: c: d: | 536601 536602 536603 |
|--------------|----------------|----------------------------|
|--------------|----------------|----------------------------|

Handling hook

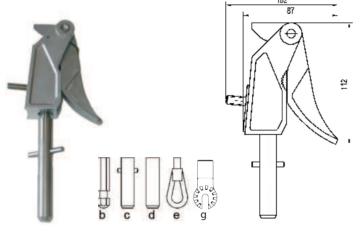
The handling hook can be connected to a onepiece insulating rod to handle the work ropes of ladders that can be built in the vicinity of mediumvoltage equipment and for other handling operations.

| Product code | b: c: d: | 536604 536605 536606 |
|--------------|----------------|----------------------------|
|--------------|----------------|----------------------------|

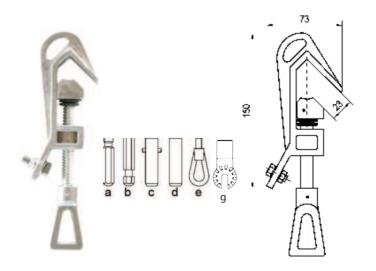


| 4202 phase clamp | (€ |
|-----------------------|--------------|
| Thermic limit current | 24 kA/0,5 s |
| Dynamic limit current | 60 kA |
| Gripping capacity | Ø20 mm |
| Product code | EL-20-004202 |

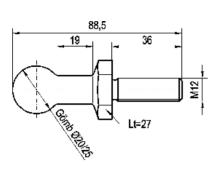
| 4203 phase clamp | (€ |
|-----------------------|--------------|
| Thermic limit current | 40 kA/0,5 s |
| Dynamic limit current | 100 kA |
| Gripping capacity | Ø25 mm |
| Product code | EL-20-004203 |



| VK-RB-2006 phase clamp | | EN 61230 | C€ |
|------------------------|----|-----------|----|
| Thermic limit current | | 18 kA/2 s | |
| Dynamic limit current | | 45 kA | |
| Gripping capacity | | Ø5-30 mm | |
| Product code | b: | 547842 | |
| | C: | 547843 | |
| | d: | 547844 | |
| | e: | 547845 | |
| | | 547846 | |

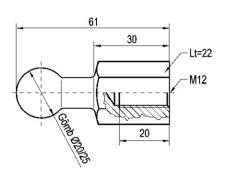


| VK-W-2006 phase clar | EN 61230 | C€ | |
|-----------------------|----------|-----------|--|
| Thermic limit current | | 23 kA/1 s | |
| THOMAS MARK GALLONE | | 18 kA/2 s | |
| Dynamic limit current | 57,5 kA | | |
| Gripping capacity | | Ø6-23 mm | |
| | a: | 547850 | |
| | b: | 547851 | |
| Product code | C: | 547852 | |
| Floduct code | d: | 547853 | |
| | e: | 547854 | |
| | g: | 547855 | |



| Ø 20 ball stud | C€ |
|-----------------------|-------------|
| Thermic limit current | 24 kA/0,5 s |
| Thread size | M12 |
| Ball diameter | Ø20 mm |
| Product code | V590151 |

| Ø 25 ball stud | (€ |
|-----------------------|-------------|
| Thermic limit current | 40 kA/0,5 s |
| Thread size | M12 |
| Ball diameter | Ø25 mm |
| Product code | V590107 |



| Ø 20 ball stud | Œ |
|-----------------------|-------------|
| Thermic limit current | 24 kA/0,5 s |
| Thread size | M12 |
| Ball diameter | Ø20 mm |
| Product code | V590144 |

| Ø 25 ball stud | (€ |
|-----------------------|-------------|
| Thermic limit current | 40 kA/0,5 s |
| Thread size | M12 |
| Ball diameter | Ø25 mm |
| Product code | V590136 |





| VK-RT-2006 "T" integrator | | | | | |
|---------------------------|--------|--|--|--|--|
| Lenght | 240 mm | | | | |
| Height | 120 mm | | | | |
| Product code | 521528 | | | | |

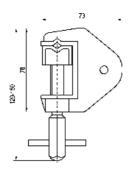


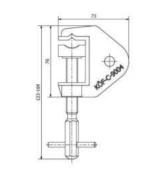
| VK-FRZ-FT | Wall mount for |
|-----------|------------------|
| | earthing devices |

Wall bracket for placement on a shortcircuit wall

EARTHING CLAMPS, DISCHARGING WHIP





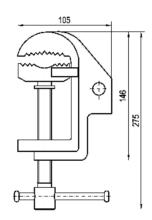


KÖF-C-9004 earthing clamp EN 61230 (6

Connecting copper wire to the clamp type KÖF-C-9004, we can get an earthing short-circuiting device. The earthing whip can be connected to rail or wire type earthing bus bars of transformers or porwer plants.

| Thermic limit current | | For rail 23 kA/1 s 18 kA/2 s | | |
|-----------------------|--|------------------------------|-----------|-----------|
| | | For wire | 23 kA/1 s | 18 kA/2 s |
| | | Spherical stud 23 kA/1 s | | 18 kA/3 s |
| Dynamic limit current | | For rail | 57,5 kA | |
| | | For wire | 57,5 kA | |
| | | Spherical stud | 57,5 kA | |
| Gripping capacity | | Ø0-27 mm | | |
| Product code | | 514001 | | |
| Gripping capacity | | Ø0-30 mm | | |
| Product code | | 514089 | | |





VV-130-MÁV earthing clamp EN 61230 (€

Connecting copper wire to the clamp type VV-130-MÁV, we can get an earthing short-circuiting device. The earthing whip can be connected to rail or wire type earthing bus bars of transformers or porwer plants.

| Thermic limit current | 25 kA/0,5 s |
|-----------------------|-------------|
| Dynamic limit current | 62,5 kA |
| Gripping capacity | Ø0-80 mm |
| Product code | 521581 |



VK-E-1500/K discharging whip

EN 61230 C€

- -One section operating rod, type VK-E-1500 (rated voltage of the rod 35 kV)
- -Spherical switching head
- -Earthing clip
- -Wire with cross section of 6 mm² (lenght of wire 2,5 m)

| Product code of the set | 547110 |
|-------------------------|--------|
| Product code of the set | 547110 |



VK-E-2200/K discharging whip

EN 61230 €

- -One section operating rod, type VK-E-2200 (rated voltage of the rod 35 kV)
- -Spherical switching head
- -Earthing clip
- -Wire with cross section of 6 mm² (lenght of wire 2,5 m)

| Product code of the set | 547120 |
|-------------------------|--------|
|-------------------------|--------|



EARTHING ROD, DISCHARGING WHIP



| VK-E-3000/R one section earthing rod set | | EN 6 | 1230 EN 6 | 0832 | |
|--|--------------|--------------------|--------------------|------------|---------------------|
| Cross section of the wire | Without wire | 50 mm ² | 70 mm ² | 95 mm² | 120 mm ² |
| Thermic limit current | - | 7,2 kA /1 s | 7,2 kA/1 s | 7,2 kA/1 s | 7,2 kA /1 s |
| Dynamic limit current | - | 16 kA | 16 kA | 16 kA | 16 kA |
| Product code of the set | 547138 | 547130 | 547132 | 547134 | 547136 |

- One section operating rod, type VK-E-3000 (rated voltage of the rod 120 kV)
- Phase clamp type KN-2003 / ATR
- Earthing clamp type KÖF-C-9004
- Wire with cross sections of 50, 70, 95 mm² (lenght of wire 4,5 m)





| VK-E-3000/R one sect | ion earthing r | od set | EN 6 | 61230 EN 6 | 0832 |
|---------------------------|----------------|--------------------|------------|------------|---------------------|
| Cross section of the wire | Without wire | 50 mm ² | 70 mm² | 95 mm² | 120 mm ² |
| Thermic limit current | - | 10 kA/1 s | 16 kA /1 s | 20 kA /1 s | 21 kA/1 s |
| Dynamic limit current | - | 25 kA | 40 kA | 50 kA | 53 kA |
| Product code of the set | 547158 | 547150 | 547152 | 547154 | 547156 |

- One section operating rod, type VK-E-3000 (rated voltage of the rod 120 kV)
- Phase clamp type KN-9005 / PC
- Earthing clamp type KÖF-C-9004
- Wire with cross section of 50, 70, 95 mm² (lenght of wire 4,5 m)





EARTHING ROD, DISCHARGING WHIP



- Telescopic operating rod, type VK-TR-3000 (rated voltage of the rod 120 kV)
- Phase clamp type KN-2003/ATR
- Earthing clamp type KÖF-C-9004
- Wire with cross section of 50, 70, 95 \mbox{mm}^2 (lenght of wire 4,5 m)







| VK-TR-3000/R teless | copic earthing | g rod set | EN 61230 | EN 60 | 0832 (€ |
|---------------------------|----------------|--------------------|--------------------|------------|---------------------|
| Cross section of the wire | Without wire | 50 mm ² | 70 mm ² | 95 mm² | 120 mm ² |
| Thermic limit current | - | 10 kA/1 s | 16 kA /1 s | 20 kA /1 s | 21 kA /1 s |
| Dynamic limit current | - | 25 kA | 40 kA | 50 kA | 53 kA |
| Product code of the set | 547198 | 547190 | 547192 | 547194 | 547196 |

- Telescopic operating rod, typeVK-TR-3000 (rated voltage of the rod 120 kV)
- Phase clamp type KN-9005/PC
- Earthing clamp type KÖF-C-9004
- Wire with cross section of 50, 70, 95 \mbox{mm}^2 (lenght of wire 4,5 m)









The earthing / short-circuiting device set is applicable for blade-type fuse sockets. During decoupling it is suitable for earning / short circuiting of equipment and networks particulartly branch circuits where the switching, and disconnecting of them can be carried out by pulling out the blade-type fuse insert.

Components of the set:

- Four branched earthing wire structure, earthing and short circuit device with hook cable lug 400mmx550mmx750mm and 650mm (25mm2). Product code: 514024
- KÖF-C-9004 earthing clamp. Product code: 514001
- Removing handle with protective leather cover Product code of the safety grip: 504031
- Wrench, size 13
- Metal case
- Earthing blades

| Blade type | Thermic limit current | Dynamic limit current | Blade size | Product code |
|---------------|-----------------------|-----------------------|---------------|--------------|
| NH 00 | 5 kA /1 s | 7,3 kA | 80 | 513006 |
| NH 0 | 7 kA /1 s | 12 kA | 125 | 513007 |
| NH 1 | 8 kA /1 s | 14 kA | 135 | 513008 |
| NH 2-3 | 10 kA /1 s | 20 kA | 150 | 513009 |
| NH 4 | 10 kA /1 s | 20 kA | 200 | 513010 |

VK-NR-2000-1

EN 61230

Components of the set:

- Four branched earthing wire structure, earthing and short circuit device with hook cable lug
- 400mmx550mmx750mm and 650mm (25mm²). Product code: 514024
- KÖF-C-9004 earthing clamp. Product code: 514001 -Removing handle with protective leather cover Product code of the safety grip: 504031
- Wrench, size 13
- Plastic case
- Earthing blades

Product code of the set: 513004

| Blade type | Thermic limit current | Dynamic limit current | Blade size | Product code |
|---------------|-----------------------|-----------------------|---------------|--------------|
| 3x NH 00 | 5 kA /1 s | 7,3 kA | 80 | 513100 |
| 3x NH 1-3 | 8 kA /1 s | 14 kA | 135 | 513105 |

VK-E-350

C€

To insert earthing cartridges or earthing bits with M10 connecting. To connect the earthing device to cartridges. Length: 355mm

| Product code | 547109 |
|--------------|--------|
|--------------|--------|





The earthing / short-circuiting devices are for earthing and short-circuiting of the leads on the low voltage insulated networks, on the specified point. The piercing branch clamp with the threaded pipe is permanently fastened to the leads. During short-circuiting, the threaded ends of the 6 branched wire structure shall be driven into the branching pipes to the bottom. The set contains the short-circuiting apparatus. The piercing branch clamp and the threaded pipe shall be ordered additionally. The short-circuiting wire structure is delivered in a metal case.

| Thermic limit current | 5 kA/1 s |
|-----------------------|--------------------|
| Dynamic limit current | 7,5 kA |
| Earthing cable | 25 mm ² |
| Product code | 512100 |

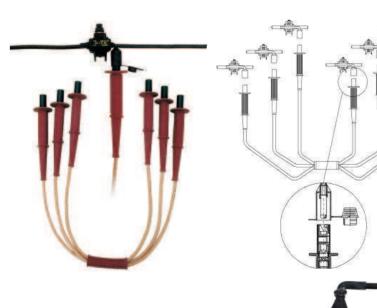
| Branching pipe threaded VK-P-M | | € |
|--------------------------------|--------|---|
| Product code | 310004 | |

| SZL-FRZ-L-16-16 | EN 61230 | C€ |
|-----------------|----------|----|
| | | |

Set content:

earth cable in extra-flexible cooper, 16mm², length: 16m; 1 bronze earthing clamp, KÖF-C-9004; 1 bayonet plug; plastic case

| Product code | 510421 |
|--------------|--------|
|--------------|--------|



SZL-FRZ-B-25 EN 61230

The earthing / short-circuiting devices are for earthing and short circuiting of the leads on the low voltage insulated networks, on the specified point. The piercing branch clamp with the bayonet pipe is permanently fastened to the leads. During short-circuiting, the bayonet sockets of the 6 branched wire structure shall be put into the branching pipes. The set contains the shortcircuiting apparatus. The piercing branch clamp and the bayonet pipe shall be ordered additionally. The shortcircuiting wire structure is delivered in a metal case.

| Thermic limit current | 5 kA/1 s |
|-------------------------|--------------------|
| Dynamic limit current | 7,5 kA |
| Earthing cable | 25 mm ² |
| Product code of the set | 510400 |

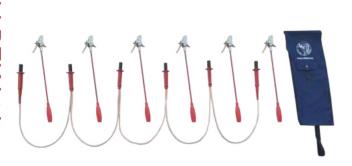
| Branching pipe bayonet VK | (-P-B | | C€ |
|---------------------------|-------|--------|----|
| Product code | | 310006 | |

SZL-FRZ-L-16-16 EN 61230 €

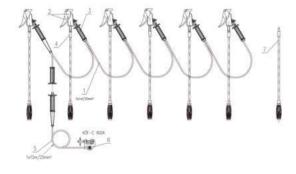
Set content:

earth cable in extra-flexible cooper, 16mm2, length: 16m; 1 bronze earthing clamp, KÖF-C-9004; 1 bayonet plug; 1 plastic case

| Product code | 510421 |
|--------------|--------|
|--------------|--------|







PC 400 clamp SZL-FRZ-B5 PC-RB-2006

KIF-BR/2011 EN 61230 Œ

The set can be used for short-circuiting low-voltage bare overhead lines and insulated, bundled overhead lines.

| Thermal limit current | 5 kA/1 s |
|-----------------------|--------------------|
| Gripping capacity | Ø5-14 mm |
| Ground wire | 25 mm ² |
| Product code | 547923 |

VK-BR-/2011/25

EN 61230 €

VK-BR-2011 can be used for grounding and shortcircuiting low-voltage bare and insulated overhead lines.

| Thermal limit current | 5 kA/1 s |
|-----------------------|-------------------------|
| Gripping capacity | 5 mm ⁻ 30 mm |
| Ground wire | 25 mm ² |
| Product code | 547927 |

VK-BR/2011/35

EN 61230

VK-BR-2011 can be used for grounding and short-circuiting low-voltage bare and insulated overhead lines.

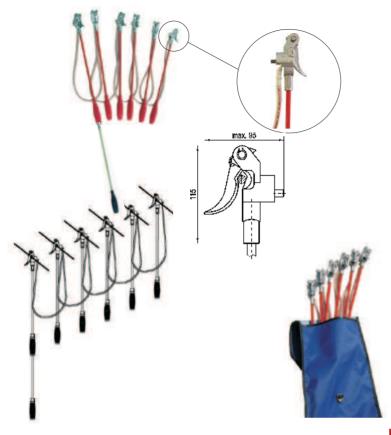
| Thermal limit current | 7 kA/1 s |
|-----------------------|-------------------------|
| Capability | 5 mm ⁻ 30 mm |
| Ground wire | 35 mm ² |
| Product code | 505065 |

ABC KIT

EN 61230 Œ

The ABC type kit can be used for grounding and shortcircuiting the low-voltage overhead line network.

| Thermal limit current | 5 kA/1 s |
|-----------------------|-----------------------------|
| Ground wire | Cu 1,2 m 25 mm ² |
| Phase wire | Cu 1,8 m 25 mm2 |
| Conductor diameter | 95 mm2, Al conductor |
| Grounding point | 5 mm, Copper rail |
| Product code | 590103 |

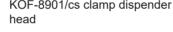


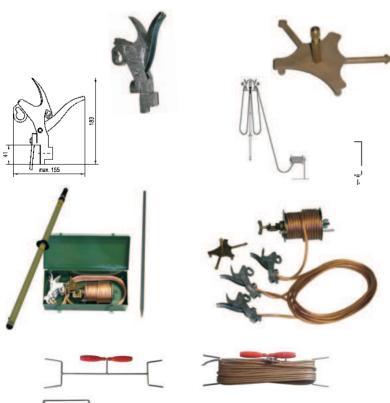
KIF-9001 EN 61230

The earthing / short-circuiting device is for earthing and short-circuiting of low-voltage overhead line segment that have been disconnected for maintenance. The set consist of 6 aluminium cast spring connecting clamp with shaft of plastic fibreglass synthetic resin and handle (lenght: 52 cm) and 1 insulating rod extension with threaded joint. The phase clamps are connected to each other by extremely flexible copper cable (25mm²) with transparent protective insulation. The cable is connected to the phase clamps by cap-bolted joint without interrupting the continuity of the phase conductor. device set is delivered in a waterproof canvas bag.

| Thermic limit current | 7 kA/2s |
|--------------------------------|----------|
| Dynamic limit current | 12 kA |
| Earthing cable | 25 mm² |
| Gripping capacity | Ø5-14 mm |
| Product code of the set | 510100 |
| Product code of the clamp 9001 | 510101 |
| Product code of the bag | 510117 |
| Product code of the extension | 510104 |

KÖF-KJ-8901/1 phase clamp





KÖF-8901 EN 61230

KÖF-8901/cs clamp dispender The earthing / short circuiting device is for earthing and short circuiting of medium voltage electric line segment that have been disconnected for maintenance. The complete set consists of phase clamps, mounting/ removing tool, earthing cable and an operating rod. Items of the set can be ordered separately as well. The complete set thermic limit current: 6kA/1 sec

| Thermic limit current /set/ | 6 kA/1s |
|--------------------------------|------------------------|
| Thermic limit current /clamp/ | 15 kA/1 s 12 kA/2 s |
| Dynamic limit current /clamp/ | 37,5 kA |
| Earth cable | 25 mm² |
| Gripping capacity of the clamp | Ø5-15 mm |
| Product code of the set | 523000 |
| KÖF-KJ-8901/1 product code | 523002 |
| KÖF 8901/cs product code | b: 523015 |
| KÖF 8901/FSZ earthing probe | Ø17 mm |
| Product code | 523014 |
| KÖF 8901/C Cable holder | 610/455mm |
| Product code | 523101 |
| KÖF 8901/D cable drum | Ø17 mm |
| KÖF 8901/FSZ/H earthing probe | 523017 |
| | |



KÖF-8901/AUT /3 heads, short circuit EN 61243

The purpose of the grounding and short-circuiting kit is to ground and short-circuit the line section to be maintained in the de-energization process of medium-voltage aerial line networks.

| Product code | 522850 |
|--------------|--------|
| | |

KÖF 8901/AUT/CS/3 mounting adapter

| Product code | 523115 |
|--------------|--------|
| | |

| KÖF-KJ-8901/AUT clam | p EN 61243 (€ |
|-----------------------|---------------|
| Gripping capacity | 4-25 mm |
| Thermal limit current | 20kA/1s |
| Dynamic limit current | 42kA |
| Product code | 523112 |

KÖF-8901/AUT/ 5 head short-circuit device EN 61243

The purpose of the grounding and short-circuiting kit is to ground and short-circuit the line section to be maintained in the de- energization process of medium-voltage open-circuit networks.

| Product code | 505068 |
|--------------|--------|
|--------------|--------|

KÖF 8901/AUT/CS/2 mounting adapter

| Product code | 505067 |
|--------------|--------|

VK-O-50-4 EN 61230

The purpose of the VK-O-50-4 (50 mm² wire) grounding and short-circuiting kit is to ground and shortcircuit aerial line networks per phase. The ground clamp must be placed at common ground potential.

| Туре | VK-O-50-4 |
|--------------------------|-----------|
| Thermal limit current | 10 kA/1 s |
| Dynamic boundary current | 25 kA |
| Gripping capacity | Ø5-70 mm |
| Product code | 523110 |

VK-O-95-4 EN 61230

VK-O-95-4 (95 mm² wire) grounding and short-circuiting set is intended for grounding and short-circuiting aerial line networks per phase. The ground clamp must be placed at common ground potential.

| Туре | VK-O-95-4 |
|--------------------------|-----------|
| Thermal limit current | 20 kA/1 s |
| Dynamic boundary current | 50 kA |
| Gripping capacity | Ø5-70 mm |
| Product code | 523111 |







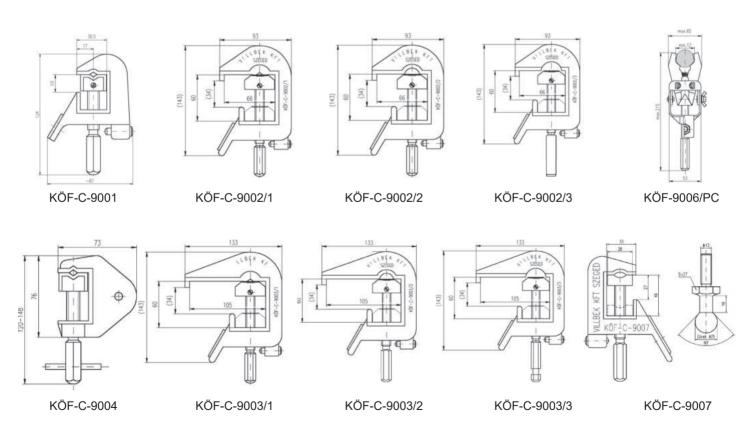


VK-FRZ-20/xx

EN 61230

The earthing/short-circuiting device set is designed for earthing and short circuiting of the flat bars, cable heads of the armoured distribution system, and transformer substations. The form of the phase clamps provides easy connection to the pre-manufactured studs, cylindrical contact pins as well as spherical studs The placing of the phase clamps must be carried out with operating rods suitable for the appropriate voltage level.

Phase clamps can be found in the set



VK-3-RB-2006

EN 61230€€

Short-circuiting and earthing device for MV substation. 3pcs VK-3-RB-2006 aluminium alloy spring clamps mounted on VK-E-1500 insulated stick.

| Capacity of the clamps | 5-30mm |
|------------------------|---------|
| Thermic limit current | 18kA/2s |
| Product code | V590429 |

VK-2R-C-1350, VK-2R-C-3000, VK-3R-C-7500 EN 60852

Connectable multiuse pole with two VK-2R or three VK-3R sections made of polyester and fiberglass tube 32mm diam. and polyurethane foam filling with U (Universal), B (Bayonet), or C (Hexagonal) head. According to EN 60852 standards.

| Product code VK-2R-C-1350 | V536114 |
|---------------------------|---------|
| Product code VK-2R-C-3000 | V536112 |
| Product code VK-3R-C-7500 | V504002 |



Fuse clamp Œ

Fuse clamp is used for working on live parts with insulated rod of an installation with voltages exceeding 1 kV a.c. The operating clamp is used to remove and insert HV highbreaking-capacity fuses. The clamping jaws can be easily and quickly opened and closed by turning the telescopic rod. The fuse clamp has different endings to connect easily to the insulated telescopic rod.

| Capacity of the clamp | 45-70mm |
|-----------------------|---------|
| Product code | V523018 |



VK-KDA

Cable drum unreeling frame with aluminium rollers. Size can be set for the size of the drum. Weight: 18kg

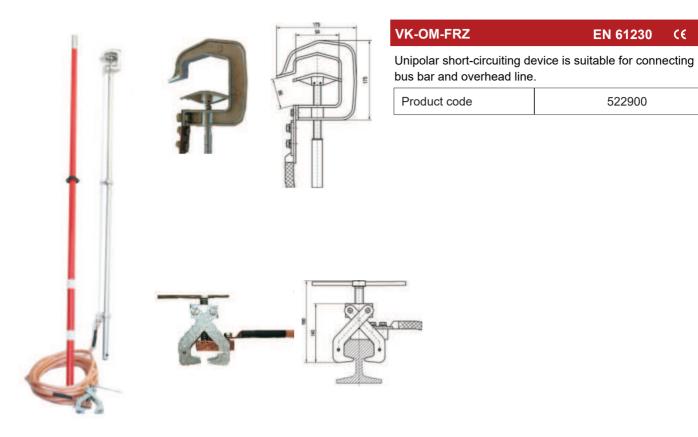
Max load: 1000kg

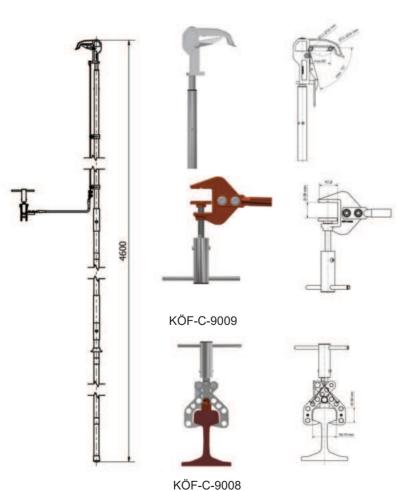
Cable drum diameter: 400-1200mm

Product code V504034



UNIPOLAR SHORT CIRCUITING DEVICE





VK-25-70315

VK-25-70316

EN 61230 Œ

EN 61230

522900

Œ

The VK-25-70315 and 70316 earthing rod equipment is for earthing 25 kV overhead line traction systems. The clamps of earthing devices have torque limiter.

| Type of device | 70315 | 70316 |
|--------------------------|--------------|--------------------------------|
| Thermic limit current | 12 kA/0,25 s | 40 kA/0,25 s |
| Dynamic limit current | 35 | kA |
| Earth cable | 0 | nm; Cu 50 mm² nm; Cu 50 mm² |
| Weight of the set | 13 kg | 14 kg |
| Earthing clamp type | KÖF-C-9008 | KÖF-C-9009 |
| Torque of earthing clamp | 22 Nm | |
| Torque of phase clamp | 14 Nm | |
| Number of rod elements | 2 pcs | |

CABLE PIERCING TOOL, CABLE SHOOTING TOOL EARTHING MAGNET LOCK



Cable piercing tool

The cable piercing tool helps to select the faulty cable during maintenance carried out on LV earth cable networks.

| Rated voltage | 0,4 kV |
|-------------------------------|--------|
| Lenght of wire | 2,5 m |
| Cross section of wire | 16 mm² |
| Lenght of cable piercing tool | 1 m |
| Lenght of earthing probe | 1 m |
| Product code of the set | 547450 |



Cable shooting tool

The cable shooting tool helps to select the faulty cable during maintenance carried out on LV and MV earth cable networks. The tool is operated by cartridges filled with different portions of gun powder.

| Product code of the set | 547460 |
|------------------------------------|--------|
| Product code of 30 mm blade | 547461 |
| Product code of 45 mm blade | 547462 |
| Product code of red cartridge '50' | 547463 |



VK-FMZ04 Earthing magnet lock

Œ

The earthing magnet lock is suitable to 600-1500 V rated public transport purpose electrical DC earthing networks.

| Thermic limit current | 10 kA/1s | |
|-----------------------|----------|--|
| Adhesion force | 1300 N | |
| Product code | 590424 | |





VK-E-1150-A

Operating pole as single sections 1,15m. The pole being fitted with VK-A-1 adapter.

| Product code | 536740 |
|--------------|--------|
| | |



VK-A-1

Socket type VK-A-1 supports clamps beeing applied in an upward direction.

| Product code | 536478 |
|--------------|--------|
| | |



VK-FR-25/19 earthing hook

Œ

The earthing rod equipment is for earthing overheadline traction systems.

| Gripping capacity | 12-68mm |
|-------------------|---------|
| Product code | 521582 |





VK-FR25/MÁV automatic phase clamp

Œ

The earthing rod equipment is for earthing 25kV overheadline traction systems.

| Gripping capacity | 12-43 mm |
|-----------------------|----------|
| Thermic limit current | 8kA/1s |
| Dynamic limit current | 20,1kA |
| Product code | 524052 |



| KÖF 9010 clamp for cylindrical conductors (| | | C€ |
|---|----------|--------|----|
| Gripping capacity | 12-43 mm | | |
| Product code | b: | 520905 | |
| | g: | 522856 | |

VOLTAGE DETECTORS FOR LOW VOLTAGE AND CONTACT PROBE





Bag for the meter

Product code BA01262

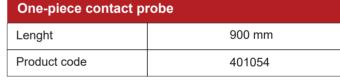
Elma LV voltage detectors

EN 61243-3 Œ

The voltage detector is a new and unique voltage tester with safety and lots of clever details including: long flexible cord, smart test rod attachment with spacers that fit perfectly in the socket. The instrument has auto select of function, making it virtually impossible to operate wrong. Self test. Double insulated, CAT IV 600 V, IP65. Both instruments complies to (EN 61243-3:2010, EN 61010-1:2010 and EN 61010-31:2002+A1:2008)

| Technical specification | ELMA 2000x | ELMA 2100x |
|---------------------------------------|---|--|
| Display | LED | LED and LCD |
| Voltage display (LED) | 12 V, 24 V, 50 V, 120 V, 230 V, 400 V, 690 V (AC/DC) | 12 V, 24 V, 50 V, 120 V, 230 V 400 V, 690 V (AC/DC) |
| Voltage display (LCD) | - | 7,0-800/ 720 V (AC/DC) |
| Unipolar voltage detecting mod | 100-690 V (AC) | |
| Phase order testing mod | 200-690 V (50/50 Hz) | |
| Continuity testing with LED and sound | 0-400 kOhm | |
| Testing power | <3,5 mA | |
| Operating temperature | -1555 °C | |
| Weight | 190 g | |







| Bag for the one-piece contact probe | |
|-------------------------------------|---------|
| Lenght | 900 mm |
| Product code | BA00202 |



| Three-piece contact probe | |
|---------------------------|---------|
| Lenght | 1200 mm |
| Product code | 401065 |



| Bag for the three-piece contact probe | |
|---------------------------------------|---------|
| Lenght | 500 mm |
| Product code | BA00432 |

EARTH FAULT LOCATION FINDER, PHASE COMPARATOR, CABLE IDENTIFIER

EARTH FAULT LOCATION FINDER

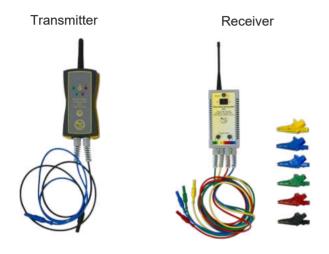


VKP-FZK20 EN 61010-1 C€ EN 61326-1

The earth fault location finder is suitable for finding the location of the permanent earth fault of MV aerial networks. The sensitivity of the device can be changed by the push buttons. The measured values can be viewed on the LDC graphic display.

| Product code | 547916 |
|--------------|--------|
| | |

LV PHASE COMPARATOR FOR 0,4 kV NETWORK



VKP-FE/04 EN 61010-1 C€ EN 61010-2-031 EN 61326-1

On 0,4 kV three-phase networks (aerial or insulated) the LV phase comparator is able to identify the phases between the base station and aremote point. The transmitter devise shall be connected always to the phase conductor on the base station. Using the receiver device each phase of the base station can be identified at any point of the network, moving away from the base station. The transmitter and receiver communicate via radio frequency. The range of transmission may vary between 100 and 200 meters, depending on the transmission of the RF signal.

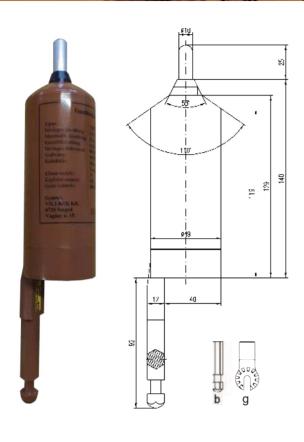
| Product code | 547912 |
|---------------|--------|
| 1 Toddet code | 347312 |

| С | ABEL IDENTIFI | ER |
|--|--|----------|
| Transmitter | | |
| The had had a state of the stat | American Value of the Control of the | *** |
| \sim | | Receiver |

| VKP-IKA | EN 61010-1 (€ |
|---------|----------------|
| | EN 61010-2-031 |
| | EN 61326-1 |

The VKP-IKA cable identifier is suitable for identifying uncharged earth cables. The device kit consists of two instruments, a rechargeable battery powered pulse transmitter and a battery powered pulse receiver. Connecting the transmitter unit to the end point of the uncharged cable, the cable to be found can be identified by the receiver on any point (in cable chamber or cable conduit) of the cable route. The radio communication between the transmitter and the receiver allows the range 100-2000 meters, debending from the radio signals.

| Product code | 547910 |
|--------------|--------|
|--------------|--------|

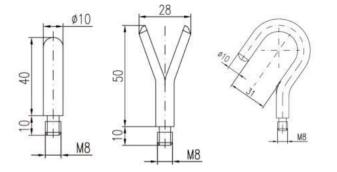


EN 61243-1 VKP-10M

The voltage detector is used to detect the presence of voltage on electrical equipment with a nominal voltage of 3-11 kV (three-phase system). Usable control bar:

VK-TR-C-2000. In the presence of nominal voltage, it gives an intermittent light and sound signal.

| Nominal voltage | 3-11kV |
|-------------------|-----------------------|
| Max. voltage | 12 kV |
| Threshold voltage | 1,1 kV ≤ Uk ≤ 1,35 kV |
| Product code | 505012 |

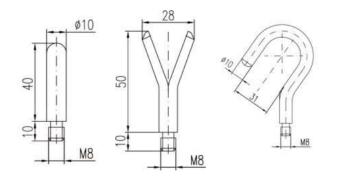


55 500 40

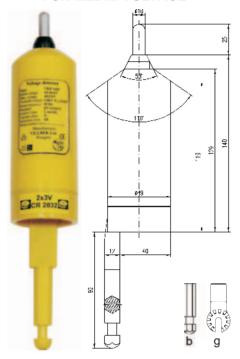
VKP-20M EN 61243-1

The voltage detector is used to detect the presence of voltage on electrical equipment with a nominal voltage of 6-22 kV (three-phase system). Usable control bar: VK-TR-C-2000. In the presence of nominal voltage, it gives an intermittent light and sound signal.

| Nominal voltage | 6-22 kV |
|-------------------|----------------------|
| Max. voltage | 24 kV |
| Threshold voltage | 2,2 kV ≤ Uk ≤ 2,7 kV |
| Product code | 505013 |



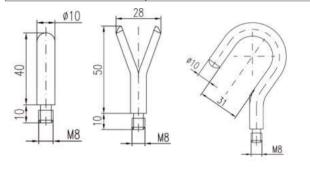
MINI VOLTAGE DETECTOR FOR MEDIM VOLTAGE



VKP-36M EN 61243-1

The voltage detector is for detecting the presence of voltage in the electrical equipments with the rated voltage of 10-36 kV. This type has smaller dimensionsthan the other types. That is why it can be used very usefull in difficult approachand narrow places. Detecting the rated voltage level the device gives audible signaland flashing light indication as well.

| Rated voltage | 10-36 kV |
|------------------|--|
| Max. voltage | 40,5 kV |
| Treshold voltage | 3,6 kV <u><</u> U _k <u><</u> 4,5 kV |
| Product code | b: 505004 |
| 1 Todaot oodo | g: 505006 |



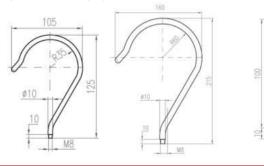
VOLTAGE DETECTORS FOR MV AND HV



VKP-132

EN 61243-1

They can be used for indicating rated voltage on medium voltage AC equipments. They can be used together with operating rods appropriate for the tested voltage levels. Detecting the rated voltage level the device gives audible signal and flasing light indication as well.



| Type | Rated voltage | Max. voltage | Treshold voltage | Product code |
|---------|------------------|-----------------|--|--------------|
| VKP-132 | 132 kV | 145 kV | $13,2 \text{ kV} \le U_k \le 59,4 \text{kV}$ | 505007 |

OLTAGE BRAKE INDICATOR, PHASE COMPARATOR

MEDIUM VOLTAGE BREAK INDICATOR

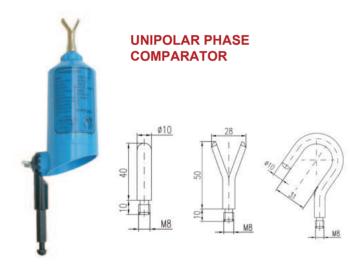


VKP-FAM-35

The device is suitable for monitoring the presence of voltage on the MV network during live working. If break may occur the equipment gives light and sound signal. The device can be used only with operating rod suitable for live working and tested for the related voltage level.

EN 61243-1

| Rated voltage | 6-35 kV |
|------------------|---|
| Max. voltage | 40,5 kV |
| Treshold voltage | $1 \text{ kV} \leq U_k \leq 2 \text{ kV}$ |
| Product code | 505400 |



VKP-A-35 EN 61481

The device is suitable for comparating the phases of the live medium voltage systems to be connected to each other. Each step of the test is indicated by audible and light signals. The device can be used with operating rod, appropriate for the tested voltage level.

| | • |
|------------------|---|
| Rated voltage | 10-35 kV |
| Max. voltage | 40,5 kV |
| Treshold voltage | $3.5 \text{ kV} \leq U_k \leq 4.5 \text{ kV}$ |
| Product code | 505003 |



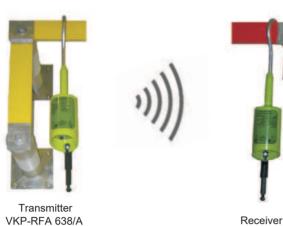
VKP-AF-638 EN 61243-1 EN 612481

It can be used for indicating voltage on medium voltage AC equipmentsor for phase comparation. We can choose between the two operating modes. The steps of the detection are accompanied by light and sound signals. The device can be used only with operating rod tested for the related voltage level.

| Rated voltage | 6-38 kV |
|------------------|---------------------|
| Max. voltage | 40,5 kV |
| Treshold voltage | 1,9 kV ≤U k≤ 2,4 kV |
| Product code | 505300 |

RF PHASE COMPARATOR, DC VOLTAGE DETECTO

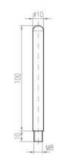
RF PHASE COMPARATOR



VKP-RFA-638 EN 61481

The device is suitable for phase comparison of systems to be connected on live MV networks. The device set consists of a transmitter and a receiver unit with radio frequency communication. The receiver unit gives information via different light and sound signals whether the phase detected is the same or differs from the one detected by the transmitter. The comparison is continuous, there is no time limit. The communication distance of the two units is 15-20 m. The devices shall be used with the appropriate manipulating rods tested for the given voltage levels.





| Туре | Rated voltage | Max. voltage | Treshold voltage | Product code |
|---------------|------------------|-----------------|--|--------------|
| VKP-RFA-638/A | | | | 505308 |
| VKP-RFA-638/V | 6-38 kV | 40,5 kV | $2 \text{ kV} \leq \text{U}_2 \leq 3.5 \text{ kV}$ | 505309 |
| VKP-RFA-638 | | | | 505310 |

DC VOLTAGE DETECTOR

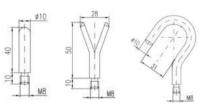
VKP-E-1 EN 61230 Œ

VKP-RFA 638/V

The instrument is applicable mainly in case of the electrictowing at direct voltage (subway train, tram, trolley). The voltage detector can be used only with insulated operating rod.

| Rated voltage range | 600-1200 V DC |
|-----------------------------|---|
| Max voltage | 1200 V DC |
| Voltage treshold | U ₁ =120V DC; U ₂ = 450V DC |
| Product code | 515100 |
| Metal tote bag product code | 515102 |





VOLTAGE DETECTOR

VKP-36M-S Œ

The Compact Voltage Detector with LEDs (10-36kV) is a compact serie voltage detector, designed for indoor use. The Compact Voltage Detector voltage presence is indicated by a high-brightness LEDs indicator

| Rated voltage | 10-36 kV |
|------------------|----------|
| Retracted length | 450 mm |
| Extended length | 1100 mm |
| Product code | 510422 |



FIELD STRENGHT DETECTORS

VKP-TD-50M EN 61010-1 EN 61326-1 CE

The VKP-TD 50 M field strength detector is a receiver having high sensitivity and selectivity. The unit is capable of detecting the electric field generated by 230V/50Hz network voltage cables. From a relatively great distance (a few meters) with the unit we can determine whether a cable is live and with the changing of the field strength we can infer whether the cables are live. The sensivity is easily changeable with the button.



EN 61010-1 EN 61326-1 € **VKP-TD04-20K**

The VKP-TD04 20K field strenght detector is a device with high sensitivity and selectivity. The unit is capable of detecting electric field generated by 0,4-20 kV network voltage - we can establish if network is live or not. The basic sensitivity of the device is set by the manufactured on the basis of a rated voltage given by the customer. A device is able to give reliable indication for only one set rated voltage.

Product code 510116

VKP-TD-04KV EN 61010-1 EN 61326-1 Œ

The VKP-TD04KV field strength detector is a receiver having high sensitivity and selectivity. The unit is capable of detecting the electric field generated by 0,4 kV network voltage cables. From a relatively great distance (2-4 meters) with the unit we can determine whether a cable is live. The device is waterproof.

| Product code | 510117 |
|--------------|--------|
|--------------|--------|







FIELD STRENGHT DETECTORS MOUNTABLE ON HELMET





VK-TD-287

EN 61010-1 EN 61326-1

The field strength detector VK-TD-287 is used to detect the field strength of the medium voltage network. The device is used to protect people working near the electrical network, the device gives a warning signal to the user when the worker is in dangerous proximity to the voltage. The device's signal warns the user that he may be injured if he approaches the device any further, or that the worker may suffer an electric shock.

| Rated voltage | 6,6-22,8 kV AC |
|---------------|----------------|
| Product code | 515112 |



VKP-TDS-35

EN 61010-1 EN 61326-1

The VKP-TDS-35 type field strength analyzer's task is to warn the workers when it detects a 10- 35 kV energized equipment within up to a distance of 2 meters of approach. It detects the electric field strength, and if the signal exceeds the preset value, the sensor that is located inside the helmet will make a warning sound. The field strength detector can be placed inside the safety helmet. The device has a flexible inlay that can be inserted inside the helmet with the help of the grasping prongs.

| Product code 515111 |
|---------------------|
|---------------------|

Œ

RF AMMETER, FAULT LOCATION FINDER

RF AMMETER SET



| VKP-AMM | EN 61010-1 | Œ |
|---------|------------|---|
| | EN 61326-1 | |

The VKP-AMM ammeter is suitable for quickly measuring the operating current of the 0,4-35 kV networks (bus-bar or aerial). The ammeter kit contains a RF transmitter and a receiver unit. The values measured by the measuring transmitter are transmitted by the built-in RF transmitter to the receiver unit. The values measured are shown by a LED display. The ammeter transmitter shall be applied by operating rod appropriate for the given voltage level. The range of RF transmission is 15 m.

| Measurement ranges | 0-200 A | |
|--------------------|-----------|--|
| | 0-500 A | |
| | 0-1000 A | |
| | 0-2000 A | |
| Product code | g: 547908 | |
| | b: 547907 | |

(SHALL BE CHOOSEN WHEN ORDERING!)

Transmitter

Receiver

FAULT LOCATION FINDER SET

| | EN 61010-1 | € |
|-----------|----------------|---|
| VKP-LZK04 | EN 61010-2-031 | |
| | EN 61326-1 | |

The device is suitable for find the fault location on the lowvoltage insulated overhead lines. The set includes two unit: transmitter and receiver with adapter (which can be fixed to insulated sticks). Signals: audible and visible.

| Product code | b: | V515615 |
|--------------|----|---------|
| | g: | V515617 |

ULTRASONIC CABLE HEIGHT METER, VOLTAGE DETECTOR FOR BUS-BARS

| 3-15 m |
|---|
| 3-10 m |
| 3-6 m |
| 5 |
| 1% ;± 3digit |
| 15 mm |
| -15°C - +45°C (built-in heat correction) |
| 15° |
| 2 built-in 9V Ni-Mh batteries |
| 700-800 recharges |
| 30 mA |
| Low battery message on the LCD display |
| cm |
| 547920 |
| 547930 |
| |

VKP-UM15 EN 61230 € EN 61326-1

The ultrasonic cable height (deflection) meter is suitable for measuring the height of the overhead cables. The device can measure and display 5 cables having different



VKP-UM15 BT EN 61230 C€ EN 61326-1

The ultrasonic cable height (deflection) meter is suitable for measuring the height of overhead cables and aerial lines. The device simultaneously measures the distance of 5 wires having different heights. During measurement, the device emits short ultrasound pulses, which pulses are reflected from the wire and returned to the instrument. The instrument measures the propagation time of the ultrasound and after signal processing, the height data in centimeters is displayed on the LCD display. The instrument can also be connected to a mobile phone via Bluetooth connection.

VOLTAGE DETECTOR FOR BUS-BARS



VKP-FF-35 EN 61010-1 (€ EN 61326-1

The device is suitable for the continuous indication of voltage being present on bus bars and other equipment having a nominal voltage of 10, 20 and 35 kV. Its use is recommended for outdoor and indoor encased equipment, at places protected against moisture. The presence of voltage is indicated by a flashing light. The speed of flashing depends on the magnitude of voltage. It has no internal power supply therefore its lifetime is unlimited. It doesn't require maintenance and can also be applied under voltage.

| Product code | 515185 |
|--------------|--------|
| | |

OPERATING TESTER FOR LIGHTING, **ELECTRICITY METER WITH DUMMY LOAD**

OPERATING TESTER FOR LIGHTING



| VKP-KLT04 | EN 61010-1 C€ |
|-----------|----------------|
| | EN 61010-2-031 |
| | EN 61326-1 |

Type VKP-KLT04 is available for on-site testing lamps, which are used on public lighting system. The handle of meter is fast and easy with shoulder bag, device weight 2kg.

| Output voltage | 230 V/ 50 Hz |
|-----------------------|---|
| Power | max.100 VA (higher as required) |
| Battery | 4x3,6 V Li.lon /3,3Ah |
| Stored energy | kb. 40 Wh |
| Max. output current | 0,5 A (AC) |
| Operating time | 50 VA continuous load ca. 30 min.; 1 hour with discontinuous load |
| Protection | Short circuiting, overload current and overvoltage protection |
| Operating temperature | Battery – 10 A fuse |
| | 10°C - +40°C |
| Battery charging | from main adapter or from car charger |
| Product code | 515616 |

ELECTRICITY METER WITH DUMMY LOAD

VKP-MT-3F





VKP-MT-3F EN 61326-1 C€ VKP-M2 EN 61010-1 EN 61010-2-031

The dummy load type VKP-MT/3F is applied to test the operability as well as significant measurement accuracy problems of the one or three-phase electricity meters. The current load can be set in for step between 4-60 A. The LCD displays the momentary voltage (V), load current (A), cosf, momentary power (kW) and measured energy (Wh). Weight: 6,5 kg. The device is capable of simultaneously testing a phase or three-phase load. Accuracy ±1,5% depending on the load impedance. The handle of meter and reading of the measured datas are fast and easy with shoulder bag.

LOOP RESISTANCE METER



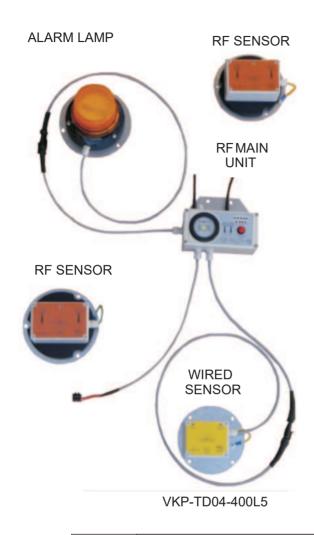
VKP-HM100

LOOP RESISTANCE METER

The VKP-HM100 type device is suitable for measuring the loop resistance of 600-1500V nominal direct voltage, intended for public transport, in a de-energized state.

| Output voltage | 230 V/ 50 Hz |
|---------------------------------|--------------------------------|
| Output (measuring) voltage | max.48V= |
| Output (measuring) current | max 100A= |
| Max network current consumption | 18 A |
| Max output load current | 100 A= |
| Environmental protection | IP51 |
| Measuring range | 1mΩ-1Ω (with 0.1mΩ resolution) |
| Length of measuring cables | 2x30m (A=25mm2) |
| Measurement accuracy | Under 5% |
| Product code | 510205 |

FIELD DETECTOR FOR AERIAL DEVICES



VKP-TD 04-400/LX (€ EN 61010-1 EN 61010-2-031 EN 61326-1

The alarm system is suitable for work carried out at height with lifting machines, as well as for giving alarm when booms of material extraction and handling machines dangerously approach a live equipment. The detection environment always depends on the placement of the device.

The detector's signals are a high-performance siren sound and a flashing light signal. With a separate relay output, it is possible to block the movement of the controlled lifting device. The VKP-TD04-400/L1 is suitable for protecting a single detection point

Depending on the peak size of the lifting device (basket, workbench, crane boom) and the working conditions, it may be justified to place several sensors (max. 15 pcs). The sensors used in the VKP-TD04-400/L2 type set can be placed at different points of the object to be protected. The sensors are connected to the central unit with cables.

In this case, the light and sound signals only work in the central unit placed in the driver's cab. The VKP-TD04-400/L3 is suitable for the protection of a single detection point.

VKP-TD04-400/L4 requires power supply from the vehicle battery and is suitable for the protection of a single detection point. The composition of the radio and wired sensors can be selected as required. Radio sensors have a communication range of 15-20 m.

| Product code | 590036 |
|--------------|--------|
|--------------|--------|

| 1. | VKP-TD04-400/L1 | Suitable for detecting voltage level, the central electronics and the sensor are placed in one device, supplied by the vehicle's battery. |
|----|-----------------|---|
| 2. | VKP-TD04-400/L2 | Suitable for detecting four voltage levels, the central electronics is in operator cabin with max. 15 pieces of outplaced sensors, supplied by the vehicle's battery. |
| 3. | VKP-TD04-400/L3 | Suitable for detecting four voltage levels, the central electronics and the sensor are placed in one device, supplied by its own built-in battery. |
| 4. | VKP-TD04-400/L4 | Suitable for detecting four voltage levels, the central electronics and the sensor are placed in one device, supplied by the vehicle's battery. |
| 5. | VKP-TD04-400/L5 | Suitable for detecting four voltage levels, the central electronics is in the operator cabin, in lifting basket, supplied by the vehicle's battery. Placed sensors: max. 8 pieces of radio communication sensors, as well as 7 pieces of wired sensors. |

Detected voltage: 0,4 kV - 400 kV (IS SET ACCORDING TO THE CUSTORMER'S REQUEST!) A distance of alarm is set by the manufacturer according to the customer's request! Options: alarm lamp and stop relay

TOOL BAG, ASSEMBLY TENT, AUTOMATIC SPLICE

Side bag for body strap



The tool side bag is made of cow split leather, with a one-part and two-part loading space, in two sizes, without a closing element. On the outside of the bag, there is a pocket smaller than the size of the bag, also without a closing element. Both types and sizes can be attached to the body harness or waist belt with two metal rings. The bag is sewn together with leather sewing thread with one and two rows of stitching.

Sizes:

24x24x10cm (one-part or two-part version) 34x24x10cm (one-part or two-part version)

Tent for maintenance



Dimensions:

- Width: 200 cm - Lenght: 200 cm

- Height: 185 cm

Material:

- Painted metal, can be assembled from more pieces
- PVC canopy with artificial glass window

Installation:

- I. Set up the framework at the location of maintenance.
- II. Put the canopy on the metal framework (putting the fixing rings on the fixing pins).
- III.Closing the entrance on both sides (entrance and opposite) with pull fasteners
- IV. The covering with 30 cm extra length can be fixed with weighting.

| Product code | BA00171 |
|--------------|---------|
| | |

Automatic splice

ANSI C119.4-2011 ASTM B117

CRS - Corrosive Resistant Splice automatic splices can be used on ACSR, AAC, AAAC conductor. Features:

- The new synthetic inhibitor has a wide heat range facilitating the corrosion protection in extreme climatic conditions as well; a pop-out button facilitates the proper insertion
- Vent openings that allow moisture to leave and perform a cooling function.
- The stainless steel springs improve the resistance to corrosion.



INSULATING SHEETS, OIL CAN, AEROSOL **CAN HOLDER**



méret: 5x740x1000 mm

Insulating sheets for separation

EN 61229 EN 60243-1

For the encased MV switchgears it can used to isolate the live parts from the uncharged ones during work. The insulating sheets have certificates for several different sizes and types. On demand we manufacture and certify other sizes.

| Rated voltage | 10 kV, 20 kV |
|---------------|------------------------------|
| Material | Glass-fibre reinforced resin |



méret: 5x500x680 mm



méret: 5x1020x1100 mm Termékkód: 547488



méret: 5x800x900 mm Termékkód: 547470





Oil Can VK-FAM-OK

Universal end-piece with fixing collar, dosing ring,

flexible spout.

Flexible spout: 200 mm Can volume: 200 cm3 (0,2l)

Weight: 0,35 kg

| Product code | 590017 |
|--------------|--------|

Aerosol Can Holder VK-FAM-STA

Designed for safe application of paint and lubricant to hard-to-reach places as well as to terminate bee and wasp nests on poles and crossarm.

| Product code | 536399 |
|--------------|--------|
| | |











FAM-H Hook

Operated with the service rope. This hook enables to lift any part tools to the tops of the pole and bring it down.

| Size | 140x75x10 mm |
|--------------|--------------|
| Weight | 0,1 kg |
| Material | Al |
| Product code | 311125 |

EN 60832-2 VK-FAM-A Hook pole adapter

Integrated to a hook pole. The hook pole adaptor is used in the same way as the universal end piece of the pole.

| Size | 120x47x45 mm |
|--------------|--------------|
| Weight | 0,15 kg |
| Material | Al |
| Product code | 590416 |

VK-FAM-T-KV Protector bag for dipped sleeves Product code BA00401

| VK-FAM-T-KE | |
|--------------------------|---------|
| Protector bag for gloves | |
| Product code | BA00523 |

VK-FAM-KT Service rope gin

The service rope gin is used as an anchorage point for the service rope.

| Size | 450x450x130mm |
|--------------|---------------|
| Max. load | 100 daN |
| Weight | 1,5 kg |
| Product code | 590006 |

VK-FAM-RT Stick hanger

Secured to a ring saddle for post, the stick hanger is used to hang poles equippend with a hanging hook awaiting their use.

| Size | 360x165x80mm |
|--------------|--------------|
| Weight | 0,7 kg |
| Product code | 590331 |

LIVE WORKING TOOLS





VK-KFSZB-40

For covering the double spanning under live working at medium voltage networks.

| Class | 4 |
|----------|---|
| Category | A: acid-proof W: extrem high temp. resistant -10 °C - 70 °C |
| Standard | IEC 61229:1993+A2:2002 |



Class: 4 Cat. A,W VILLBEK Kft. 01/2013

Typ: VK-KFSZB-40 IEC 61229:1993+A2:2002 Un=40000 V



Hydraulic long reach chain saw

Long reach chainsaws are intended for safely cutting and trimming trees from the ground or an aerial bucket. The dielectric property of the fiberglass extension tube will reduce the chance of electric shock when used near an energizedd electric line.

Standard: MSZ EN 60832-1, MSZ EN ISO 11681-2 CE



Pruning saw

VK-FAM-F

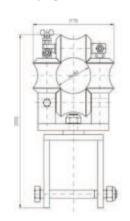
The pruning saw, which can be connected to a handle, has a special blade, which can be used to quickly and easily carry out branching work. (with fixed or universal ending)

| Weight | | 670 g |
|--------------|----|--------------|
| Lenght | | 460 mm |
| Product code | b: | VK-FAM-F |
| | g: | VK-FAM-F (G) |

LAYING ROLLER, CLIMBING TOOLS, **THROWING ROPE**

Laying roller with four pulleys

The laying roller can be used to build LV ABC network. Max. diameter of the bundle: 55 mm.









| VK-4CST-CS | | VŁ |
|--------------|--------|-----|
| Product code | 547435 | Pro |

K-4CST-H

oduct code 547430



Climbing device for wooden pole

C€

Climbing device made of forged iron for wooden poles.

| Termékkód | BA00001 |
|------------|-----------|
| TCTTTCKKOG | D/ 100001 |



VK-DK-1500 Throwing rope

The throwing rope helps workers to pull up the tools devices easily to top of the pole when working on a pole. Length: 15m, weight: 1,3kg, rope diameter 8mm.

| Product code | 590021 |
|--------------|--------|
| | |



Set consist of:

- -1 pc 50m braided rope
- -1 pc 20m braided rope
- -2 pcs hand line hook
- -2 pcs fall arrester
- -1 pc service rope gin
- -3 pcs snatch block
- -2 pcs snap hooks

VK-FAM-KK, Service rope set,

(€

The service rope is used to horst up to lineman and return to the ground the equipment and fooling required to perform the work.

| Product code | 590007 |
|--------------|--------|
| | |



Weight for the service rope VK-FAM-KKS (

| Product code aluminium | 311059 |
|------------------------|--------|
|------------------------|--------|





E PRO 1



- Arc flash protective helmet with integrated visor • PC/ABS shell & foam liner construction
- · Integrated retractable visor with dual position locking mech Visor
- Impact level B, with anti-fog and anti-scratch protection 4 point adjustable chinstrap system
- · Adjustable ratchet system
- · Adjustable headband

E PRO

- · Soft internal padding
- · Replaceable sweatband
- E Pro 2: Protective textile chinguard Nylon skeleton structure with fire retardant fabric

EN 166:2001 EN397:2012+A1:2012 EN 50365:2002 1000V AC / 1500V DC A 440V AC MM (Molten Metal) LD (Lateral Deformation) -30°C

E Pro 1 - GS-ET 29 up to 4kA - APC 1 (arc protection class 1) E Pro 2 - GS-ET 29 up to 7kA - APC 2 (arc protection class 2)

| Туре | E PRO 1 |
|------|---------|
| Туре | E PRO 2 |





Fall arrester with wooden column MSZ EN 795 B:2013 (€

The fall arrester is made of 50 mm wide polyamide webbing, which has been properly sewn together and ends in two D-rings. One of the D-rings is connected to the anchor rope, the rope regulator and the energy absorber. The carabiner of the anchor rope must be connected to the other D-ring when in use. The belt strap is attached to the protective strap made of leather or polyamide with aluminum clamps. The protective strap has double function. Its primary role is to prevent falls and help climbing with the built-in steel nails. On the other hand, it provides mechanical protection to the webbing strap. In the event of a fall, the set provides adequate protection when climbing onto the wooden poles supporting the low- and medium-voltage network, as well as other wooden poles of the same diameter.

LOAD CAPACITY: 1 Main, Maximum 140 kg

| Туре: | MT-FZ/B/2 |
|----------------|-----------|
| Product code : | BA02023 |

WORK PLATFORMS

Work platform (6

Product code platform

Product code flat adapter

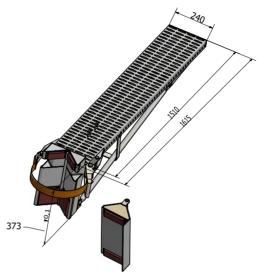
Work platform for one person. Work

platform dimensions: Width: 240mm, Length: 1610mm,

Height: 373mm Max load: 170 kg Net weight: 11kg

Weight of flat adapter: 2.5 kg





V547538

V547539



VK-MA Aluminum work platform EN 795

The platform structures are suitable for safe and comfortable support of the fitter's feet on pierced concrete columns with a low peak tension when occupying the work position.

| VK-MA-AL 600/210 | Product code: 547420 |
|-------------------|----------------------|
| VK-MA-AL 1000/210 | Product code: 547425 |





VK-MA-V-AL Aluminum workstation EN 795

The universal assembly platform can be used for working on pierced concrete columns of LV and MV overhead lines. It can be used on both small and high peak tension columns. The mounting bracket can be placed and fixed in the opening of the column or in the hole in the column. It can be installed on either side of the column if the fixing conditions are met.

| Load capacity: | 1500 N |
|----------------------|----------------|
| Weight: | 3,7 kg |
| Work surface size: | 630X240 mm |
| Fixing pin diameter: | 12 mm |
| Material: | Aluminum alloy |
| Product code: | 547429 |

WORK PLATFORMS



VK-MA-OT-700/140;380/150

EN 795

The metal stand is suitable for safe and comfortable support of the fitter's feet on the parts near the top of the pierced concrete columns with low peak tension when occupying the work position. The metal stand is suitable for placement in both openings and holes.

| Load capacity: | 1500 N |
|---------------------|------------------|
| Weight: | 2470 g |
| Overall dimensions: | 700X140 mm |
| Material: | Galvanized Steel |
| Product code: | 547438 |



VK-MA-AT 700/140

EN 795

The metal stand is suitable for safely supporting the fitter's feet on the parts of pierce concrete columns close to the top of the column, when occupying the work position. The metal stand can be placed in the holes with a diameter of 18-20 mm in the upper part of the columns. The part protruding from the tread surface in the direction of the column ensures that the device does not rotate. Slip-free surface is ensured by welding points.

| Load capacity: | 1500 N |
|---------------------|------------------|
| Weight: | 1 kg |
| Overall dimensions: | 700X140 mm |
| Material: | Galvanized Steel |
| Product code: | 547439 |



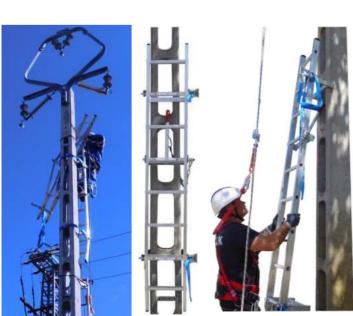
VK-ALM WORK PLATFORM FOR LADDERS

When the work platform is placed on a ladder, it enables safe and comfortable support of the fitter's feet when occupying the work position.

| Load capacity: | 1500 N |
|------------------------------------|-----------------------------------|
| Weight: | 1730 g |
| Overall dimensions: | 395X235X178 mm |
| Material: | aluminum alloy |
| Distance between ladder rungs: | 250-300 mm |
| Distance between the ladder sides: | Inside: 300 mm Outside: 340 mm |
| Product code: | 504005 |







VK-ALL 2200 EN 795B/2013 €

It is used to bridge the top four openings of a pierced concrete column, so that the hook of the ladder must be hooked into the uppermost opening.

| Load capacity: | 1500 N |
|--------------------------------|----------------|
| Weight: | 7,7 Kg |
| Length: | 2200 mm |
| Material: | aluminum alloy |
| Distance between ladder rungs | 280 mm |
| Number of rungs on the ladder: | 8 |
| Product code | 504015 |

EN 795B/2013 **VK-ALL 3000** €

It is used to bridge the upper five openings of a pierced concrete column, so that the hook of the ladder must be hooked into the uppermost opening. Applicable position: VK-

| Load capacity: | 1500 N |
|--------------------------------|--------------------|
| Mass: | 9 Kg |
| Length: | 3000 mm |
| Material: | ötvözött alumínium |
| Distance between ladder rungs | 280 mm |
| Number of rungs on the ladder: | 10 |
| Product code | 504010 |

EN 795B/2013 VK-ALL -2200/A

The ladder set is used to approach the peak height of pierced concrete columns (bird-friendly crossbar) in such a manner that the hook of the lower ladder element shall be placed into the opening corresponding to the given working

| Load capacity: | 1500 N |
|--------------------------------|----------------|
| Weight: | 10,7 Kg |
| Length: | 2300 mm |
| Material: | aluminum alloy |
| Protrusion of support profile: | 150 mm |
| Number of rungs on the ladder: | 8 |
| Product code | 504042 |

HANGING LADDER, PROTECTIVE GLOVES













(€ **VK-ALL 2200/F** EN 795B/2013

The ladder set is used to approach the peak height of pierced concrete columns (bird-friendly crossbars) by climbing on the fixed first VK-ALL 2200/A ladder element and placing the second ladder element VK-ALL 2200/F, thus reaching the top of the column.

| Load capacity: | 1500 N |
|-------------------------------|----------------|
| Weight: | 8,1 Kg |
| Length: | 1990 mm |
| Material: | aluminum alloy |
| Protrusion of support profile | 150 mm |
| Number of rungs on the ladder | 7 |
| Product code: | 504043 |

VK- FAM- BK LEATHER GLOVES

It helps to protect the electrician's gloves from mechanical damage.

MSZ EN 420:2003+A1:2010 MSZ EN 388:2016+A1:2019 Performance level: 5-4-1-2-3-X

ELECTRICAL PROTECTIVE GLOVES

It provides protection under or near voltage during work.

Tested according to the following Standards: EN 60903:2003 + AC2:2005 EN 420:2003 + A1:2009

| Product type: | Sizes: |
|---------------|---------------|
| ELSEC 2.5 KV | 8"9"10"11"12" |
| ELSEC 5 KV | 8"9"10"11"12" |
| ELSEC 10 KV | 8"9"10"11"12" |
| ELSEC 20 KV | 8"9"10"11"12" |
| ELSEC 30 KV | 9"10"11"12" |

Switching glove VK-IV

Œ

EN 61482-1-2, EN 420, EN 388, EN 407, EN 12477

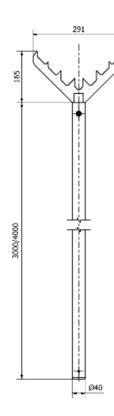
It provides mechanical protection in a low-voltage environment while handling circuit breakers and short-circuit

MSZ EN 420:2003+A1:2010 MSZEN ISO 21420:2020 MSZ EN 388:2016+A1:2019 MSZ EN 407:2004 MSZ EN 12477:2002 MSZ EN 61482-1-2:2015

| Sizes: | 8, 9, 10, 11, 12, 13, 14 |
|---------------|--------------------------|
| Product code: | BA01285-BA01290 |

MANULA POLE-POSITIONING TOOL TWO-POLE TELESCOPIC CONTACT ANTENNA





MANUAL POLE-POSITIONING TOOL

Parameters:

-Total length: 4.165 m / 3.165 m-Total weight: 7 kg / 5.5 kg

Structure:

- Head assembly
- Shaft
- Plastic end cap

Head Assembly:

- Material: Steel
- Surface treatment: Galvanized
- Fastened with bolts
- Removable and replaceable

Shaft:

- Material: Aluminum tube - Diameter: Ø40 mm - Wall thickness: 5 mm

- Shaft length: 3 m / 4 m

Assembly:

- Place the shaft in a stable position.
- Slide the head assembly onto the end of the upper part of the shaft.
- Rotate the head assembly into the correct position, then secure it using an M8 bolt, nut, and two 13 mm wrenches.

Application:

- For manually setting wooden poles.
- At least two positioning tools are required for setting up a single pole.
- The manual pole-positioning tool may only be used by individuals who have participated in a training session demonstrating its proper use.
- The use of protective gloves is mandatory.



| TWO-POLE TELESCOPIC CONTACT ANTENNA | VK-TTA-04 |
|-------------------------------------|------------|
| | |
| - | \/K_TTA_0/ |

| Type: | VK-TTA-04 |
|-----------------------|--------------|
| Rated voltage: | 0,4 kV |
| Instrument connector: | 1000V CATIII |
| Length: | 2-8,5m |
| Material: | composite |

Contents of the Set:

- 2 pcs telescopic insulated rods
- pcs contact hooks

Optional Accessories:

- · 2x1 meter extension instrument cord
- Low-voltage voltage detector

The device functions as a probe extension for low-voltage voltage detectors used in 0.4 kV overhead power line networks. It enables voltage detection on 0.4 kV electrical equipment located further from the pole when used in conjunction with a compatible voltage detector.

The use of this device qualifies as a measurement and inspection activity. Therefore, it may be operated by trained or instructed personnel in electrical environments or by untrained individuals under the direct supervision and guidance of a qualified professional.

SERVICES OF THE HIGH VOLTAGE LABO

Electrical testing

- LV Voltage detectors
- 2. MV Phase comparators
- 3. Insulated operating rods
- MV and HV Voltage detectors
- Insulated tools

(MSZ EN 61243-3) (MSZ EN 61481) (MSZ EN 60855) (MSZ EN 61243-1, MSZ 20866-75) (MSZ EN 60900)

Our company undertake the following tests:

- Insulating sheets
- 7. Earthing/short-circuiting devices
- 8. Contact probes
- 9. Villbek and TE.M.A. ladders, platforms
- 10 Climbing tools
- 11. Villbek fall arrester for wooden poles, safety hook

Repair, service, maintenance

In our workshop we undertake the repairs, services and maintenance of the following products:

Insulated operating rods, earthing/short-circuiting devices, voltage detectors, phase comparators, climbing tools and the Villbek and TE.M.A. products.



PPE testing

| 1. | Insulating gloves | | (MSZ E | =N 60 |)903) |
|----|------------------------|---------------|--------|-------|-------|
| 2. | Insulating sleeves | | (MSZ E | EN 60 | 984) |
| 3. | PPE Safety harness | | (MS | Z EN | 361) |
| 4. | Safety lanyards | | (MS | Z EN | 354) |
| | Connectors, rope acces | SS | (MS | Z EN | 362) |
| 6. | Fall arrester | (MSZ FN 353-1 | 353-2 | 360 | 355) |

Max. proof voltage: 100 kV

Testing of live working tools

Certification from Hungarian Live Working Comittee for testing of LV and MV live working tools, equipment and devices. Notified Institution for testing of protective equipment against electrical risks and falls from height.

Periodic testing of live working tools for LV:

- I. Live working tools: Insulated covers, insulated tools and equipments
- II.Protective equipments: Insulated gloves

Periodic testing of live working tools for MV:

- I. Live working tools: Insulated operating rods, measuring and testing devices, bridging devices, insulated covers and covering elements, handling and fixing devices, climbing and work positioning devices, holding devices, universal tools for insulating rods, cleaning equipments under live working, others: operating rod holder, insulating
- II. Protective equipments: Insulating gloves, insulating sleeves III.Periodic testing of aerial devices with insulated arm

REPAIR, SERVICE AND MAINTENANCE FOR THE LIVE WORKING TOOLS



In our workshop we undertake the repairs, services and maintenance of the following products:

- -Hot Line insulated operating rods
- Insulated covers
- Phase comparators, ammeters and voltage brake indicators
- Insulated and metal ladders



Mobile high voltage laboratory

Basic equipments details:

- Adjustable single-phase transformer. Max. proof voltage 0-100 kV / 50 Hz
- Voltage detector and phase comparator tester
- Insulated operating rod testing platform
- Water bath for insulating gloves and sleeves testing
- Mechanical tensile pad

Tests can performed at the location:

- LV, MV and HV insulated operating rods
- LV, MV and HV voltage detectors
- MV phase comparators
- LV and MV insulating gloves
- MV insulating sheets
- LV, MV and HV earthing/short.circuiting devices
- 1000 V live working tools
- Climbing irons
- Aerial devices with insulating arm
- Replacing parts and batteries
- If necessary set the default settings for voltage detectors
- In case of not compliance option for replacement



SPECIFICATION FOR SHORT-CIRCUITING AND EARTHING SYSTEM

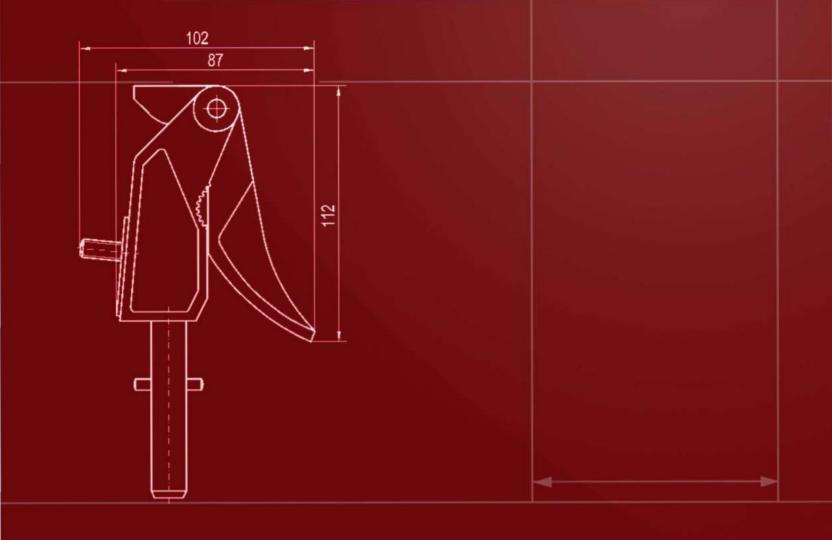
Specification for short-circuiting and earthing system

| 1. Network, electrical installation characteristics | | |
|--|--|------------|
| Network voltage:kV | Max. short-circuiting current (1s): | kA |
| Nature of the conductive materials: Basis Al Basis C | u | |
| | | |
| Overhead lines Switchboard or substation | | |
| - Cross section of the conductors: minmn | o ² Forthing stud dia (mm): mini | may |
| - Cross section of the conductors: minmn maxmr | n² -Earthing stud dia. (mm): mini n² | IIIax |
| | | |
| | | |
| | | |
| | | |
| 2. Characteristics of the earthing system | | |
| - Selected scheme (out of the three standard types shown below |) | |
| - Distance between live conductors (m):, | between live conductors and earthing p | oint (m) |
| - To place the clamps in position, the operator will stand: abo | ve the conductors under the | conductors |
| | t the conductors level | |
| - Cross section of the conductor mm ² | | |
| O Footble and a second | | |
| 3. Earthing connection point | | |
| - Earth rods: dia. or thickness on side face (mm): | Flat bar, angle-bar, thickness (| mm): |
| - Round conductor dia. (mm): | | |
| | | |
| 4. Operating rod | | |
| - Insulating rod: total length Fixed | Connectable rod | Telescopic |
| | | |
| 5. Characteristics | SCHEME 1. SCHEME 2. | SCHEME 3. |
| - Selected connection type: Scheme no | | 原原原 |
| - Contact clamps | | 1. 1.1. |
| - Short-circuiting cable • Length (m) | | |
| Cross section Cu, Al (mm²) | | |
| - Grounding cable | | Ö |
| Length (m) Cross section Cu, Al (mm²) | | |
| - Connection of cables on clamps, earth clamps, trifurcation | | 5 |
| Direct connection by screw and nut | 1 3 | 1 |
| Connection by means of crimped lugs Earth clamp, type | Accessories | |
| - Presence of a reel | Carrying bag for sticks | |
| - Insulating rod, type | Canvas bag for equipment | |
| - Application hook | Carrying case for equipmentCable reel | |
| . Flancourant and an analysis of the state o | | |

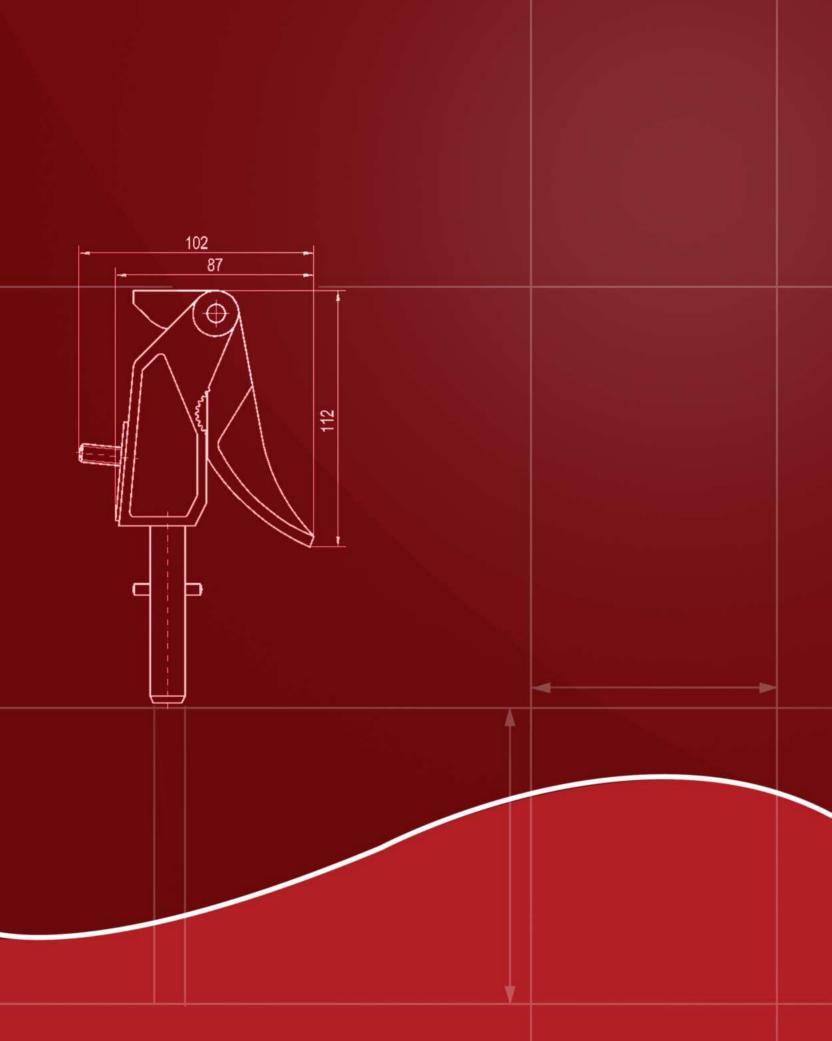


| Control rods | 1-4 |
|---|-------|
| Adapters | 5 |
| Rescue rod, height measuring rod, handling rod | 6 |
| Fittings | 7 |
| Phase clamps | 8 |
| Fittings that can be connected to a rod head | 9-14 |
| Built-in ball valves for clamps, "T" joint, wall mounting bracket | 15 |
| Earthing clamps, earthing rods, discharge whips | 16-18 |
| Grounding and short-circuiting devices | 19-25 |
| Single-pole short circuit | 26 |
| Cable piercing tool, cable shooting tool, grounding magnet lock | 27 |
| New type of fittings | 28 |
| Low-voltage voltage detectors and sensing antenna | 29 |
| Short-circuit fault location finder, low-voltage phase adjuster, cable identifier | 30 |
| Voltage detector | 31-32 |
| Voltage failure indicator, phase adjuster | 33 |
| Radio frequency phase adjuster, DC voltage monitor | 34 |
| Field detectors | 35 |
| Radio frequency current meter, short circuit detector | 36 |
| Ultrasonic line height meter, busbar voltage monitor | 37 |
| Public lighting lamp tester, electric consumption meter, artificial load | 38 |
| | 39 |
| Electric space detector and alarm system | 40 |
| Tool bag, assembly tent, automatic splice | 41 |
| Insulating sheets, oil can, aerosol can holder | 42-43 |
| MV tools for live working | 44 |
| Laying roller, climbing device, throwing rope | 45 |
| Head protection, fall arrester | 46-47 |
| Work platforms | 48-49 |
| Hanging ladders, protective gloves | 50 |
| Manual pole-positioning tool, two-pole telescopic contant antenna | 51 |
| Services of the high voltage laboratory | 52 |
| Repair, service and maintenance for the live working tools | 53 |
| Specification for short-circuiting and earting systems | 54 |

NOTES







Hungary

6728 Szeged, Vágány u. 15.

Phone: +36 62 /464-371

Fax: +36 62 /473-087

Email: villbek@villbek.hu

Web: www.villbek.hu