



LIVE WORKING

Tools and equipment. Catalogue 2013.





















Dear Customers

A new edition of our product catalogue coincides with the celebration of 30 years of business and is the opportunity to recall the most significant events involving a design and implementation of live working tools and equipment, allowing development of new live working technologies. In cooperation with the Energy Training Centres in Poland we have developed several unique live working tools and equipment which have been implemented in Polish power industry:

- Dry cleaning systems for live LV (up to 1 kV) devices.
- Dry and wet cleaning systems for live MV (up to 36 kV)
- Tools for tightening screw joints on live MV (up to 36 kV) devices.

We have also implemented products and technologies awarded at the International Power Industry Trade Fair ENERGATAB, including:

- Method of live working on LV (up to 1 kV) cables and switchgear - the Cup of the President of the Polish Power Transmission and Distribution Organisation - ENERGTAB 2000
- Implementing lot production of tools and equipment for MV (up to 36 kV) live working - the Kazimierz Szpotański Award - ENERGETAB 2003
- Impregnate refilling technology for live MV cable terminations Bronze Medal, ENERGETAB 2004 in cooperation with ZIAD Bielsko-Biała
- Implementing production technology for LV (up to 1 kV) live working insulating tools - the Cup of the Minister of Economy - ENERGATAB 2006
- Implementing production of SECRA insulating safety helmet with integrated face shield The Cup of the Minister of Economy ENERGATAB 2010 and the Award of the Minister of Labour and Social Policy in the 39th Competition to Improve Work Safety Conditions in 2012.

The company have implemented a PN ISO 9001:2009 Quality Management System, HUBIX is also a member of the Technical Committee No. 72 of the Polish Standardization Committee and the Board of the Work Safety Committee

in Electrical Engineering within the Association of Polish Electrical Engineers.

Within the last ten years HUBIX obtained author's certificates for 4 patents and 8 national and European designs for offered products.

We are proud to recommend our latest product - SECRA 2 insulating safety helmet, the first safety helmet in the world to have an integrated Class 2 arc resistant face shield. It was filed as a European, Canadian and US patent. Increased activity on the Polish market also resulted in introduction of many products on the foreign markets, including: Czech Republic, Slovak Republic, Lithuania, Latvia, Russia, Germany, France, Spain, Portugal, Italy, Finland, Greece, Romania, Great Britain, Saudi Arabia, United Arab Emirates, Israel, Slovenia, Croatia.

We hope the information contained in the Product Catalogue will help you choose proper tools and equipment to guarantee the highest quality, usability, and most of all safety of live working. The new layout meets the factual and visual requirements of our Clients.

We hope you will be satisfied with the level of service we provide.

Yours sincerely

Jerzy Nowikow, MSc (Eng)

HUBIX Founder and Chief Executive

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LOW VOLTAGE Tools and equipment for live working up to 1kV

Tools

Equipment

Dry cleaning set

Personal protective equipment and selected equipment for safety working on poles

Sets up to 1kV



on overhead lines



on cable lines and switchgear connecting boxes



INSULATING HOLDER FOR CONNECTORS

IEC 60900:2012

Totally made of insulating material, polyamide with the addition

CLAMP DEVICE FOR SCREW CONNECTORS

IEC 60900:2012

Tool is made of stainless steel. Single insulation layer, orange made of plastisol.







REFERENCE	SIZE	LENGTH	WEIGHT
НС	13mm	210mm	120g





REFERENCE	CROSS SECTION	LENGTH	WIEGHT
H106	35-240mm ²	300mm	525g









HEX. MALE WRENCH No 6

IEC 60900:2012

Insert made of CrV steel. Handle is totally made of insulating material, polyamide with the addition of fiberglass.

RING SPANNER FOR INSULATION PIERCING CONNECTORS

IEC 60900:2012

Insert is made of CrV steel. Handle is totally made of insulating material, polyamide with the addition of fiberglass.





REFERENCE	SIZE	ARM LENGTH	WEIGHT
HI-5*	5mm	160mm	50g
HI-6	6mm	160mm	55g







REFERENCE	SIZE	LENGTH	WEIGHT
HOZ-13	13mm	220mm	120g









INSULATED TORQUE WRENCH 1/2"

IEC 60900:2012

Insulated tool, made of CrV steel. Isolation made of an elastomer and polyamide with the addition of fiberglass. Black handle made of insulating material. Capacity: 7,5 Nm to 55 Nm. Scaling protocol is provided.

REVERSIBLE RATCHET ½" SQUARE DRIVE

IEC 60900:2012

Insulated tool, made of CrV steel. Insulation made of polyamide with the addition of fiberglass. Black handle part made of insulating material. Direction change switch.







REFERENCE	LENGHT	WEIGHT
HD	360mm	740g







REFERENCE	LENGHT	WIEGHT
HG	230mm	665g









CROSS SOCKET WRENCH

IEC 60900:2012

4-socket end, galvanically separated, made of CrV steel. Handle is made of insulating material, polyamide with the addition of fiberglass.

TUBULAR SOCKET WRENCH 1/2"

IEC 60900:2012

Insulated tool, made of CrV steel. Two insulation layers, white and $\,$ orange made of plastisol. Single layer of insulation in the tubular part. Used for loosening or tightening screws in fuse bases. \\





REFERENCE	SIZES OF INSERTS	ARM LENGTH	WEIGHT
HK 6x8x10x12	6x8x10x12mm	150mm	225g
HK 7x9x11x13	7x9x11x13mm	150mm	230g
HK 8x10x12x14	8x10x12x14mm	150mm	235g
HK 8x10x13x17	8x10x13x17mm	150mm	275g
HK 10x13x14x17	10x13x14x17mm	150mm	280g
HK 10x13x17x19	10x13x17x19mm	150mm	290g
HK 13x14x16x17	13x14x16x17mm	150mm	290g
HK 13x16x17x19	13x16x17x19mm	150mm	310g





REFERENCE	SIZE	LENGHT	WIEGHT
HKR-10	10mm	92mm	110g
HKR-13	13mm	92mm	120g
HKR-14	14mm	92mm	125g
HKR-17	17mm	92mm	130g
HKR-19	19mm	92mm	140g

Other sizes on demand.











DRIVE HANDLE "L" ½"

IEC 60900:2012

Insert made of CrV steel. Handle is totally made of insulating material, polyamide with the addition of fiberglass.

DRIVE HANDLE "T" ½"

IEC 60900:2012

Insert made of CrV steel. Handle is totally made of insulating material, polyamide with the addition of fiberglass.





REFERENCE	ARM LENGTH	WEIGHT
HL	230mm	170g







REFERENCE	ARM LENGTH	WEIGHT
нт	115mm	180g









INSULATED EXTENSION BAR 1/2"

IEC 60900:2012

Tool made of CrV steel. Insulation made of polyamide with the addition of fiberglass.







REFERENCE	LENGTH	WEIGHT
HPN-125	135mm	170g
HPN-250	265mm	300g





SHORT SOCKET WRENCH 1/2"

IEC 60900:2012

Insulated tool, made of CrV steel. Insulation made of polyamide with the addition of fiberglass.





REFERENCE	SIZE	LENGTH	WIEGHT
HN-8	8mm	55mm	50g
HN-10	10mm	55mm	55g
HN-11	11mm	55mm	55g
HN-12	12mm	55mm	55g
HN-13	13mm	55mm	60g
HN-14	14mm	55mm	60g
HN-15	15mm	55mm	65g
HN-16	16mm	55mm	70g
HN-17	17mm	55mm	7 5g
HN-18	18mm	55mm	75 g
HN-19	19mm	55mm	80g
HN-22	22mm	55mm	100g
HN-24	24mm	55mm	110g
HN-27	27mm	60mm	160g

SHORT SOCKET WRENCH 1/2"

IEC 60900:2012







REFERENCE	SIZE	LENGTH	WEIGHT
HN-30	30mm	90mm	210g
HN-32	32mm	90mm	245g











LONG SOCKET WRENCH 1/2"

IEC 60900:2012

Insulated tool, made of CrV steel. Insulation made of polyamide with the addition of fiberglass . $\,$





REFERENCE	SIZE	LENGTH	WEIGHT
HNL-8	8mm	92mm	115g
HNL-10	10mm	92mm	125g
HNL-11	11mm	92mm	130g
HNL-12	12mm	92mm	135g
HNL-13	13mm	92mm	135g
HNL-14	14mm	92mm	140g
HNL-15	15mm	92mm	140g
HNL-16	16mm	92mm	145g
HNL-17	17mm	92mm	150g
HNL-18	18mm	92mm	160g
HNL-19	19mm	92mm	165g
HNL-22	22mm	92mm	250g
HNL-24	24mm	92mm	270g
HNL-27	27mm	92mm	350g

LONG SOCKET WRENCH 1/2"

IEC 60900:2012







REFERENCE	SIZE	LENGTH	WEIGHT
HNL-30	30mm	90mm	330g
HNL-32	32mm	90mm	375g











SPECIAL LONG SOCKET WRENCH 1/2"

IEC 60900:2012

Insulated tool, made of CrV steel. Insulation made of polyamide with the addition of fiberglass.

SPECIAL LONG SOCKET WRENCH 1/2"

IEC 60900:2012





REFERENCE	SIZE	LENGTH	WEIGHT
HNLS-8	8mm	92mm	115g
HNLS-10	10mm	92mm	125g
HNLS-11	11mm	92mm	130g
HNLS-12	12mm	92mm	135g
HNLS-13	13mm	92mm	135g
HNLS-14	14mm	92mm	140g
HNLS-15	15mm	92mm	140g
HNLS-16	16mm	92mm	145g
HNLS-17	17mm	92mm	150g
HNLS-18	18mm	92mm	160g
HNLS-19	19mm	92mm	165g
HNLS-22	22mm	92mm	250g
HNLS-24	24mm	92mm	270g
HNLS-27	27mm	92mm	350g





REFERENCE	SIZE	LENGTH	WEIGHT
HNLS-30	30mm	90mm	330g
HNLS-32	32mm	90mm	375g









NUT SPINNER

IEC 60900:2012

Tool made of C45 steel. Insulation made of polyethylene.

ALLEN WRENCH "T"

IEC 60900:2012

Insulated tool, made of CrV steel. Insulation made of polyamide with the addition of fiberglass.





REFERENCE	SIZE	LENGTH	WEIGHT
RWSN 5	5mm	230mm	105g
RWSN 7	7mm	230mm	110g
RWSN 8	8mm	230mm	110g
RWSN 10	10mm	230mm	120g
RWSN 13	13mm	245mm	185g





REFERENCE	SIZE	LENGTH	WEIGHT
HTI-6	6mm	115mm	110g
HTI-8	8mm	115mm	120g









ALLEN SHORT SOCKET WRENCH 1/2"

IEC 60900:2012

Insulated tool, made of CrV steel. Insulation made of polyamide with the addition of fiberglass.

ALLEN SHORT SOCKET WRENCH 1/2"

IEC 60900:2012







REFERENCE	SIZE	LENGTH	WEIGHT
HNI-4	4mm	105mm	75g
HNI-5	5mm	105mm	75g
HNI-6	6mm	105mm	80g
HNI-7 *	7mm	105mm	85g
HNI-8	8mm	105mm	85g
HNI-9 *	9mm	105mm	100g
HNI-10	10mm	105mm	105g

^{* -} Special version.







REFERENCE	SIZE	LENGTH	WEIGHT
HNI-11	11mm	105mm	120g
HNI-12	12mm	105mm	128g
HNI-13	13mm	105mm	145g
HNI-14	14mm	105mm	155g
HNI-17	17mm	105mm	185g







ALLEN LONG SOCKET WRENCH 1/2"

IEC 60900:2012

Insulated tool, made of CrV steel. Insulation made of polyamide with the addition of fiberglass.

ALLEN LONG SOCKET WRENCH 1/2"

IEC 60900:2012





REFERENCE	SIZE	LENGTH	WEIGHT
HNIL-4	4mm	155mm	84g
HNIL-5	5mm	155mm	88g
HNIL-6	6mm	155mm	95g
HNIL-8	8mm	155mm	115g
HNIL-10	10mm	155mm	140g





REFERENCE	SIZE	LENGTH	WEIGHT
HNIL-12	12mm	155mm	185g
HNIL-13	13mm	155mm	210g
HNIL-14	14mm	155mm	240g
HNIL-17 *	17mm	155mm	290g
HNIL-19 *	19mm	155mm	310g

^{* -} Special version.







CABLE WIRES CUTTER

IEC 60900:2012

Two insulation layers, white and orange, made of plastisol. Cutter can be used to cut the live wire (Al, Cu).

RATCHET CABLE WIRES CUTTER

IEC 60900:2012

Two insulation layers, white and orange, made of plastisol. Cutter can be used to cut the live wires (Al, Cu).

Do not cut ACSR and steel!







REFERENCE	MAX. DIAMETER	LENGTH	WEIGHT
HN8N	13mm	240mm	525g

Do not cut ACSR and steel!







REFERENCE	MAX. CROSS- SECTION	LENGTH	WEIGHT
HN9N	300mm ²	380mm	920g







CABLE WIRES CUTTER

IEC 60900:2012

Two insulation layers, white and orange, made of plastisol. Cutter can be used to cut the live wire (Al, Cu).

Do not cut ACSR and steel!





REFERENCE	MAX. DIAMETER	LENGTH	WEIGHT
HN10N	35mm	540mm	1760g



INSULATED KNIFE

IEC 60900:2012

Blade made of stainless steel. Blade cover is made of soft polyethylene. Handle is totally made of polyamide with the addition of fiberglass.

INSULATED STRIPPING KNIFE

IEC 60900:2012

Blade made of stainless steel. Blade cover is made of soft polyethylene. Handle is totally made of polyamide with the addition of fiberglass.







REFERENCE	LENGTH	WEIGHT
ним	200mm	85g



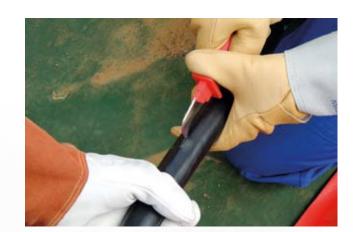


REFERENCE	LENGTH	WEIGHT
HNMS	190mm	95g









CABLE SHEATH CUTTER

IEC 60900:2012

Blade and fence are made of stainless steel. Black part is made of polyamide with the addition fiberglass. Handle is totally made of insulating materials, additionally coated with an insulation layer. Made of plastisol in orange color.





REFERENCE	ADJUSTABLE CUTTING DEPTH	WEIGHT
HPG	0÷5mm	180g





BLOCKING WRENCH

IEC 60900:2012

Insert made of CrV steel. Handle is totally made of insulating material, polyamide with the addition of fiberglass.





REFERENCE	SIZE	ARM LENGTH	WEIGHT
HNS-10	10mm	150mm	160g
HNS-12	12mm	150mm	180g
HNS-13	13mm	150mm	180g
HNS-14	14mm	150mm	180g
HNS-17	17mm	150mm	190g
HNS-19	19mm	150mm	195g
HNS-22	22mm	150mm	205g
HNS-24	24mm	150mm	210g





BLOCKING SPANNER

IEC 60900:2012

Insert made of CrV steel. Handle is totally made of insulating material, polyamide with the addition of fiberglass. Sizes 17 and 19 have a special cut down.





REFERENCE	SIZE	ARM LENGTH	WEIGHT
HOS-10	10mm	115mm	60g
HOS-12	12mm	115mm	65g
HOS-13	13mm	115mm	65g
HOS-14	14mm	115mm	65g
HOS-15 *	15mm	130mm	80g
HOS-16 *	16mm	130mm	85g
HOS-17	17mm	130mm	90g
HOS-18 *	18mm	130mm	120g
HOS-19	19mm	130mm	120g
HOS-22	22mm	155mm	175g
HOS-24	24mm	155mm	135g

^{* -} Insulated tool, made of CrV steel. Two insulation layers, white and orange, made of plastisol.







BLOCKING WRENCH

IEC 60900:2012

Tool is made of CrV. Two insulation layers, white and orange, made of plastisol.

RATCHET WRENCH

IEC 60900:2012

Tool is made of CrV. Two insulation layers, white and orange, made of plastisol.





REFERENCE	SIZE	ARM LENGTH	WEIGHT
HNSC-13	13mm	190mm	320g
HNSC-14	14mm	190mm	325g
HNSC-15	15mm	190mm	330g
HNSC-16	16mm	190mm	340g
HNSC-17	17mm	190mm	340g
HNSC-18	18mm	190mm	345g
HNSC-19	19mm	190mm	350g
HNSC-22	22mm	190mm	355g
HNSC-24	24mm	190mm	360g







REFERENCE	SIZE	LENGTH	WEIGHT
HOG-10	10mm	130mm	55g
HOG-13	13mm	145mm	95g
HOG-14	14mm	160mm	125g
HOG-17	17mm	175mm	160g
HOG-19	19mm	190mm	200g
HOG-24	24mm	220mm	300g

Other sizes on demand.









SINGLE ENDED RING SPANNER

IEC 60900:2012

Tool is made of CrV steel. Handle is totally made of insulating material, polyamide with the addition of fiberglass.







REFERENCE	SIZE	LENGTH	WEIGHT
HO-8	8mm	150mm	30g
HO-10	10mm	160mm	35g
HO-11	11mm	180mm	55g
HO-12	12mm	180mm	60g
HO-13	13mm	180mm	60g
HO-14	14mm	190mm	65g
HO-15	15mm	210mm	85g
HO-16	16mm	210mm	90g
HO-17	17mm	210mm	90g
HO-18	18mm	225mm	120g
HO-19	19mm	225mm	120g
HO-22	22mm	270mm	175g
HO-24	24mm	270mm	185g

SINGLE ENDED RING SPANNER

IEC 60900:2012

Tool is made of CrV steel. Two insulation layers, white and orange, made of plastisol. Single layer of insulation in working head, orange.







SIZE	LENGTH

REFERENCE	SIZE	LENGTH	WEIGHT
HO-21	21mm	270mm	170g
HO-27	27mm	255mm	370g
HO-30	30mm	280mm	425g
HO-32	32mm	310mm	555g







SINGLE HEADED SPANNER

IEC 60900:2012

Tool is made of CrV steel. Two insulation layers, white and orange, made of plastisol. Single layer of insulation in working head, orange.







REFERENCE	SIZE	LENGTH	WEIGHT
HP-7	7mm	90mm	20g
HP-8	8mm	100mm	25g
HP-9	9mm	110mm	35g
HP-10	10mm	115mm	4 5g
HP-11	11mm	120mm	50g
HP-12	12mm	130mm	60g
HP-13	13mm	140mm	75 g
HP-14	14mm	145mm	100g
HP-15	15mm	155mm	105g
HP-16	16mm	165mm	110g
HP-17	17mm	170mm	120g
HP-18	18mm	175mm	130g
HP-19	19mm	180mm	155g
HP-20	20mm	185mm	185g
HP-21	21mm	190mm	200g
HP-22	22mm	195mm	210g
HP-23	23mm	200mm	240g
HP-24	24mm	205mm	265g
HP-25	25mm	215mm	270g
HP-27	27mm	235mm	275g
HP-30	30mm	245mm	480g
HP-32	32mm	275mm	535g





SPECIAL SINGLE HEADED SPANNER

IEC 60900:2012

Tool is made of CrV steel. Two insulation layers, white and orange, made of plastisol.





REFERENCE	SIZE	LENGTH	WEIGHT
HPL-27	27mm	500mm	1000g
HPL-30	30mm	500mm	1000g
HPL-32	32mm	500mm	1000g



INSULATING BRUSH

IEC 60900:2012

Made of natural bristle, handle is made of insulating material.

INSULATING ANGULAR BRUSH

IEC 60900:2012

Made of natural bristle, handle is made of insulating material.





REFERENCE	DIAMETER OF BRISTLE	LENGTH	WEIGHT
HPE-10	10mm	210mm	18g
HPE-18	18mm	240mm	41g





REFERENCE	WIDTH OF BRISTLE	LENGTH	WEIGHT
HPE-25	1" / 25mm	360mm	45g
HPE-39	1,5" / 39mm	360mm	60g
HPE-50	2" / 50mm	360mm	7 5g





INSULATING BRUSH

IEC 60900:2012

Made of natural bristle, handle is made of insulating material





REFERENCE	DIMENSIONS OF BRISTLE	LENGTH	WEIGHT
HPE-100x30	100x30mm	200mm	105g



PLIERS

IEC 60900:2012

Insulated tool, made of CrV steel. Insulation made of polyamide with the addition of fiberglass.



IEC 60900:2012







REFERENCE	LENGTH	WIEGHT
HS-1	200mm	335g







REFERENCE	LENGTH	WIEGHT
HS-1-160/C	160mm	240g
HS-1-180/C	180mm	270g
HS-1-200/C	200mm	320g





CUTTING NIPPER

IEC 60900:2012

Insulated tool, made of CrV steel. Insulation made of polyamide with the addition of fiberglass.

CUTTING NIPPER

IEC 60900:2012







REFERENCE	MAX. CROSS SECTION	LENGHT	WEIGHT
HS-2	10mm²	160mm	220g







REFERENCE	MAX. CROSS SECTION	LENGTH	WEIGHT
HS-2-160/C	10mm²	160mm	225g
HS-2-180/C *	10mm²	180mm	260g

^{* -} special version





WATERPUMP PLIERS

IEC 60900:2012

Insulated tool, made of CrV steel. Two insulation layers, white and orange, made of plastisol.

ADJUSTABLE SPANNER

IEC 60900:2012





REFERENCE	MAX. JAW SPACING	NUMBER OF CLAMPING POSITIONS	MAX. LENGTH	WEIGHT
HS-3	45mm	7	270mm	440g







REFERENCE	MAX. JAW SPACING	LENGTH	WEIGHT
HSZ	28mm	235mm	475g





END CUTTING NIPPER

IEC 60900:2012

Insulated tool, made of CrV steel. Two insulation layers, white and orange, made of plastisol.

INSULATION STRIPPING PLIERS

IEC 60900:2012





REFERENCE	MAX. CROSS SECTION	LENGTH	WEIGHT
HS-4	10mm²	160mm	310g





REFERENCE	CROSS SECTION	LENGTH	WEIGHT
HS-7	0,5 - 10mm²	160mm	190g





ROUND NOSE PLIERS

IEC 60900:2012

Insulated tool, made of CrV steel. Two insulation layers, white and orange, made of plastisol.

TELEPHONE, CURVED PLIERS

IEC 60900:2012





REFERENCE	MAX. CROSS SECTION	LENGTH	WEIGHT
HS-5	10mm²	160mm	150g





REFERENCE	LENGTH	WEIGHT
HS-14	160mm	150g





LONG FLAT NOSED PLIERS

IEC 60900:2012

Insulated tool, made of CrV steel. Two insulation layers, white and orange, made of plastisol.

LONG FLAT NOSED PLIERS WITH INSULATED HEAD

IEC 60900:2012





REFERENCE	LENGTH	WEIGHT
HS-6	200mm	210g





REFERENCE	LENGTH	WEIGHT
HS-12	200mm	240g





INSULATING PLIERS

IEC 60900:2012

Totally made of insulating material – fiber glass reinforced polyamide. Tool steel insert in jaws, for wire holding.

INSULATING LONG-NOSE PLIERS

IEC 60900:2012

Totally made of insulating material – fiber glass reinforced polyamide











REFERENCE	LENGTH	WEIGHT
HS-9	200mm	120g





TELEPHONE PLIERS WITH INSULATED WORKING HEAD

IEC 60900:2012

Insulated tool, made of CrV steel. Two insulation layers, white and orange, made of plastisol.

TELEPHONE PLIERS

IEC 60900:2012











REFERENCE	LENGTH	WEIGHT
HS-13	200mm	190g





PLIERS WITH INSULATED HEAD

IEC 60900:2012





REFERENCE	LENGTH	WEIGHT
HS-10	180mm	290g



INSULATED HAMMER

IEC 60900:2012

Insert made of improved steel 40HM-N. Tool is totally made of polyamide with the addition of fiberglass.

HACK-SAW

IEC 60900:2012

Frame is made of polyamide with the addition of fiberglass.





REFERENCE	LENGTH	WEIGHT
HM-3	300mm	610g







REFERENCE	LENGTH	DŁUGOŚĆ BRZESZCZOTU	WEIGHT
HR	460mm	310mm	650g









SCREWDRIVERS

IEC 60900:2012

Insulated tool, made of CrV steel. Single layer of polyethylene insulation.

BENT SCREWDRIVER

IEC 60900:2012





REFERENCE	LENGHT	WEIGHT	
RWWE 0,8x4x100	180mm	40g	-
RWWE 1,0x5,5x125	220mm	65g	-
RWWE 1,2x6,5x125	230mm	8 5g	-
RWWE 1,6x8x150	250mm	140g	-
RWWE PH 0x60	130mm	20g	+
RWWE PH 1x75	170mm	55g	+
RWWE PH 2x100	200mm	80g	+
RWWE PH 3x150	250mm	140g	+





REFERENCE	SIZE	ARM LENGHT	WEIGHT	
RWWS	8mm	110mm	155g	-







INSULATED FILE

IEC 60900:2012

Made of tool steel. Two insulation layers, white and orange, made of plastisol.





REFERENCE	LENGTH	WEIGHT
HPI	155mm	115g





LOW VOLTAGE Tools and equipment for live working up to 1kV

Tools

Equipment

Dry cleaning set Personal protective equipment and selected equipment for safety working on poles Sets up to 1kV



on overhead lines



on cable lines and switchgear connecting boxes



UNIVERSAL INSULATING STICK

IEC 60832-1:2010

Made of fiberglass-epoxy foam filled tube in orange color. Two universal adaptors for tools and equipment to be attached.

WIRE CUTTER STICK

IEC 60832-1:2010

Made of fiberglass-epoxy foam filled tube in orange color. Steel cutting head, movable rod made of fiberglass. For copper and aluminium wires 16 to 95 mm2 and ACSR wires with steel core up to 3 mm diameter.





REFERENCE	DIAMETER	LENGTH	WEIGHT
H010	32mm	2100mm	1200g





REFERENCE	DIAMETER	LENGTH	WEIGHT
H011	36mm	2100mm	3500g









HOOK STICK

IEC 60832-1:2010

Made of fiberglass-epoxy foam filled tube in orange color. Hook operated by rod made of fiberglass and ratchet gear.

WIRES HOLDER

Clamps made of aluminum alloy connected to a polypropylene rope.





REFERENCE	DIAMETER	LENGTH	WEIGHT
H012	32mm	2100mm	2000g



REFERENCE	WIRES CROSS-SECTION	ROPE DIAMETER	ROPE LENGTH	WEIGHT
H024	16mm² - 95mm²	6mm	1200mm	590g









PRUNING SAW straight

IEC 60832-2:2010

Can be attached to the universal insulating stick (see H010). Used for the trimming of tree branches near the overhead lines.

PRUNING SAW curved

IEC 60832-2:2010

Can be attached to the universal insulating stick (see H010). Used for the trimming of tree branches near the overhead lines.





SYMBOL	LENGTH OF CUTTING EDGE	WEIGHT
H013	350mm	150g





SYMBOL	LENGTH OF CUTTING EDGE	WEIGHT
H014	350mm	140g







PRUNNING SAW

IEC 60832-2:2010

Can be attached to the universal insulating stick (see H010). Used for the trimming of tree branches near the overhead lines.







REFERENCE	LENGTH OF CUTTING EDGE	WEIGHT
H014A	400mm	490g





CONDUCTOR CLEANING BRUSH

IEC 60832-2:2010

Can be attached to the universal insulating stick (see H010). Used to clean wires (up to $95\,\mathrm{mm}^2$).

SPIRAL HOOK

IEC 60832-2:2010





REFERENCE	WIDTH	WEIGHT
H015	65mm	170g





REFERENCE	HOOK DIAMETER	WEIGHT
H016	10mm	130g









COME ALONG CLAMP (BARE CONDUCTOR)

For tensioning overhead line spans of single wires. Made of steel, anti-corrosion coating.

COME ALONG CLAMP (INSULATED CONDUCTOR)

For tensioning overhead line spans of four core cables. Made of cast iron, anti-corrosion coating.



REFERENCE	WIRES CROSS-SECTION	MAX. LOAD	WEIGHT
H022	16-95mm²	1500daN	1370g



REFERENCE	WIRES CROSS-SECTION	MAX. LOAD	WEIGHT
H023	2x25mm² - 4x95mm²	1200daN	2240g









ROPE BLOCKS

Two blocks made of fiberglass-reinforced polyamide in red color with polypropylene rope. Blocs equipped with insulated hooks made of steel:

- rope lenght 25 m
- used for tensioning wires on overhead lines

SLING (double-eye type)

Made of braided rope, eyes on both ends. Used for tensioning wires on overhead lines.



SYMBOL	ROPE DIAMETER	MAX. LOAD	WEIGHT
H017-250	10mm	250daN	3100g
H017-500	10mm	500daN	3100g



SYMBOL	ROPE DIAMETER	LENGTH	MAX. LOAD	WEIGHT
H018-6	16mm	600mm	1000daN	120g
H018-10	16mm	1000mm	1000daN	155g









ROPE-SNUBBING BRACKET

Made of nylon tape and an aluminum alloy corps with a screw. Used to take the rope tension for rope block and transport block.



REFERENCE	LENGTH OF TAPE	TENSION FORCE	WEIGHT
H020	1000mm	max 80daN	1760g





TRANSPORT BAG long

Bag made of polyester fabric, impregnated, reinforced webbing. Used for wires covers transportation.

TRANSPORT BAG short

Bag made of polyester fabric, impregnated, reinforced webbing. Used for tools and equipment transportation.



REFERENCE	DEPTH	DIAMETER	WEIGHT
H035	1250mm	230mm	750g



REFERENCE	DEPTH	DIAMETER	WEIGHT
H036	400mm	300mm	530g









TRANSPORT BLOCK

Block made of fiberglass-reinforced polyamide in red color with polypropylene rope. Block equipped with insulated hook made of steel.

Rope lenght 20 m.

Used for tools and equipment transportation.

INSULATING TRANSPORT HOOK TYPE "T"

IEC 60900:2012

Totally made of insulating material, polyamide with the addition of fibreglass. Used with the transport block H019.



REFERENCE	DIAMETER ROPE	MAX. LOAD	MAX. LOAD OF TRANSPORT HOOK	WEIGHT
H019	10mm	100daN	50daN	1600g



REFERENCE	MAX. LOAD	HOLES DIAMETER	WEIGHT
H038-T	50daN	16mm	45g









STRAP BINDER WITH RINGS

Made of nylon tape with steel rings. Designed for hanging transport bags, sticks and other equipment.

INSULATING TRANSPORT HOOK TYPE "S"IEC 60900:2012

Totally made of insulating material, polyamide with the addition of fibreglass.



SYMBOL	LENGTH OF TAPE	WEIGHT
H021	900mm	1000g





REFERENCE	MAX. LOAD	WEIGHT
H0-38S	50daN	90g









SHACKLE

SWIVEL

Made of hard steel, anti-corrosion coating.

Made of stainless steel. Used during uncoiling wires or cables.



REFERENCE	BOLT DIAMETER	MAX. LOAD	WEIGHT
H026/8	8mm	250daN	53g
H026/10	10mm	400daN	95g
H026/12	12mm	800daN	170g





REFERENCE	MAX. LOAD	WEIGHT
H041	1350daN	440g





LINE HOSE TYPE " Ω "

IEC 61479:2001

Flexible cover made of elastomer in red or black colors.

LINE HOSE TYPE "S"

IEC 61479:2001

Flexible cover made of elastomer in red color.





REFERENCE	CLASS	INT. DIAMETER	LENGTH	WEIGHT
H027	0	16mm ±2mm	1375mm * ±15mm	300g

st - or other on customers` request





REFERENCE	CLASS	INT. DIAMETER	LENGTH	WEIGHT
H028	0	16mm ±2mm	1375mm * ±15mm	240g

st - or other on customers` request







LINE HOSE TYPE "S" INSTALLER

IEC 60900:2012

Totally made of insulating material, polyamide with the addition of fiberglass.

INSULATING CONDUCTOR PULLING GRIP

Made of polyamide for cables AsXSn – $2x16mm^2 \div 4x70mm^2$.





REFERENCE	WIRE CROSS SECTION	WEIGHT
H0-28P	16-95mm ²	150g



SYMBOL	LENGTH	MAX. LOAD	WEIGHT
H0CN 16.35	1300mm ±15mm	1000daN	140g







INSULATING END CAPS

IEC 61479:2001

End caps H019-15,20,30,40 made of an EVA copolymer in red. End caps H019-60,80 made of polyethylene in red.

FLEXIBLE INSULATING WIRE SLEEVES

IEC 61479:2001

Made of transparent PVC. Length 25m.

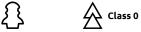




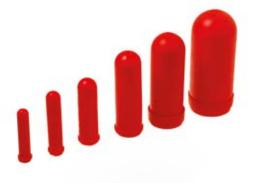


REFERENCE	EXT. DIAMETER	LENGTH	WEIGHT
H029-15	19mm	96mm	8 g
H029-20	24mm	106mm	10g
H029-30	33mm	124mm	20g
H029-40	49mm	158mm	40g
H029-60	62mm	175mm	80g
H029-80	83mm	195mm	150g





REFERENCE	DIAMETER
H030-10	10mm
H030-16	16mm









INSULATING FOIL

IEC 61479:2001

Two layers made of PVC in red color.

Foil length: 12.5m. Roll contains: 16.25 m².

INSULATING TAPE

IEC 61479:2001

Two layers made of PVC in red color. Tape length: 25m.





REFERENCE	WIDTH	THICKNESS
H032	1300mm	0,3mm





REFERENCE	WIDTH	THICKNESS
H033	100mm	0,3mm









FLEXIBLE FUSE COVERS

IEC 61479:2001

Flexible cover made of elastomer in red color.

RIGID FUSE BASE COVERS

EN 61229:1995/A2:2002

Rigid cover made of polyamide in red.





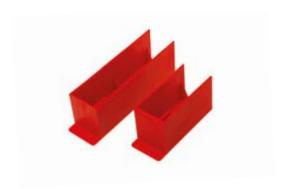
REFERENCE	CLASS	THICKNESS	LENGTH	WEIGHT
H053	0	2mm	345mm	150g
H053M	0	2mm	195mm	35g





REFERENCE	CLASS	LENGTH	WEIGHT
H054-D	0	190mm	150g
H054-K	0	120mm	100g









FUSE HOLDER WITH PROTECTIVE SLEEVE

Used with NH00, NH1 and NH2 fuses.





REFERENCE	SLEEVE LENGTH	WEIGHT
H066	350mm	410g





BUS BAR INSULATING COVER

IEC 61479:2001

Flexible cover made of elastomer in red color.

NEUTRAL BUS BAR INSULATING COVER

IEC 61479:2001

Flexible cover made of elastomer in red color.





REFERENCE	CLASS	THICKNESS	LENGHT	WEIGHT
H055	0	2mm	450mm*	90g

^{* (}or other on customers' request)





REFERENCE	CLASS	THICKNESS	LENGHT	WEIGHT
H073	0	2mm	360mm	180g







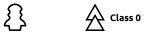


INSULATOR COVER

IEC 61479:2001

Flexible cover made of elastomer in red color.





REFERENCE	CLASS	THICKNESS	LENGTH	HEIGHT	DIAMETER	WEIGHT
H078	0	2mm	335mm	180mm	120mm	415g





INSULATING CLAMP

IEC 60900:2012

Made of insulating material - fiberglass reinforced polyamide. Designed to fasten covers and blankets.

INSULATING CLAMP MAX

IEC 60900:2012

Made of insulating material – fiberglass reinforced polyamide. Designed to fasten covers and blankets.







REFERENCE	MAX. JAW SPACING	LENGTH	WEIGHT
H034	40mm	165mm	60g







REFERENCE	MAX. JAW SPACING	LENGTH	WEIGHT
H034M	50mm	180mm	70g









WEDGES

IEC 60900:2012

Totally made of insulating material, polyamide with the addition of fibreglass.



Totally made of insulating material, polyamide with the addition of fibreglass.





REFERENCE	DIAMETER LINKS	LENGTH OF LINKS	WEIGHT
H039	4mm	1000mm	130g





REFERENCE	LENGTH	WIDTH	WEIGHT
H079	170mm	20mm	35g









INSULATING BLANKET

IEC 61112:2009

Made of synthetic rubber, thickness: 1.3 mm \pm 0.2 mm.

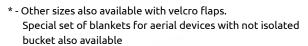
Weight: 1250g/m² Tensile strength: 12MPa







STANDARD VERSION				
reference	class	dimensions		
H031-4/3	0	400x300mm		
H031-4/3-R	0	400x300mm	velcro flap	
H031-5/4	0	500x400mm		
H031-5/4-R	0	500x400mm	velcro flap	
H031-6/4	0	600x400mm		
H031-6/5	0	600x500mm		
H031-8/6	0	800x600mm		
H031-9/5	0	900x500mm		
H031-10/8	0	1000x800mm		
	SPECIAL VER	SION		
H031-2,3/1,3	0	230x130mm		
H031-4/4	0	400x400mm		
H031-6/3	0	600x300mm		
H031-6/3-R	0	600x300mm	velcro flap	
H031-6/4-R	0	600x400mm	velcro flap	
H031-6/6	0	600x600mm		
H031-10/8-R	0	1000x800mm	velcro flap	
H031-12/12	0	1200x1200mm		









NSULATING MATTING

IEC 61111:2009

Made of rubber, ribbed.





REFERENCE	CLASS	THICKNESS	DIMENSIONS	WEIGHT
H052	0	3mm ±0,2mm	1000x2000mm *	~7kg
H052-KL2	2	6mm ±0,3mm	1000x8000mm *	~60kg

^{* -} standard 1000mm width / length on demand a bag to transport matting on demand.





EQUIPMENT FOR THE WORKPLACE MARKING - BOUNDARY POST

Made of PVC pipe to be stuck in the ground or a special base (see H070), to be used with warning board (see H042-T) and chain (see H043). Anti-corrosion protection rod.

EQUIPMENT FOR THE WORKPLACE MARKING - WARNING BOARD

Made of ABS plastic.



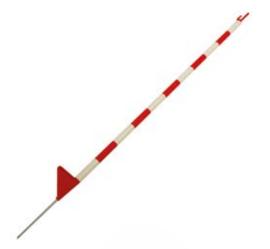


REFERENCE	THE DIAMETER OF THE ROD	LENGTH	WEIGHT
H042-S	8mm	1500mm	400g





REFERENCE	DIMENSIONS	WEIGHT
H042-T	280x200mm	185g





EQUIPMENT FOR THE WORKPLACE MARKING - BASE

Made of polyethylene, filled with concrete mass. To be used as base for the boundary post (see H042-S).

EQUIPMENT FOR THE WORKPLACE MARKING – CHAIN

Made of polypropylene in white and red color.





REFERENCE	SIDE LENGTH	WEIGHT
Н070	30cm	2,6kg





SYMBOL	LENGHT	WEIGHT
H043	25m	1660g









SINGLE POLE PORTABLE SHUNT DEVICE

To be used as a one-phase bypass for live connections in Low Voltage Systems (repairs, replacement).







reference	number of inputs	number of outputs	standard cables
PRB-1F 1/1	1	1	H100/200K 2
PRB-1F 1/2	1	2	H100/100K 1 H100/200K 2
PRB-1F 1/3	1	3	H100100K 1 H100/200K 3

Other set of cables on demand (see CONNECTION CABLES page. 231).



PRB-1F 1/1

rated operating voltage	690V/AC
	250V/DC
rated insulation voltage	500V/AC
rated impulse withstand voltage	4kV
max. fuse link	FH1 250A
weight (whitout fuse links)	9,2kg
ambient temperature	-25°C , +55°C
mechanical strength	1400cycles
casing	OTU 26/40
external dimensions	260x400x250mm
degree of protection	IP44



PRB-1F 1 /2



PRB-1F 1/3

MULTI-POLE PORTABLE SHUNT DEVICE

To be used as three-phase bypass for live connections in Low Voltage Systems (repairs, replacement).

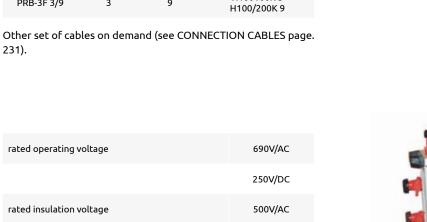




degree of protection



REFERENCE	NUMBER OF INPUTS	NUMBER OF OUTPUTS	STANDARD CABLES
PRB-3F 3/3	3	3	H100/200K 6
PRB-3F 3/6	3	6	H100/100K 3 H100/200K 6
PRB-3F 3/9	3	9	H100100K 3 H100/200K 9



IP44

rated insulation voltage	500V/AC
rated impulse withstand voltage	4kV
max. fuse link	FH1 250A
weight (whitout fuse links)	13,6kg
ambient temperature	-25°C , +55°C
mechanical strength	1400cycles
casing	OTU 40/40
external dimensions	400x400x250mm



PRB-3F 3/3



PRB-3F 3/6



PRB-3F 3/9

SINGLE POLE PORTABLE SHUNT DEVICE

To be used as one-phase bypass for live connections in Low Voltage Systems (repairs, replacement). Can be attached to the pole. Delivered with connection cables H100/200P (2 pieces) and H100/100G (2 pieces). Allows connecting bare conductors to insulated ones. Allows to disconnect charged conductors in a safe way.

NEW





REFERENCE	NUMBER OF INPUTS	NUMBER OF OUTPUTS
PRB-B1H	1	1
rated operating voltage	2	690V/AC
rated impulse withstan	4kV	
max. fuse link	NH 000 160A	
weight (whitout fuse lin	1,1kg	
ambient temperature		-25°, +55°C
mechanical strength	2000cycles	
casing	5100667P	
external dimensions	170x90x65mm	





CONNECTION SHUNT CABLES

Connection cables SILICOUL 1,1kV to be used with portable shunt devices PRB.

temperature range for continuous operation -60°C do +180°C,

- temporary maximum temperature +220°C,
- resistance to thermal shock and UV,
- resistance to aging,
- resistance to most impregnation varnishes.





REFERENCE	CABLES	USED RANGE	RATED CURRENT	CURRENT HALF-HOUR	CABLES CROSS-SECTION	LENGTH OF CABLES
H100/200S	with bus bar clamp	1÷20mm	200A	250A	35mm²	2m
H100/100K	with end of the cable clamp	10÷70mm²	100A	160A	25mm²	2m
H100/200K		50÷240mm²	200A	250A	35mm²	2m
H100/200P	with perforation clamp	16÷240mm²	200A	_	25mm²	1,5 / 2m*
H100/100G	with bare wire clamp	16 ÷ 95mm²	100A	_	16mm²	1,5m

^{* - 1,5}m to switch PRB-B1H



INSULATED SHUNT

Flexible insulated copper cable SILICOUL 1.1 kV, with clamps for bare conductors. Long-pass load: 100A.



REFERENCE	USED RANGE	CABLES CROSS- -SECTION		WEIGHT
В1-Н	16 – 95mm²	16mm²	2,8m	1700g





INSULATED HYDRAULIC CRIMPING DEVICE

- Device with hydraulic foot-operated lever.
- crimping head type C, connected to the pump with insulating hose $% \left(\mathbf{r}\right) =\left(\mathbf{r}\right)$
- quick hose release system
- overload valve (set pressure 600 bar max)
- pressure gauge (range 0 to 1000bar)
- electrically insulating oil (class 1).
- pressure line length: 3m (or other on request)
- equipment:
- 1. crimping dies: 16, 25, 35, 50, 70, 95, 120, 150, 185, 240 i 300 mm²
- Transport bag or box

MANUAL INSULATED HYDRAULIC CRIMPING TOOL

- Manually operated
- crimping head type C
- electrical insulating oil (class 1).
- equipment:
- 1. crimping dies: 16, 25, 35, 50, 70, 95, 120, 150, 185, 240 i 300 $\,\mathrm{mm^2}$
- Transport bag or box







REFERENCE	RANGE OF WORK	WEIGHT
PHI	16÷300mm²	14,3kg





REFERENCE	RANGE OF WORK	WEIGHT
PHIR	16÷300mm²	5,5kg





TARPAULIN SHEET FOR TOOLS AND EQUIPMENT

Made of impregnated polyester fabric.

EMERGENCY SHORT CIRCUIT SET

Polypropylene rope with ground probe. Rope is placed in bag in a special way ,it allows rope to be ejected when the bag is thrown over the conductors.





RFERENCE	DIMENSION	WEIGHT
H037	1500x2700mm	1,6kg



REFERENCE	ROPE DIAMETER	ROPE LENGTH	WEIGHT
H051	10mm	25m	2,6kg





LOW VOLTAGE Tools and equipment for live working up to 1kV

Tools Equipment

Dry cleaning set

Personal protective equipment and selected equipment for safety working on poles ${\sf Sets\ up\ to\ 1kV}$



on cable lines and switchgear connecting boxes



THE VACUUM CLEANER WITH HOSE

Protection class II. Supplied in a carry bag.



REFERENCE	POWER SUPPLY	POWER INPUT	VACCUM	AIR FLOW	CONTAINER CAPACITY	WEIGHT
SE 61	1/230/50 ~/V/Hz	1300W	180mbar	3600 l/min	20l	6kg



See sets 550, 551, 555: page 461-463

SERVICE SOCKET WITH CLAMPS

Designed to connect electrical devices with voltage 230V, allowing to carry out maintenance work in areas where access to a stationary socket contact is difficult. Equipped with three clamps for connecting devices class I or II (vacuum cleaners, power tools, etc.) to the elements of the cable connector panel. Supplied in a carry bag.



REFERENCE	FUSE	CABLE CROSS-SECTION	LENGTH	WEIGHT
H0-ZK	B 16A	4mm²	1,5m	1,7kg



CONICAL NIPPLE

IEC 60900:2012

Made of polyamide, allows to connect a vacuum cleaner suction hose on one side and the suction tube on the other.

INSULATING SUCTION TUBE

IEC 60900:2012

Made of polycarbonate, polyamide threaded end for nozzle and brush connection.





REFERENCE	LENGTH	EXT. DIAMETER	WEIGHT
H091-27/1	95mm	40mm	45g





REFERENCE	LENGTH	EXT. DIAMETER	INT. DIAMETER	WEIGHT
H091-04/1	200mm	40mm	36mm	120g





CIRCULAR SMALL BRUSH

IEC 60900:2012

Made of polyamide and natural bristle.

RECTANGULAR SMALL BRUSH

IEC 60900:2012

Made of polyamide and natural bristle.







REFERENCE	LENGTH	DIAMETER	WEIGHT
H091-07/1	210mm	65mm	110g





REFERENCE	LENGTH	BRISTLE DIMENSIONS	WEIGHT
H091-09/1	140mm	40x60mm	80g





NARROW SUCTION NOZZLE

IEC 60900:2012

Made of polyamide.

ANGULAR SUCTION NOZZLE

IEC 60900:2012

Made of polyamide and PVC.







REFERENCE	LENGTH	WIDTH	WEIGHT
H091-11/1	230mm	30mm	75 g





REFERENCE	LENGTH	WIDTH	ANGLE	WEIGHT
H091-26/1	230mm	30mm	25°	70g





SUCTION NOZZLE WITH WIDE BRISTLE

IEC 60900:2012

Made of polyamide and natural bristle.

SUCTION NOZZLE WITH NARROW BRISTLE

IEC 60900:2012

Made of polyamide and natural bristle.





REFERENCE	LENGTH	BRISTLE LENGTH	WEIGHT
H091-22/1	270mm	25mm	80g





REFERENCE	LENGTH	BRISTLE LENGTH	WEIGHT
H091-23/1	280mm	30mm	80g





FLAT SUCTION NOZZLE WITH BRISTLE

IEC 60900:2012

REPLACEABLE BRUSH FOR H091-28/1

IEC 60900:2012

Made of polyamide and natural bristle.

Made of polyamide and natural bristle.







REFERENCE	LENGTH (WITHOUT BRISTLE)	WIDTH	WEIGHT
H091-28/1	235mm	38mm	95g





REFERENCE	BRISTLE LENGTH	BRISTLE WIDTH	WEIGHT
H091-28/1P	30mm	40mm	17g





INSULATING BRUSH

IEC 60900:2012

Made of natural bristle, handle is made of insulating material.

INSULATING ANGULAR BRUSH

IEC 60900:2012

Made of natural bristle, handle is made of insulating material.





REFERENCE	BRISTLE DIAMETER	LENGTH	WEIGHT
HPE-10	10mm	210mm	18g
HPE-18	18mm	240mm	41 g





REFERENCE	BRISTLE WIDTH	LENGTH	WEIGHT
HPE-25	1" / 25mm	360mm	45g





SET CLEANING SMALL BRUSH

Made of fiber glass rod, polyamide and natural bristle. Brush is to be used only for cleaning the internal surfaces of the suction tube.

Do not clean live elements.

REFERENCE	LENGTH	WEIGHT
H091-16/1	300mm	110g



LOW VOLTAGE Tools and equipment for live working up to 1kV

Tools Equipment Dry cleaning set

Personal protective equipment and selected equipment for safety working on poles

Sets up to 1kV



SAFETY HARNESS

Reference CA121Q

Full body harness suitable for intensive use and long term work in supported position.

Safety suspenders equipped with automatic buckles.

- Large, back attachment buckle
- Extension of back attachment point available as an option
- Snap hook for front attachment point in set
- Revolving belt with wide, ergonomic pad
- Two lateral buckles for work in supported position
- Hip belt fit out with five tool buckles for a tool bag, tools or belt for work in suspended position
- Full adjustment of thigh, shoulder straps and hip belt



Safety belt for work in supported position.

- Automatic buckle
- Revolving
- Two lateral buckles for work in supported position
- Hip belt fit out with five tool buckles for a tool bag or tools Universal size

















POLE CLIMBERS

Reference BE 601B

To climb on a utility poles. Made of steel, rubber and natural leather. Max size 220mm.









SHOCK ABSORBER ABW-L WITH LINE

Reference CE201 R GG

- Shock absorber made of polyamide webbing by wove technique with additional protecting webbing
- Permanently connected with lanyard made of twisted rope Ø 14mm
- Aluminum buckle in version with adjustable lanyard
- Total length adjustable type: to 1.9m
- With snap hooks: 1xAJ510/1xAJ510









MANUBLOK WITH ROPE

Reference AF775/2,5m H-1

Lanyard with two functions: work positioning lanyard with rope $length\ regulator\ and\ safety\ lanyard\ for\ limited\ the\ range\ of\ move.$

- Positioning devices slides on twisted rope Ø14mm in both directions
- Available length of lanyard: from 2 to 40m
- Positioning devices made of galvanized steel
- Equipped with AJ560 snap hook

MANUSTOP WITH ROPE

Reference AF764/2,5m

Lanyard with two functions: work positioning lanyard with rope length regulator and safety lanyard for limited the range of move.

- Positioning devices slides on twisted rope Ø16mm in both directions
- Positioning devices made of galvanized steel

















INSULATING GLOVES

IEC 60903:2002 +AC1:2003 + AC2:2005

Made of flexible rubber. Thickness of 00 class gloves doesn`t exceeding 0.5 mm.

GLOVE BAG

Made of impregnated polyester fabric, resistant to mechanical damage. For protection and proper storage of insulating gloves, protective leather gloves and cotton gloves.











REFERENCE	CLASS	CODE	TEST VOLTAGE	MAX. USED. VOLTAGE [AC]	SIZE
H044-N9		BOU-E36Y	2500 V	500 V	9
H044-N10	00				10
H044-N11	00				11
H044-N12 *					12
H044-20-N10	2	YOU-E36Y	20000 V	17000 V	10
H044-20-N11					11

REFERENCE	DIMENSION	WEIGHT
H047	400x200mm	120g

^{* -} special version





LEATHER PROTECTION GLOVE

EN 388:2003

Hand protecting part is made of a soft, flexible goatskin in natural color, cuff made of cow leather in brown colour.

COTTON GLOVE

100% cotton made. Absorb moisture and provide protection against excessive sweating of hands.







REFE- RENCE	RESI- STANCE TO ABRA- SION	RESI- STANCE TO CUTT	RESI- STANCE TO TEAR	RESI- STANCE TO PUNC- TURE	DEXTE- RITY	SIZE
H045/D	2	1	1	1	5 (5.2 / EN 420)	9,10,11,12 *
H045/C	3	1	2	1	3 (5.2 / EN 420)	9,10,11,12 *

^{* -} Size 12 on request.



REFERENCE	SIZE
H046	universal







SAFETY SPECTACLES

EN 166:2001

KNEE PADS

Sunglare lens, 5-3.1 UV filter. Low energy impact resistance.

Made of artificial leather, soft felt inside.





REFERENCE	OPTICAL CLASS	WEIGHT
H049	1	30g

REFERENCE	WEIGHT (2 PCS.)
H103	170g







ELECTRICALLY INSULATING HELMET SECRA WITH FACE SHIELD

EN 397:2012 EN 50365:2002 EN 166:2001 GS-ET 29:2010 Directive 89/686/EEC

reference H058S









4kA/0,5s 3cal/cm²

Characteristics

Helmet:

- Stroke absorption after conditioning in temperatures of (-30°C, +50°C)
- Resistance to penetration after conditioning in temperatures of (-30°C, +50°C)
- Protection against molten metal splash (MM)
- Protection against lateral deformations (LD)
- Protection against electric shock (class 0) 1000V AC, 1500V DC
- -Adjustment range of head circumference 53-63cm



Helmet is available in colors: white, yellow, red and blue. Others colours can be made for demand – please contact with us. Helmet has an in-use life of up to 60 months.



Face shield:

- Optical powers, light transmission factor, luminance factor of dispersed light – optical class 1
- Protection against UV radiation (level of protection 2-1,2)
- Protection against thermal hazards of an electric arc class 1 - VLT factor >75% class 0
- Stroke absorption of average energy (speed of stroke up to 120m/s -mass of the ball 0,86g) (B)
- Protection against liquid drop and splash (3)
- Protection against molten metal and hot solid substances (9)
- Resistance to damage by fine particles (K)
- Resistance to fogging (N)

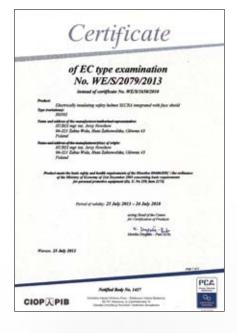
Protection against thermal hazards of an electric arc (BOX TEST 4kA/0,5s).

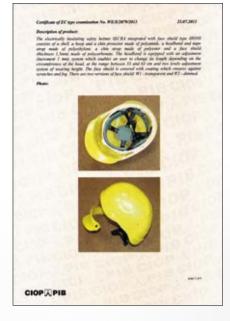
Spare parts:

- Front sweatband	[H058S/PC]
- Rear sweatband	[H058S/PT]
- Chinstrap with safety catches	[H058S/PS]

Additional equipment:

- Storage and transport bag	[H058S/WR]
- Visor cleaning cloth	[H058S/CL]
- Head light	[H058S/LT]







ELECTRICALLY INSULATING HELMET SECRA WITH FACE SHIELD class 2

EN 397:2012 EN 50365:2002 EN 166:2001 GS-FT 29:2011 Directive 89/686/EEC

Reference H058S-2

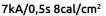








class 0

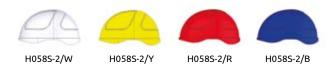


NEW

Characteristics

Helmet:

- Stroke absorption after conditioning in temperatures of (-30°C, +50°C)
- Resistance to penetration after conditioning in temperatures of (-30°C, +50°C)
- Protection against molten metal splash (MM)
- Protection against lateral deformations (LD)
- Protection against electric shock (class 0) 1000V AC, 1500V DC
- -Adjustment range of head circumference 53-63cm



Helmet is available in colors: white, yellow, red and blue. Others colours can be made for demand – please contact with us. Helmet has an in-use life of up to 48 months.



Face shield:

- Optical powers, light transmission factor, luminance factor of dispersed light - optical class 1
- Protection against UV radiation (level of protection 2C-1,2)
- Protection against thermal hazards of an electric arc
- VLT factor >75%
- Stroke absorption of average energy (speed of stroke up to 120m/s -mass of the ball 0,86g) (B)
- Protection against liquid drop and splash (3)
- Protection against molten metal and hot solid substances (9)
- Resistance to fogging (N)

Protection against thermal hazards of an electric arc (BOX TEST 7kA/0,5s).

Spare parts:

- Front sweatband	[H058S/PC]
- Rear sweatband	[H058S/PT]
- Chinstrap with safety catches	[H058S/PS]

Additional equipment:

- Storage and transport bag	[H058S/WR]
- Visor cleaning cloth	[H058S/CL]
- Head light	[H058S/LT]







Tools and equipment for live working up to 1kV

LOW VOLTAGE Tools and equipment for live working up to 1kV

Tools

Equipment

Dry cleaning set

Personal protective equipment and selected equipment for safety working on poles

Sets up to 1kV

Optimal set ZST 100

Tools, equipment and personal protective equipment for live working on overhead lines with bare or insulated conductors up to 1kV.

	EQUIPMENT		
#	product name	reference	quantity
1	Universal insulating stick + cover	H010	1 pc.
2	Wire cutter stick + cover	H011	1 pc.
3	Hook stick + cover	H012	1 pc.
4	Pruning saw straight	H013	1 pc.
5	Pruning saw curved	H014	1 pc.
6	Conductor cleaning brush	H015	1 pc.
7	Spiral hook	H016	1 pc.
8	Rope block	H017-250	1 pc.
9	Sling 1000mm	H018-10	1 pc.
10	Sling 600 mm	H018-6	1 pc.
11	Transport block	H019	1 pc.
12	Rope-snubbing bracket	H020	1 pc.
13	Strap binder with rings	H021	1 pc.
14	Come along clamp (bare conductor)	H022	1 pc.
15	Come along clamp (insulated conductor)	H023	1 pc.
16	Wires holder	H024	1 pc.
17	Shackle	H026	3 pcs.
18	Single pole portable shunt device + cables	PRB-B1H	1 set
19	Line hose type " Ω "	H027	30 pcs.
20	Line hose type "S"	H028	4 pcs.
21	Line hose type "S" installer	H028-P	1 pc.
22	Insulating end caps φ15mm	H029-15	10 pcs.
23	Insulating end caps φ20mm	H029-20	10 pcs.
24	Insulating end caps φ30mm	H029-30	10 pcs.
25	Flexible insulating wire sleeves ϕ 10mm	H030-10	1 roll
26	Flexible insulating wire sleeves ϕ 16mm	H030-16	1 roll
27	Insulating blanket 400x300mm	H031-4/3	8 pcs.
28	Insulating blanket 500x400mm	H031-5/4	8 pcs.
29	Insulator cover	H078	12 pcs.
30	Insulating foil	H032	1 roll
31	Insulating tape	H033	1 roll
32	Insulating clamp	H034	45 pcs.
33	Transport bag (long)	H035	1 pc.
34	Transport bag (short)	H036	2 pcs.
35	Tarpaulin sheet for tools and equipment	H037	1 pc.
36	Insulating transport hook type "S"	H038-S	4 pcs.
37	Wedges	H039	1 pc.
38	Insulating conductor pulling grip	H0CN 16.35	1 pc.
39	Swivel	H041	1 pc.
40	Equipment for the workplace marking - boundary post	H042-S	4 pcs.
41	Equipment for the workplace marking - warning board	H042-T	4 pcs.
42	Equipment for the workplace marking - chain	H043	1 set
48	Digital clamp meter with insulation tester unit	266/261	1 pc.
49	Emergency short circuit set	H051	1 pc.

Optimal set ZST 100

Tools, equipment and personal protective equipment for live working on overhead lines with bare or insulated conductors up to 1kV.

	SUPPLEMENTARY EQUIPMENT			
#	product name	reference	quantity	
50	Insulating blanket 400x300mm with velcro flap	H031-4/3-R	8 pcs.	
51	Insulating blanket 500x400mm with velcro flap	H031-5/4-R	8 pcs.	
	TOOLS			
#	product name	reference	quantity	
52	Screwdrivers (4 pieces)	RWWE/KPL4	1 set.	
53	Insulated knife	HNM	1 pc.	
54	Hack-saw	HR	1 pc.	
55	Pliers	HS-1	1 pc.	
56	Cutting nipper	HS-2	1 pc.	
57	Waterpump pliers	HS-3	1 pc.	
58	Cable wires cutter max. diameter 13mm	HN8N	1 pc.	
59	Adjustable spanner	HSZ	1 pc.	
50	Single headed spanner no.10	HP-10	1 pc.	
51	Single headed spanner no.13	HP-13	1 pc.	
52	Single headed spanner no.14	HP-14	1 pc.	
53	Single headed spanner no.17	HP-17	1 pc.	
54	Single headed spanner no.19	HP-19	1 pc.	
55	Single headed spanner no.22	HP-22	1 pc.	
66	Single headed spanner no.24	HP-24	1 pc.	
57	Single ended ring spanner no.10	HO-10	1 pc.	
58	Single ended ring spanner no.13	HO-13	1 pc.	
59	Single ended ring spanner no.14	HO-14	1 pc.	
70	Single ended ring spanner no.17	HO-17	1 pc.	
1	Single ended ring spanner no.19	HO-19	1 pc.	
72	Single ended ring spanner no.22	HO-22	1 pc.	
73	Single ended ring spanner no.24	HO-24	1 pc.	
74	Drive handle "T" ½"	НТ	1 pc.	
75	Insulated torque wrench ½" 7,5÷55Nm	HD	1 pc.	
76	Short socket wrench no.10	HN-10	1 pc.	
77	Short socket wrench no.13	HN-13	1 pc.	
78	Long socket wrench no.17	HNL-17	1 pc.	
79	Long socket wrench no.19	HNL-19	1 pc.	
30	Allen short socket wrench no.6	HNI-6-90	1 pc.	
31	Hex. Male wrench no.6	HI-6	1 pc.	
32	Insulating holder for connectors	НС	1 pc.	
33	Cross socket wrench no.10x13x14x17	HK 10/13/14/17	1 pc.	
34	Tool bag	НТО	1 pc.	

Optimal set ZST 100

Tools, equipment and personal protective equipment for live working on overhead lines with bare or insulated conductors up to 1kV.

	SUPLEMENTARY TOOLS				
#	product name	reference	quantity		
85	End cutting nipper	HS-4	1 pc.		
86	Round nose pliers	HS-5	1 pc.		
87	Long flat nosed pliers	HS-6	1 pc.		
88	Insulation stripping pliers	HS-7	1 pc.		
89	Cable wires cutter max. cross section 300mm²	HN9N	1 pc.		
90	Cable wires cutter max. diameter 35mm	HN10N	1 pc.		
91	Reversible ratchet 1/2" square drive	HG	1 pc.		
92	Insulated extension bar 1/2"	HPN-125	1 pc.		
93	Ring spanner for insulation piercing connectors	HOZ-13	1 pc.		
94	Ratchet wrench no.10	HOG-10	1 pc.		
95	Ratchet wrench no.13	HOG-13	1 pc.		
96	Ratchet wrench no.14	HOG-14	1 pc.		
97	Ratchet wrench no.17	HOG-17	1 pc.		
98	Ratchet wrench no.19	HOG-19	1 pc.		
99	Ratchet wrench no.24	HOG-24	1 pc.		
100	Single headed spanner no. 27	HP-27	1 pc.		
101	Single headed spanner no. 30	HP-30	1 pc.		
102	Single ended ring spanner no.27	HO-27	1 pc.		
103	Single ended ring spanner no.30	HO-30	1 pc.		
104	Allen wrench "T" no.6	HTI-6	1 pc.		
105	Allen wrench "T" no.8	HTI-8	1 pc.		

PERSONAL PROTECTIVE EQUIPMENT AND SELECTED EQUIPMENT FOR SAFETY WORKING ON POLES

#	product name	reference	quantity
106	Insulating glove class 00 (*)	H044N	6 pairs
107	Leather protection glove (*)	H045/D	3 pairs
108	Cotton glove	H046	12 pairs
109	Electrically insulating helmet SECRA with face shield class 1(**)	H058S	3 pcs.
110	Safety spectacles	H049	3 pcs.
111	Safety harness	CA121	1 pc.
112	Shock absorber ABW-L with line	CE201R GG	1 pc.
113	Manublok with rope	AF77-025	1 pc.
114	Pole climbers	BE601B	1 pc.

^{(*) -} available sizes 9,10,11

^(**) - color: white and yellow on the stock

ZST 110 set

The set of tools for the insulated overhead low voltage network up to 1kV.

	TOOLS		
#	product name	reference	quantity
1	Insulated torque wrench ½" 7,5÷55Nm	HD	1 pc.
2	Cable wires cutter max. diameter 13mm	HN8N	1 pc.
3	Insulating holder for connectors	HC	1 pc.
4	Pliers	HS-1	1 pc.
5	Hex. Male wrench no.6	HI-6	1 pc.
6	Ring spanner for insulation piercing connectors	HOZ-13	1 pc.
7	Cross socket wrench no.10x13x14x17	HK 10/13/14/17	1 pc.
8	Allen short socket wrench no.6	HNI-6-90	1 pc.
9	Short socket wrench no.10	HN-10	1 pc.
10	Short socket wrench no.13	HN-13	1 pc.
11	Long socket wrench no.17	HNL-17	1 pc.
12	Long socket wrench no.19	HNL-19	1 pc.
13	Wedges	H039	1 pc.
14	Tool bag	ZST110	1 pc.



Optimal set ZTS 200

Tools, equipment and personal protective equipment for live working on cable lines and switchgear connecting boxes up to 1kV.

# product and		EQUIPMENT			
# product name	reference	quantity			
Insulating matting	H052	1 pc.			
Insulating blanket 1000 x 800mm	H031-10/8	2 pcs.			
Insulating blanket 900 x 500mm	H031-9/5	4 pcs.			
Insulating blanket 800 x 600mm	H031-8/6	2 pcs.			
Insulating blanket 600 x 500mm	H031-6/5	2 pcs.			
Flexible fuse covers	H053	6 pcs.			
Flexible fuse covers MINI	H053M	4 pcs.			
Rigid fuse base covers (short)	H054-K	6 pcs.			
Rigid fuse base covers (long)	H054-D	3 pcs.			
0 Bus bar insulating cover	H055	6 pcs.			
1 Neutral bus bar insulating cover	H073	4 pcs.			
2 Fuse holder with protective sleeve	H066	1 pc.			
3 Insulating end caps φ20mm	H029-20	10 pcs.			
4 Insulating end caps φ30mm	H029-30	10 pcs.			
5 Insulating end caps φ40mm	H029-40	10 pcs.			
6 Insulating clamp	H034	15 pcs.			
7 Insulating clamp MAX	H034M	10 pcs.			
8 Insulating tape	H033	1 roll			
9 Equipment for the workplace marking - boundary post	H042-S	4 pcs.			
Equipment for the workplace marking - warning board	H042-T	4 pcs.			
Equipment for the workplace marking - chain	H043	1 set			
2 Equipment bag	H059	1 pc.			
3 Wedge	H079	2 pcs.			
3 Wedge MULTIMETERS, HYDRAULIC DEVICES AND PORTABLE SHUNTING DEVI		2 pcs.			
MULTIMETERS, HYDRAULIC DEVICES AND PORTABLE SHUNTING DEVI		2 pcs.			
MULTIMETERS, HYDRAULIC DEVICES AND PORTABLE SHUNTING DEVI	ICE				
# product name	ICE reference	quantity			
# product name Digital clamp meter with insulation tester unit	reference 266/261	quantity 1 pc.			
# product name Digital clamp meter with insulation tester unit Digital earth clamp tester	reference 266/261 KEW 4200	quantity 1 pc. 1 pc.			
# product name Digital clamp meter with insulation tester unit Digital earth clamp tester Infrared thermometer 8:1 Unipolar acoustic-optical phasing device and indicator rotation direction	reference 266/261 KEW 4200 EM520B	quantity 1 pc. 1 pc. 1 pc.			
# product name Digital clamp meter with insulation tester unit Digital earth clamp tester Infrared thermometer 8:1 Unipolar acoustic-optical phasing device and indicator rotation direction	reference 266/261 KEW 4200 EM520B JUFr-0,05/0,5	quantity 1 pc. 1 pc. 1 pc. 1 pc.			
# product name Digital clamp meter with insulation tester unit Infrared thermometer 8:1 Unipolar acoustic-optical phasing device and indicator rotation direction Voltage tester Easy Volt II Insulated hydraulic crimping device	reference 266/261 KEW 4200 EM520B JUFr-0,05/0,5 306202	quantity 1 pc. 1 pc. 1 pc. 1 pc. 1 pc. 1 pc.			
# product name Digital clamp meter with insulation tester unit Infrared thermometer 8:1 Unipolar acoustic-optical phasing device and indicator rotation direction Voltage tester Easy Volt II Insulated hydraulic crimping device	reference 266/261 KEW 4200 EM520B JUFr-0,05/0,5 306202 PHI	quantity 1 pc.			
# product name Digital clamp meter with insulation tester unit Digital earth clamp tester Infrared thermometer 8:1 Unipolar acoustic-optical phasing device and indicator rotation direction Voltage tester Easy Volt II Insulated hydraulic crimping device Hydraulic cutting device	reference 266/261 KEW 4200 EM520B JUFr-0,05/0,5 306202 PHI INK-80	quantity 1 pc.			
# product name Digital clamp meter with insulation tester unit Digital earth clamp tester Infrared thermometer 8:1 Unipolar acoustic-optical phasing device and indicator rotation direction Voltage tester Easy Volt II Insulated hydraulic crimping device Hydraulic cutting device Cable wires cutter max. diameter 35mm Single pole portable shunting disconnector (*)	reference 266/261 KEW 4200 EM520B JUFr-0,05/0,5 306202 PHI INK-80 HN10N	quantity 1 pc.			
# product name Digital clamp meter with insulation tester unit Infrared thermometer 8:1 Unipolar acoustic-optical phasing device and indicator rotation direction Voltage tester Easy Volt II Insulated hydraulic crimping device Hydraulic cutting device Cable wires cutter max. diameter 35mm Single pole portable shunting disconnector (*)	reference 266/261 KEW 4200 EM520B JUFr-0,05/0,5 306202 PHI INK-80 HN10N PRB-1F 1/1	quantity 1 pc.			

^{(*) -} To configure the system to live working, select one of the shunting disconnectors PRB.

Optimal set ZTS 200

Tools, equipment and personal protective equipment for live working on cable lines and switchgear connecting boxes up to 1kV.

	TOOLS		
#	product name	reference	quantity
36	Single headed spanner no.13	HP-13	1 pc.
37	Single headed spanner no.14	HP-14	1 pc.
38	Single headed spanner no.17	HP-17	1 pc.
39	Single headed spanner no.19	HP-19	1 pc.
40	Single headed spanner no.24	HP-24	1 pc.
41	Hack-saw	HR	1 pc.
42	Screwdrivers (4 pieces)	RWWE/KPL4	1 set
43	Insulated knife	HNM	1 pc.
44	Insulated stripping knife	HNMS	1 pc.
45	Insulated hammer	HM-3	1 pc.
46	Adjustable spanner	HSZ	1 pc.
47	Blocking wrench no.13	HNS-13	1 pc.
48	Blocking wrench no.14	HNS-14	1 pc.
49	Blocking wrench no.17	HNS-17	1 pc.
50	Blocking wrench no.19	HNS-19	1 pc.
51	Blocking wrench no.24	HNS-24	1 pc.
52	Blocking spanner no.13	HOS-13	1 pc.
53	Blocking spanner no.14	HOS-14	1 pc.
54	Blocking spanner no.17	HOS-17	1 pc.
55	Blocking spanner no.19	HOS-19	1 pc.
56	Blocking spanner no.24	HOS-24	1 pc.
57	Special long socket wrench no.13	HNLS-13	1 pc.
58	Special long socket wrench no.14	HNLS-14	1 pc.
59	Special long socket wrench no.17	HNLS-17	1 pc.
60	Special long socket wrench no.19	HNLS-19	1 pc.
61	Special long socket wrench no.24	HNLS-24	1 pc.
62	Special long socket wrench no.30	HNLS-30	1 pc.
63	Allen long socket wrench no.5	HNIL-5-140	1 pc.
64	Allen long socket wrench no.6	HNIL-6-140	1 pc.
65	Allen long socket wrench no.8	HNIL-8-140	1 pc.
66	Allen long socket wrench no.10	HNIL-10-140	1 pc.
67	Drive handle "L" ½"	HT	1 pc.
68	Drive handle "T" ½"	HL	1 pc.
69	Insulated extension bar ½"	HPN-125	1 pc.
70	Insulated extension bar ½"	HPN-250	1 pc.
71	Insulated torque wrench ½" 7,5÷55Nm	HD	1 pc.
72	Insulating pliers	HS-8	1 pc.
73	Insulating long-nose pilers Cable wises subtes may diameter 12mm	HS-9	1 pc.
74	Cable wires cutter max. diameter 13mm	HN8N	1 pc.
75 76	Bent screwdriver	RWWS	1 pc.
76 77	Insulating brush Insulating angular brush 25mm	HPE-100x30 HPE-25	1 pc. 1 pc.
78	Insulating brush ϕ 10	HPE-25	1 pc.
78 79	Insulating brush φ18	HPE-10	1 pc.
80	Insulated file	HPI	1 pc.
	Tubular socket wrench no.13	HKR-13	
81	TODGIGI SOCKEL WIETICH TIO. 1.3	HVK-13	1 pc.

Optimal set ZTS 200

Tools, equipment and personal protective equipment for live working on cable lines and switchgear connecting boxes up to 1kV.

	TOOLS		
82	Tubular socket wrench no.14	HKR-14	1 pc.
83	Tubular socket wrench no.17	HKR-17	1 pc.
84	Tool bag	НТО	2 pcs.
	SUPPLEMENTARY TOOLS		
#	product name	reference	quantity
85	Pliers with insulated head	HS-10	1 pc.
86	Telephone pliers with insulated working head	HS-11	1 pc.
87	Single ended ring spanner no.13	HO-13	1 pc.
88	Single ended ring spanner no.14	HO-14	1 pc.
89	Single ended ring spanner no.17	HO-17	1 pc.
90	Single ended ring spanner no.19	HO-19	1 pc.
91	Single ended ring spanner no.24	HO-24	1 pc.
92	Allen wrench "T" no.6	HTI-6	1 pc.
93	Allen wrench "T" no.8	HTI-8	1 pc.
	PERSONAL PROTECTIVE EQUIPMENT		
#	product name	reference	quantity
94	Electrically insulating helmet SECRA with face shield class 1(**)	H058S	1 pc.
95	Insulating glove class 00 (*)	H044-N	1 pair
96	Leather protection glove (*)	H045/D	1 pair
97	Cotton glove	H046	2 pairs
98	Glove bag	H047	1 pc.
99	Knee pads	H103	1 pair

^{(*) -} available sizes 9,10,11

^{(**) -} color: white and yellow on the stock

ZST 210 set

The set of tools for the $\,$ cable lines and switch gear connecting boxes up to 1kV.

	TOOLS					
#	product name	reference	quantity			
1	Reversible ratchet 1/2" square drive	HG	1 pc.			
2	Short socket wrench no.10	HN-10	1 pc.			
3	Short socket wrench no.13	HN-13	1 pc.			
4	Short socket wrench no.14	HN-14	1 pc.			
5	Short socket wrench no.17	HN-17	1 pc.			
6	Short socket wrench no.19	HN-19	1 pc.			
7	Short socket wrench no.24	HN-24	1 pc.			
8	Long socket wrench no.10	HNL-10	1 pc.			
9	Long socket wrench no.13	HNL-13	1 pc.			
10	Long socket wrench no.14	HNL-14	1 pc.			
11	Long socket wrench no.17	HNL-17	1 pc.			
12	Long socket wrench no.19	HNL-19	1 pc.			
13	Long socket wrench no.24	HNL-24	1 pc.			
14	Allen short socket wrench no.5	HNI-5-90	1 pc.			
15	Allen short socket wrench no.6	HNI-6-90	1 pc.			
16	Allen short socket wrench no.8	HNI-8-90	1 pc.			
17	Allen short socket wrench no.10	HNI-10-90	1 pc.			
18	Allen long socket wrench no.5	HNIL-5-140	1 pc.			
19	Allen long socket wrench no.6	HNIL-6-140	1 pc.			
20	Allen long socket wrench no.8	HNIL-8-140	1 pc.			
21	Allen long socket wrench no.10	HNIL-10-140	1 pc.			
22	Drive handle "T" ½"	НТ	1 pc.			
23	Insulated extension bar 1/2"	HPN-125	1 pc.			
24	Insulated extension bar 1/2"	HPN-250	1 pc.			
25	Box with foamed insert	ZST210	1 pc.			



ZST 220 set

The set of equipment for safety the HRC fuses replacement

	TOOLS					
#	product name	reference	quantity			
1	Fuse holder with protective sleeve	H066	1 pc.			
2	Flexible fuse covers	H053	2 pcs.			
3	Flexible fuse covers MINI	H053M	2 pcs.			
4	Insulating clamp MAX	H034M	4 pcs.			
5	Box with foamed insert	ZST220	1 pc.			



ZST 550 set

Dry cleaning set for live line maintenance up to 1kV.

EQUIPMENT					
#	product name	referencae			
1	The vacuum cleaner with hose	SE 61			

	STANDARD EQUIPMENT ZST 550 SET						
#	product name	referencae					
1	Insulating suction tube	H091-04/1					
2	Circular small brush	H091-07/1					
3	Narrow suction nozzle	H091-11/1					
4	Angular suction nozzle	H091-26/1					
5	Conical nipple	H091-27/01					
6	Flat suction nozzle with bristle	H091-28/01					
7	Box with foamed insert	ZST550					





ZST 551 set

Dry cleaning set for live line maintenance up to 1kV.

SUPPLEMENTARY EQUIPMENT ZST 551SET					
#	product name	referencae			
1	Rectangular small brush	H091-09/1			
2	Suction nozzle with wide bristle	H091-22/1			
3	Suction nozzle with narrow bristle	H091-23/1			
4	Insulating brush φ10mm	HPE-10			
5	Insulating brush φ18mm	HPE-18			
6	Insulating angular brush 25mm	HPE-25			
7	Box with foamed insert	ZST551			

	ADDICTONAL EQUIPMENT					
#	product name	referencae				
1	service soket with clamps	H0-ZK				





ZST 555 set

Dry cleaning set for live line maintenance up to 1kV.

	FULL EQUIPMENT ZST 555 SET					
#	product name	referencae				
1	Insulating suction tube	H091-04/1				
2	Circular small brush	H091-07/1				
3	Narrow suction nozzle	H091-11/1				
4	Angular suction nozzle	H091-26/1				
5	Conical nipple	H091-27/01				
6	Flat suction nozzle with bristle	H091-28/01				
7	Rectangular small brush	H091-09/1				
8	Suction nozzle with wide bristle	H091-22/1				
9	Suction nozzle with narrow bristle	H091-23/1				
10	Set cleaning small brush	H091-16/1				
11	Insulating brush φ10mm	HPE-10				
12	Insulating brush φ18mm	HPE-18				
13	Insulating angular brush 25mm	HPE-25				
14	Equipment box	ZST 555				



ZST 1020 set

The set of minimum equipment with tools, equipment and personal protective elements to receive training in the live working technique on networks up to 1kV. (for 2 linemans).

	EQUIPMENT FOR OVERHEAD LINES		
#	product name	reference	quantity
1	Transport block	H019	1 pc.
2	Strap binder with rings	H021	1 pc.
3	Line hose type " Ω "	H027	18 pcs.
4	Insulating end caps φ15 mm	H029-15	4 pcs.
5	Insulating end caps φ30 mm	H029-30	4 pcs.
6	Single pole portable shunt device + cables	PRB-B1H	1 pc.
7	Insulating blanket 600x400mm	H031-6/4	10 pcs.
8	Insulating clamp	H034	20 pcs.
9	Wedges	H039	1 pc.
10	Insulator cover	H078	5 pcs.
11	Transport bag (long)	H035	1 pc.
12	Transport bag (short)	H036	1 pc.
13	Insulating transport hook type "S"	H038-S	2 pcs.
14	Equipment for the workplace marking - chain	H043	1 set
15	Equipment for the workplace marking - warning board	H042-T	1 pc.
16	Tarpaulin sheet for tools and equipment	H037	1 pc.
	TOOLS FOR OVERHEAD LINES		
#	product name	reference	quantity
17	Screwdrivers (4 pieces)	RWWE/KPL4	1 set
18	Pliers	HS-1	1 pc.
19	Cable wires cutter max. diameter 13mm	HN8N	1 pc.
20	Adjustable spanner	HSZ	1 pc.
21	Single headed spanner no.13	HP-13	1 pc.
22	Single headed spanner no.17	HP-17	1 pc.
23	Single headed spanner no.19	HP-19	1 pc.
24	Single ended ring spanner no.13	HO-13	1 pc.
25	Single ended ring spanner no.17	HO-17	1 pc.
26	Single ended ring spanne no.19	HO-19	1 pc.
27	Insulated torque wrench ½" 7,5÷55Nm	HD	1 pc.
28	Insulating holder for connectors	НС	1 pc.
29	Insulated knife	HNM	1 pc.
30	Cross socket wrench no.10x13x14x17	HK 10/13/14/17	1 pc.
31	Tool bag	нто	1 pc.
	PERSONAL PROTECTIVE EQUIPMENT AND SELECTED EQUIPMENT FOR SAFETY WORKING	G ON POLES	
#	product name	reference	quantity
32	Insulating glove class 00 (*)	H044-N	2 pairs
33	Leather protection glove (*)	H045/D	2 pairs
34	Cotton glove	H046	4 pairs
35	Electrically insulating helmet SECRA with face shield class 1(**) +spectacles	H058S-1/D	2 pcs.
36	Safety harness	CA121	1 pc.
37	Shock absorber ABW-L with line	CE201R GG	1 pc.
38	Manublok with rope	AF77-025	1 pc.

(*) - available sizes 9,10,11, (**) - color: white and yellow on the stock

ZST 1020 set

The set of minimum equipment with tools, equipment and personal protective elements to receive training in the live working technique on networks up to 1kV. (for 2 linemans).

	EQUIPMENT ON CABLE LINES AND SWITCHGEAR CONNECTING BOXES		
#	product name	reference	quantity
40	Insulating matting	H052	1 pc.
41	Insulating blanket 1000 x 800mm	H031-10/8	2 pcs.
42	Insulating blanket 900 x 500mm	H031-9/5	2 pcs.
43	Insulating blanket 800 x 600mm	H031-8/6	2 pcs.
44	Insulating blanket 600 x 500mm	H031-6/5	2 pcs.
45	Flexible fuse covers	H053	6 pcs.
46	Rigid fuse base covers (short)	H054-D	3 pcs.
47	Rigid fuse base covers (long)	H054-K	3 pcs.
48	Neutral bus bar insulating cover	H073	2 pcs.
49	Fuse holder with protective sleeve	H066	1 pc.
50	Bus bar insulating cover	H055	3 pcs.
51	Insulating clamp MAX	H034M	10 pcs.
52	Equipment bag	H059	1 pc.
	TOOLS ON CABLE LINES AND SWITCHGEAR CONNECTING BOXES		
#	product name	reference	quantity
53	Drive handle "L" ½"	HT	1 pc.
54	Reversible ratchet 1/2" square drive	HG	1 pc.
55	Tubular socket wrench no.13	HKR-13	1 pc.
56	Tubular socket wrench no.14	HKR-14	1 pc.
57	Tubular socket wrench no.17	HKR-17	1 pc.
58	Tubular socket wrench no.19	HKR-19	1 pc.
59	Blocking wrench no.13	HNS-13	1 pc.
60	Blocking wrench no.17	HNS-17	1 pc.
61	Blocking wrench no.19	HNS-19	1 pc.
62	Blocking spanner no.13	HOS-13	1 pc.
63	Blocking spanner no.17	HOS-17	1 pc.
64	Blocking spanner no.19	HOS-19	1 pc.
65	Bent screwdriver	RWWS	1 pc.
66	Allen long socket wrench no.5	HNIL-5-140	1 pc.
67	Allen long socket wrench no.6	HNIL-6-140	1 pc.
68	Allen long socket wrench no.8	HNIL-8-140	1 pc.
69	Allen long socket wrench no.10	HNIL-10-140	1 pc.
70	Insulated extension bar 1/2"	HPN-250	1 pc.
71	Insulated hammer	HM-3	1 pc.
72	Wedge	H079	2 pcs.
73	Insulating pliers	HS-8	1 pc.
74	Insulated file	HPI	1 pc.
75	Insulating brush	HPE-100x30	1 pc.

MEDIUM VOLTAGE Indoor transformer station up to 36kV

Dry cleaning set

Wet cleaning set
Bolted connection manipulation set
Cable terminations filling set
Sets up to 36kV



THE VACUUM CLEANER WITH HOSE

THE VACUUM CLEANER WITH HOSE

Protection class II

Protection class II

REFE- RENCE	POWER SUPPLY	POWER INPUT	VACCUM	AIR FLOW	CONTAINER CAPACITY
NT 65/2 Tact	1/230/50 ~/V/Hz	2750W	235mbar	2x56 l/s	65l

REFE- RENCE	POWER SUPPLY	POWER INPUT	VACCUM	AIR FLOW	CONTAINER CAPACITY
440	1/230/50 ~/V/Hz	1000W	215mbar	55 l/s	35l







MAIN SUCION TUBE WITH HAND LIMITER

Made of polycarbonate. Polyamide threaded end for nozzle, tube and brush connection. Hand limiter and a limit mark. Distance between the limiter and the limit mark should be at least 600 mm.

TUBE EXTENSION

Made of polycarbonate. Polyamide threaded end for nozzle, tube and brush connection.



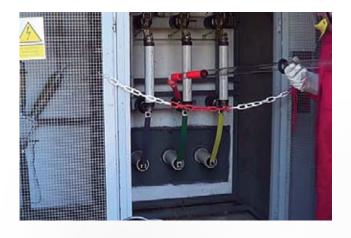
REFERENCE	LENGTH	EXT. DIAMETER	INT. DIAMETER	WEIGHT
H091-01	1260mm	40mm	36mm	500g



REFERENCE	LENGTH	EXT. DIAMETER	INT. DIAMETER	WEIGHT
H091-02	800mm	40mm	36mm	320g
H091-03	400mm	40mm	36mm	210g
H091-04	200mm	40mm	36mm	120g









ELBOW 90°

Made of white PVC. Polyamide threaded end for nozzle, tube and brush connection.

MOVABLE ELBOW 90°

Made of white PVC. Polyamide threaded end for nozzle, tube and brush connection.



REFERENCE	ANGLE	WEIGHT
H091-05	90°	105g



REFERENCE	ANGLE	WEIGHT
H091-05-S	2x90°	190g









ELBOW 135°

Made of white PVC. Polyamide threaded end for nozzle, tube and brush connection.



REFERENCE	ANGLE	WEIGHT
H091-06	135°	100g





CIRCULAR BRUSH

Made of red polyamide and natural bristle. Polyamide threaded end for tube and elbows connection.

FORKED BRUSH

Made of red polyamide and natural bristle. Polyamide threaded end for tube and elbows connection.



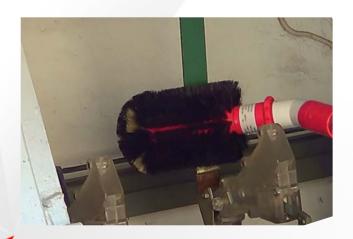
REFERENCE	LENGTH	DIAMETER	WEIGHT
H091-07	230mm	120mm	250g



REFERENCE	LENGTH	DIAMETER	WEIGHT
H091-08	250mm	2x100mm	250g









RECTANGULAR SMALL BRUSH

LONG BRUSH

Made of black polypropylene and natural bristle. Polyamide threaded end for tube and elbows connection. Bristle can be set in two positions.

Made of black polypropylene and natural bristle. Polyamide threaded end for tube and elbows connection.



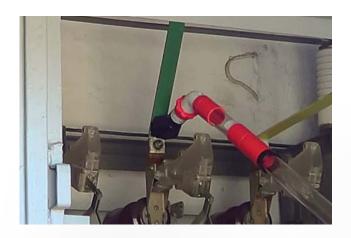
REFERENCE	LENGTH	BRISTLE LENGTH	WEIGHT
H091-9	140mm	40x60mm	80g



REFERENCE	LENGTH	BRISTLE LENGTH	WEIGHT
H091-10	260mm	50x130mm	160g









NARROW SUCTION NOZZLE

WIDE SUCTION NOZZLE

Made of red polyamide. Polyamide threaded end for tube and elbows connection.

Made of red polyamide. Polyamide threaded end for tube and elbows connection.



REFERENCE	LENGTH	WIDTH	WEIGHT
H091-11	230mm	30mm	75g



REFERENCE	LENGTH	WIDTH	WEIGHT
H091-12	320mm	40mm	110g







WIDE-ANGULAR SUCTION NOZZLE

WIDE SUCTION BRUSH

Made of black polyethylene. Polyamide threaded end for tube and elbows connection.

Made of black polyethylene. Polyamide threaded end for tube and elbows connection.



REFERENCE	LENGTH	WIDTH	WEIGHT
H091-13	360mm	95mm	160g



REFERENCE	DIMENSIONS	WEIGHT
H091-15	50x360mm	300g









INSULATORS TURBO BRUSH

TURBO BRUSH STANDARD

Made of black polypropylene. Bristle is moved by intake air. Polyamide threaded end for tube and elbows connection.

Made of black polypropylene. Bristle is moved by intake air. Polyamide threaded end for tube and elbows connection.



REFERENCE	LENGTH	BRISTLE WIDTH	WEIGHT
H091-14	250mm	160mm	370g



REFERENCE	LENGTH	WIDTH	WEIGHT
H091-18	220mm	160mm	350g







CONICAL NIPPLE

IEC 60900:2012

Made of polyamide, allows to connect a vacuum cleaner suction hose on one side and nozzles, elbows, or brushes on the other. To be used up to 1000V only.

INSULATING MIRROR

Made of polyamide. To be used with tubes and elbows. Mirror can be set at different direction.



REFERENCE	LENGTH	INT. DIAMETER	WEIGHT
H091-20	95mm	45mm	55g



REFERENCE	LENGTH	DIAMETER	WEIGHT
H091-30	130mm	40mm	4 5g







SET CLEANING BRUSH

extensions. Do not use for live working.

Made of fiber glass rod, polyamide and natural bristle. Brush is to be used only to clean the inside surface of the suction tube and

SILICONE TISSUE

Cotton tissue soaked with silicone. To be used only to clean and maintain external surfaces of the suction tube, extensions and accessories.

REFERENCE	LENGTH	WEIGHT
H091-16	1300mm	240g

REFERENCE	DIMENSIONS	WEIGHT
991015	360x360mm	35g









MEDIUM VOLTAGE Indoor transformer station up to 36kV

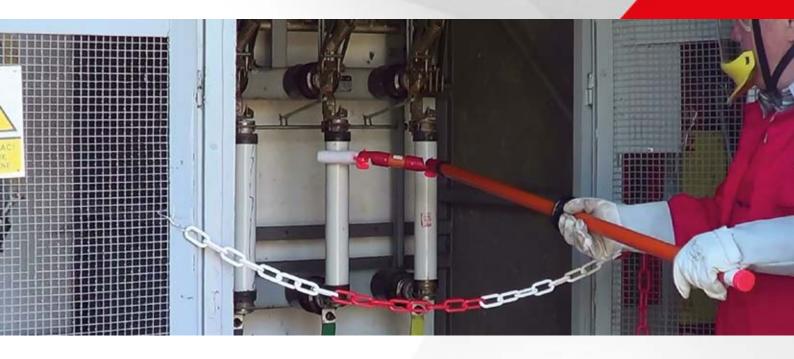
Dry cleaning set

Wet cleaning set

Bolted connection manipulation set

Cable terminations filling set

Sets up to 36kV



INSULATING HANDLING STICK

IEC 60832-1:2010

Made of fiberglass-epoxy foam filled tube in orange color. Two universal adaptors for tools and equipment to be attached. Equipped with a hand limiter and a limit mark. The distance between the limiter and the limit mark should be at least 600 mm.

EXTENSION FOR INSULATING HANDLING STICK

IEC 60832-1:2010

Made of fiberglass-epoxy foam filled tube in orange color. Two universal adaptors for tools and sticks to be attached.



REFERENCE	DIAMETER	LENGTH	WEIGHT
H090-01	32mm	1300mm	950g



REFERENCE	DIAMETER	LENGTH	WEIGHT
H090-02	32mm	500mm	430g







UNIVERSAL EXTENSION

IEC 60832-2:2010

Made of fiberglass-epoxy foam filled tube in orange color. Two universal adaptors for tools and sticks to be attached. Designed to reach each side of cleaned item.



REFERENCE	DIMENSION	LENGTH	ANGLE BETWE- EN THE HEADS	WEIGHT
H090-03	32mm	150mm	180°	180g
H090-04	32mm	150mm	90°	180g





ROUND SPONGE WITH STICK ADAPTER

IEC 60832-2:2010

REPLACEABLE SPONGE

Stem made of polyamide in red color. Sponge made of polyure-thane foam. Protection nut made of polyethylene.





REFERENCE	DIAMETER	LENGTH	TAMPONS QUANTITY IN THE ELEMENT
SH090-06-09/02	35mm	55mm	1
SH090-07-10/02	35mm	110mm	1







LARGE SPONGE WITH STICK ADAPTER

IEC 60832-2:2010

REPLACEABLE SPONGE

Stem made of polyamide in red color. Sponge made of polyure-thane foam.





REFERENCE	DIMENSIONS	TAMPONS QUANTITY IN THE ELEMENT	
SH090-08/02	90x140x40mm	2	







FORKED SPONGE WITH STICK ADAPTER

REPLACEABLE SPONGE

Stem made of polyamide in red color. Sponge made of polyure-thane foam. Protection nut made of polyethylene.





REFERENCE	DIAMETER	LENGTH	TAMPONS QUANTITY IN THE ELEMENT
SH090-06-09/02	35mm	55mm	2
SH090-07-10/02	35mm	110mm	2







FLAT SPONGE WITH STICK ADAPTER

REPLACEABLE SPONGE

IEC 60832-2:2010

Stem made of polyamide in red color. Sponge made of polyure-

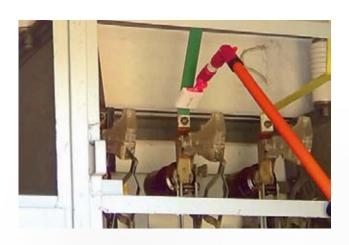




REFERENCE	DIMENSIONS	TAMPONS QUANTITY IN THE ELEMENT
SH090-11/02	75x50x20mm	1
SH090-12/02	80x60x20mm	1
SH090-13/02	80x70x20mm	1







BRUSH WITH STICK ADAPTER

PN-EN 60832-2:2010 / IEC 60832-2:2010

Made of natural bristle, adaptor is made of insulating material.



REFERENCE	LENGHT	DIAMETER	DIMENSION	WEIGHT
H090-14	140mm	10mm	-	40g
H090-15	160mm	18mm	-	60g
H090-16	160mm	_	30x100mm	110g







INSULATING MIRROR WITH STICK ADAPTER

IEC 60832-2:2010

Made of polyamide. Mirror can be set at any direction.

SILICONE TISSUE

Cotton tissue soaked with silicone. To be used only to clean and maintain external surfaces of the suction tube, extensions and accessories.



REFERENCE	LENGTH	DIAMETER	WEIGHT
H090-30	150mm	40mm	40g

REFERENCE	DIMENSIONS	WEIGHT
991015	360x360mm	35g







CLEANING DIELECTRIC LIQUID - ASOREL CN

Reference 991019

Gigh purity liquid, isoparaffin type C10-12. Dissolves grease, oils, glues without disturbing surface: metal, metal alloys, base paint, rubber, plexiglass, electrical insulation. Approved by EDF SERECT (France) for live working, especially for the removal of silicone.

- Dielectric strength of> 30kV
- Packaging: 1l

DIELECTRIC LIQUID SPRAYER

Reference 08231214002

Made of polypropylene. Designed for aggressive chemicals and cleaning products.







MEDIUM VOLTAGE Indoor transformer station up to 36kV

Dry cleaning set Wet cleaning set

Bolted connection manipulation set

Cable terminations filling set Sets up to 36kV



INSULATING HANDLING STICK

IEC 60832-1:2010

Made of fiberglass-epoxy foam filled tube in orange color. Two universal adaptors for tools and equipment to be attached. Equipped with a hand limiter and a limit mark. The distance between the limiter and the limit mark should be at least 600 mm.

EXTENSION FOR INSULATING HANDLING STICK

IEC 60832-1:2010

Made of fiberglass-epoxy foam filled tube in orange color. Two universal adaptors for tools and sticks to be attached.



REFERENCE	DIAMETER	LENGTH	WEIGHT
H090-01	32mm	1300mm	950g



REFERENCE	DIAMETER	LENGTH	WEIGHT
H090-02	32mm	500mm	430g







UNIVERSAL EXTENSION

IEC 60832-2:2010

Made of fiberglass-epoxy foam filled tube in orange color. Two universal adaptors for tools and sticks to be attached. Designed to reach each side of cleaned item.



REFERENCE	DIMEN- SION	LENGTH	ANGLE BETWE- EN THE HEADS	WEIGHT
H090-03	32mm	150mm	180°	180g
H090-04	32mm	150mm	90°	180g



INSULATING ROTATING STICK

IEC 60832-1:2010

Made of fiberglass-epoxy foam filled tube in orange color. Movable, rotating head, made of glassfibre reinforced polyamide. Equipped with a movable hand limiter and a limit mark. Distance between the limiter and the limit mark should be at least 600 mm.

SCREWDRIVER SOCKET 1/2"

IEC 60832-2:2010

Insert made of CrV steel. Insulation is made of fiberglass reinforced polyamide. To be used with rotating stick H094.



REFERENCE	DIAMETER	LENGTH	WEIGHT
H094	39mm	1900mm	2000g



PRODUCT NAME	REFERENCE	BLADE WIDTH	BLADE THICKNESS	LENGTH	WEIGHT
covered screwdriver socket	HN-18x2,5/1	18mm	2,5mm	50mm	65g
wide screwdriver socket	HN-18x2,5/2	18mm	2,5mm	50mm	55g
narrow screwdriver socket	HN-10x1,6	10mm	1,6mm	55mm	30g







SHORT SOCKET WRENCH 1/2"

IEC 60832-2:2010

Made of CrV steel. Insulation made of polyamide with the addition of fiberglass. To be used with rotating stick H094 or ratchet spanner H090 28.

RATCHET SPANNER ½" WITH STICK ADAPTER

IEC 60832-2:2010

Insert made of CrV steel. Corps made of glassfiber reinforced polyamide.



REFERENCE	SIZE	LENGTH	WEIGHT
H094-N10	10mm	38mm	50g
H094-N13	13mm	38mm	55g
H094-N14	14mm	38mm	55g
H094-N17	17mm	38mm	70g
H094-N19	19mm	38mm	70g
H094-N22	22mm	38mm	95g
H094-N24	24mm	38mm	100g



REFERENCE	LENGTH	WEIGHT
H090-28	110mm	200g





SINGLE HEADED SPANNERS WITH STICK ADAPTER

IEC 60832-2:2010

Insert made of CrV steel. Corps made of fiberglass reinforced polyamide.

RING WRENCHES WITH STICK ADAPTER

IEC 60832-2:2010

Insert made of CrV steel. Corps made of fiberglass reinforced polyamide.



REFERENCE	SIZE	LENGTH	WEIGHT	USED RANGE
H090-21/W-10	10mm	100mm	45g	
H090-21/W-13	13mm	100mm	50g	
H090-21/W-14	14mm	100mm	55g	6÷36kV
H090-21/W-17	17mm	110mm	80g	
H090-21/W-19	19mm	110mm	90g	
H090-21/W-22	22mm	120mm	120g	15÷36kV
H090-21/W-24	24mm	125mm	165g	13÷36KV



REFERENCE	SIZE	LENGTH	WEIGHT	USED RANGE
H090-22/O-10	10mm	130mm	50g	
H090-22/O-13	13mm	130mm	105g	
H090-22/O-14	14mm	130mm	115g	
H090-22/O-17	17mm	140mm	125g	6÷36kV
H090-22/O-19	19mm	150mm	140g	
H090-22/O-22	22mm	150mm	160g	
H090-22/O-24	24mm	150mm	165g	





REVERSIBLE RING WRENCHES WITH STICK ADAPTER

IEC 60832-2:2010

Insert made of CrV steel. Corps made of fiberglass reinforced polyamide.

SILICONE TISSUE

Cotton tissue soaked with silicone. To be used only to clean and maintain external surfaces of the suction tube, extensions and accessories.

☆ 36kV

REFERENCE	SIZE	LENGTH	WEIGHT	USED RANGE
H090-23/G-10	10mm	100mm	50g	
H090-23/G-13	13mm	100mm	55g	
H090-23/G-14	14mm	105mm	60g	6÷36kV
H090-23/G-17	17mm	110mm	90g	
H090-23/G-19	19mm	115mm	95g	
H090-23/G-22	22mm	135mm	215g	15÷36kV
H090-23/G-24	24mm	135mm	200g	13730KV

REFERENCE	DIMENSIONS	WEIGHT
991015	360x360mm	35g









INSULATING MIRROR WITH STICK ADAPTER

IEC 60832-2:2010

Made of polyamide. Mirror can be set at different direction.

LENGTH INDICATOR WITH STICK ADAPTER

Made of polyamide. Graduation - 25mm.



REFERENCE	LENGTH	DIAMETER	WEIGHT
H090-30	150mm	40mm	40g



REFERENCE	LENGTH	WEIGHT
H090-31	260mm	17g





MEDIUM VOLTAGE Indoor transformer station up to 36kV

Dry cleaning set

Wet cleaning set

Bolted connection manipulation set

Cable terminations filling set

Sets up to 36kV



CABLE TERMINATIONS FILLING DEVICE

Reference H092

Device for filling terminations consists of pump, heat cover, isolating pressure hose and the nozzle with stick adapter. Impregnate tank is equipped with a special electric heater.. Temperature control box is connected to the heater pump with HAN-D connector. Cylindrical cover prevents heat emission to the outside and does not allow impregnation to cool down especially at low temperatures.

Technical characteristics

- Tank capacity
 - Heating power
 - Power supply
 - Temperature range
 - Thermo-couple type
 - Insulating hose length
 - 4,5 dcm³
 - 230V/50Hz
 - 0÷110°C
 - Pt-100
 - Insulating hose length

weight: 13,2kg (pump with cover) weight: 2,5kg (control box)











INSULATING ROTATING STICK

IEC 60832-1:2010

Made of fiberglass-epoxy foam filled tube in orange color. Movable, rotating head, made of glass fibre reinforced polyamide. Equipped with movable hand limiter and limit mark. Distance between the limiter and the limit mark should be at least 600 mm.

SCREWDRIVER SOCKET 1/2"

IEC 60832-2:2010

Insert made of CrV steel. Insulation is made of fiberglass reinforced polyamide. To be used with rotating stick H094.



REFERENCE	DIAMETER	LENGTH	WEIGHT
H094	39mm	1900mm	2000g



NAZWA	REFERENCE	BLADE WIDTH	BLADE THICKNESS	LENGTH	WE- IGHT
covered screwdriver socket	HN- -18x2,5/1	18mm	2,5mm	50mm	65g
wide screw- driver socket	HN- -18x2,5/2	18mm	2,5mm	50mm	55g
narrow screwdriver socket	HN-10x1,6	10mm	1,6mm	55mm	30g









INSULATING HANDLING STICK

IEC 60832-1:2010

Made of fiberglass-epoxy foam filled tube in orange color. Two universal adaptors for tools and equipment to be attached. Equipped with a hand limiter and a limit mark. The distance between the limiter and the limit mark should be at least 600 mm.

EXTENSION FOR INSULATING HANDLING STICK

IEC 60832-1:2010

Made of fiberglass-epoxy foam filled tube in orange color. Two universal adaptors for tools and sticks to be attached.



REFERENCE	DIAMETER	LENGTH	WEIGHT
H090-01	32mm	1300mm	950g



REFERENCE	DIAMETER	LENGTH	WEIGHT
H090-02	32mm	500mm	430g







UNIVERSAL EXTENSION

IEC 60832-2:2010

Made of fiberglass-epoxy foam filled tube in orange color. Two universal adaptors for tools and sticks to be attached. Designed to reach each side of cleaned item.



REFERENCE	DIMEN- SION	LENGTH	ANGLE BETWE- EN THE HEADS	WE- IGHT
H090-03	32mm	150mm	180°	180g
H090-04	32mm	150mm	90°	180g



INSULATING HOOK WITH STICK ADAPTER

IEC 60832-2:2010

Totally made of insulating material. To be used to remove or fix filler hole plugs.

INSULATING ROD WITH STICK ADAPTER

IEC 60832-2:2010

Totally made of insulating material. To be used to puncture the solidified impregnation layer in filler hole.



REFERENCE	LENGTH	WEIGHT
H016-90	100mm	20g



REFERENCE	LENGTH	WEIGHT
H090-18	265mm	17g







FILLING HOLE PLUG

Made of EVA copolymer. Resistant to grease and oil.

SILICONE TISSUE

Cotton tissue soaked with silicone. To be used only to clean and maintain external surfaces of the suction tube, extensions and accessories.

REFERENCE	DIAMETER	LENGTH	WEIGHT
H090-05/8	8mm	55mm	5 g
H090-05/10	10mm	60mm	7 g

REFERENCE	DIMENSIONS	WEIGHT
991015	360x360mm	35g







MEDIUM VOLTAGE Indoor transformer station up to 36kV

Dry cleaning set
Wet cleaning set
Bolted connection manipulation set
Cable terminations filling set

Sets up to 36kV

ZST 500 set

Dry cleaning set for live line maintenance up to 36kV.

#	product name	reference
1A	The vacuum cleaner with hose	NT 65-2 Tact
	or alternatively	
1B	The vacuum cleaner with hose	440
	ZST 500 set	
#	product name	reference
2	Main sucion tube with hand limiter	H091-01
3	Tube extension	H091-02
4	Tube extension	H091-03
5	Tube extension	H091-04
6	Elbow 90°	H091-05
7	Movable elbow 90°	H091-05-S
8	Elbow 135°	H091-06
9	Circular brush	H091-07
10	Forked brush	H091-08
11	Rectangular small brush	H091-09
12	Long brush	H091-10
13	Narrow suction nozzle	H091-11
14	Wide suction nozzle	H091-12
15	Wide-angular suction nozzle	H091-13
16	Insulators turbo brush	H091-14
17	Wide suction brush	H091-15
18	Cleaning set brush	H091-16
19	Turbo brush standard	H091-18
20A	Dry cleaning set bag	H091-19
20B	Cleaning and maintenance set 36kV box	ZST 500
21	Conical nipple	H091-20
22	Insulating mirror	H091-30
23	Silicone tissue	991015
24	Dry and wet cleaning set box	ZST 5060





ZST 600 set

Wet cleaning set for live line maintenance up to 36kV.

	ZST 600 sett	
#	product name	reference
1	Insulating handling stick	H090-01
2	Extension of insulating handling stick	H090-02
3	Universal extension 180°	H090-03
4	Universal extension 90°	H090-04
5	Replaceable sponges with stick adapter φ35/55mm	H090-06
6	Replaceable sponges with stick adapter φ35/110mm	H090-07
7	Replaceable sponges with stick adapter 90x140x40mm	H090-08
8	Replaceable forked sponges with stick adapter	H090-09
9	Replaceable forked sponges with stick adapter	H090-10
10	Replaceable sponges with stick adapter 75x50x20mm	H090-11
11	Replaceable sponges with stick adapter 80x60x20mm	H090-12
12	Replaceable sponges with stick adapter 80x70x20mm	H090-13
13	Brush with stick adapter φ10mm	H090-14
14	Brush with stick adapter φ18mm	H090-15
15	Brush with stick adapter 30x70mm	H090-16
16A	Cleaning and maintenance set bag	H090-17/19
16B	Cleaning and maintenance set box	ZST 600
17	Insulating mirror with stick adapter	H090-30
18	Silicone tissue	991015
19	Cleaning preparation ASOREL CN	991019
20	Sprayer for preparation ASOREL CN	8231214002
21	Dry and wet cleaning set box	ZST 5060
21	bry and wet cleaning set box	231 3000





ZST 700 set

Bolted connection manipulation set for live maintenance up to 36kV.

	ZST 700 set	
#	product name	reference
1	Insulating handling stick	H090-01
2	Extension for insulating handling stick	H090-02
3	Universal extension 180°	H090-03
4	Universal extension 90°	H090-04
5A	Cleaning and maintenance set bag	H090-17/19
5B	Cleaning and maintenance set box	ZST 700
6	Single headed spanners with stick adapter nr: 10,13,14,17,19	H090-21/W-1019
7	Ring wrenches with stick adapter nr: 10,13,14,17,19,22,24	H090-22/O-1024
8	Reversible ring wrenches with stick adapter nr: 10,13,14,17,19	H090-23/G-1019
9	Ratchet spanner with stick adapter	H090-28
10	Insulating mirror with stick adapter	H090-30
11	Length indicator with stick adapter	H090-31
12	Silicone tissue	991015
	additional equipment	
13	Single headed spanners with stick adapter nr: 22,24	H090-21/W-22,24
14	Reversible ring wrenches with stick adapter nr: 22,24	H090-23/G-22,24
	ZST 701 set	
#	product name	reference
15	Insulating rotating stick	H094
16	Screwdriver socket 18x2,5	HN18x2,5/1
17	Screwdriver socket 18x2,5	HN18x2,5/2
18	Screwdriver socket 10x1,6	HN10x1,6
19	Short socket wrench nr: 10,13,14,17,19,22,24	H094-N1024
20	Stick cover	H090-20





ZST 800 set

Cable terminations filling set for live line maintenance from 6kV to 36kV.

#	product name	reference
1	Cable termination filling device	H092
	ZST 800 set	
#	product name	reference
2	Insulating handling stick	H090-01
3	Extension for insulating handling stick	H090-02
4	Universal extension 180°	H090-03
5	Universal extension 90°	H090-04
6	Filling hole plug	H090-05
7	Insulating hook with stick adapter	H016-90
8	Insulating rod with stick adapter	H090-18
9A	Cleaning and maintenance set bag	H090-17/19
9B	Cleaning and maintenance set box	ZST 800
10	Length indicator with stick adapter	H090-31
11	Silicone tissue	991015
	ZST 801 set	
#	product name	reference
12	Insulating rotating stick	H094
13	Screwdriver socket 18x2,5	HN18x2,5/1
14	Screwdriver socket 18x2,5	HN18x2,5/2
15	Screwdriver socket 10x1,6	HN10x1,6
16	Stick cover	H090-20





ZST 5060 set

Dry and wet cleaning set for live line maintenance up to 36kV.

Brush with stick adapter ϕ 18mm

Brush with stick adapter 30x70mm

Insulating mirror with stick adapter

Cleaning preparation ASOREL CN

Dry and wet cleaning set box

Sprayer for preparation ASOREL CN

Silicone tissue

35

36

37

38

39

40

41

#	product name	reference
4	The vacuum cleaner with hose	NT 65-2 Tact
	or alternatively	
3	The vacuum cleaner with hose	440
	ZST 5060 set	
#	product name	reference
	Main sucion tube with hand limiter	H091-01
	Tube extension	H091-02
	Tube extension	H091-03
	Tube extension	H091-04
	Elbow 90°	H091-05
	Movable elbow 90°	H091-05-S
	Elbow 135°	H091-06
	Circular brush	H091-07
)	Forked brush	H091-08
	Rectangular small brush	H091-09
	Long brush	H091-10
	Narrow suction nozzle	H091-11
	Wide suction nozzle	H091-12
;	Wide-angular suction nozzle	H091-13
,	Insulators turbo brush	H091-14
,	Wide suction brush	H091-15
3	Cleaning set brush	H091-16
	Turbo brush standard	H091-18
	Conical nipple	H091-20
	Insulating mirror	H091-30
2	Insulating handlingstick	H090-01
	Extension for insulating handling stick	H090-02
ŀ	Universal extension 180°	H090-03
,	Universal extension 90°	H090-04
5	Replaceable sponges with stick adapter φ35/55mm	H090-06
•	Replaceable sponges with stick adapter ϕ 35/110mm	H090-07
	Replaceable sponges with stick adapter 90x140x40mm	H090-08
	Replaceable forked sponges with stick adapter	H090-09
	Replaceable forked sponges with stick adapter	H090-10
	Replaceable sponges with stick adapter 75x50x20mm	H090-11
2	Replaceable sponges with stick adapter 80x60x20mm	H090-12
	Replaceable sponges with stick adapter 80x70x20mm	H090-13
	Brush with stick adapter φ10mm	H090-14
_	D. J. 21, 21, 1, 1, 10	



H090-15

H090-16

H090-30

991015

991019

8231214002

ZST 5060

MEDIUM VOLTAGE Cable lines up to 30kV

Hydraulic cutting device

HYDRAULIC CUTTING DEVICE

- Device with hydraulic foot-operated lever.
- Head with steel jaw blades, connected to the pump with insu lating hose
- Quick hose release system
- Overload valve (set pressure 600 bar max)
- Pressure gauge (range 0 to 1000bar)
- Electrically insulating oil (class 1).
- Pressure hose length: 5-15m (on request)
- Both the head and the food-pump have a connector to connect the ground wire
- Transport bag or box

HYDRAULIC CUTTING DEVICE

- Device with hydraulic foot-operated lever.
- Head with guillotine blades, connected to the pump with insu lating hose
- Quick hose release system
- Overload valve (set pressure 600 bar max)
- Pressure gauge (range 0 to 1000bar)
- Electrically insulating oil (class 1).
- Pressure hose length: 5-15m (on request)
- Both the head and the food-pump have a connector to connect the ground wire
- Transport bag or box



REFERENCE	MAX. CABLE CROSS-SECTION	WEIGHT
INK-80	φ80mm	18,9kg



REFERENCE	MAX. CABLE CROSS-SECTION	WEIGHT
INK-100	φ100mm	22,4kg





HYDRAULIC CUTTING DEVICE

- Device with hydraulic foot-operated lever.
- Head with guillotine blades, connected to the pump with insulating hose
- Quick hose release system
- Overload valve (set pressure 600 bar max)
- Pressure gauge (range 0 to 1000bar)
- Electrically insulating oil (class 1).
- Pressure hose length: 5-15m (on request)
- Both the head and the food-pump have a connector to connect the ground wire
- Transport bag or box

BIG HARD BOX

Rigid box made of plywood with aluminium profiles, lined with polyurethane foam. It has wheels for easy transport. For transportation and storage of cable crimping or cutting device.



REFERENCE	MAX. CABLE CROSS-SECTION	WEIGHT
INK-132	φ132mm	28,7kg

REFERENCE	DIMENSIONS	WEIGHT
SINK/PHI	820x590x230mm	12,6kg





MEDIUM VOLTAGE The overhead lines 15kV-20kV

Set on overhead lines 15kV-20kV

Set up to 15kV-20kV



RUBBER INSULATING GLOVES

EN / IEC 60903, ASTM D120

LEATHER PROTECTION GLOVES

Manufactured from top grade leathers, all are sewn with heavy duty nylon thread. Each protector is equipped with non-metallic buckle on the pull strap as well as an extra wide leather reinforcement over the thumb seam. Should always be worn over rubber insulating gloves to protection against cuts, abrasions and punctures.



REFERENCE	CLASS	VOLTAGE RATING	MAX VOLTAGE USE	CUFF STYLE	LENGTH	SIZE
PSC216BCYB10	2	20 000 V	17 000 V	wide	16"/40cm	10
PSC216BCYB11	2	2 20 000 V	17 000 V	wide	10 /400111	11
PSC316BCYB10	2	30 000 V	26 500 V	م اماندر	16"/40	10
PSC316BCYB11	3	30 000 V	V 26 500 V	wide	16"/40cm	11





REFERENCE	LENGTH	SIZE
ILP5S	14" / 35cm	10, 11







RUBBER INSULATING SLEEVES

ASTM D-1051

SLEEVE HARNESS WITH BUTTONS

Used (one harness and four buttons) to hold one pair of insulating sleeves.





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REFERENCE	CLASS	VOLTAGE RATING	MAX VOLTAGE USE	OVERALL LENGTH	WRIST OPENING
PSC3LYBEC	3	30 000 V	26 500 V	26,5"/ 673mm	5,25"/ 140mm
PSC3XLYBEC	3	30 000 V	20 300 V	26,5"/ 673mm	5,25"/ 140mm

REFERENCE	PRODUCT NAME	WEIGHT
H1	HARNESS	450g
PSC4060600	BUTTON	40g







LINE HOSES

INSULATOR COVER

Orange flexible hose. It is not damaged by ozone or ultra-violet rays.

Orange flexible cover. It is not damaged by ozone or ultra-violet rays.



CHANCE

REFERENCE	CLASS	INT. DIAMETER	LENGTH	WEIGHT
C4060298	3	1,5" / 40mm	4,5' / 915mm	2,1kg
C4060308	3	1,5" / 40mm	4,5' / 1372mm	2,6kg



REFEREN	ICE CLASS	LENGTH	WIDE	WEIGHT
OKRG	3	16" / 400mm	8" / 200mm	3,2kg









INSULATING BLANKETS

ASTM D1048

INSULATING CLAMP

Made from insulating material. Used to hold in place rubber insulating blankets.



REFERENCE	CLASS	DIMENSIONS	COLOUR	STYLE	WEIGHT
C4060346	4	36"x36" / 914x914mm	orange	eyelet	3,6kg
1000-E	4	27"x36" / 686x914mm	orange	eyelet	2,3kg
C4060348	4	36"x36" / 914x914mm	orange	slotted	3,6kg



REFERENCE	MAX. JAW SPACING	LENGTH	WEIGHT
C4060530	5" / 125mm	240mm	150g









POLE COVERS

NYLON-STRAP RATCHET HOISTS

The covers are made of high-dielectric linear polyethylene material that will not flash flame.

Device with ratchet mechanism and single nylon strap. Maximum tensile strength: 1T.

CHANCE

REFERENCE	CLASS	DIAMETER	LENGTH	WEIGHT
M49372	4	9" / 230mm	2' / 61cm	3,2kg
C4060029	4	12"/ 305mm	2' / 61cm	3,6kg

REFERENCE	HOOK TO HOOK MIN. DISTANCE	HOOK TO HOOK MAX. DISTANCE	WEIGHT
C3090323	27" / 70cm	8' / 240cm	5,7kg







INSULATED HANGER

The hanger serves as a convenient parking stand while lineman are installing jumper clamps on lines. The bronze double stud fitting on each side.

SPIRAL LINK STICK

The stick is used in lieu of strain link stick in close places where the lineman cannot safely install a strain link stick by hand. Ferrule castings are of heat-treated aluminum alloy. Spiral hook and butt ring of galvanized steel.

CHANCE

REFERENCE	WEIGHT
S1600-7	1,0kg

CHANCE

REFERENCE	LENGTH	MAX. WORK LOAD	WEIGHT
H4722	27 ¹ / ₂ " / 70cm	1500kg	1,6kg







GRIP-ALL CLAMPSTICK

WIRE-HOLDING STICK

Made of fiber glass-epoxy. Complete metal head with a hook and rods and driving mechanism.

 $\mbox{\sc Made}$ of fiber glass-epoxy. Head and fittings made of aluminum alloy.

CHANCE

REFERENCE	DIAMETER	LENGTH	WEIGHT
C4030292	1¼" / 31mm	6'5½" / 1970mm	2,9kg

REFERENCE	DIAMETER	LENGTH	WEIGHT
C4033068	1¼" / 31mm	6'5½" / 1970mm	2,7kg







RATCHET CABLE CUTTERS

INSULATED JUMPER SET

Made of fiber glass-epoxy. Shear-type steel blades cut without deforming cable of copper through 500MCM (dia. 20,6mm) or aluminum through 1000MCM (dia. 29,2mm).

Used to lines up to 15kV. Has two C-type aluminum clamps with smooth jaws and bronze eyescrews.

CHANCE

REFERENCE	LENGTH	WEIGHT
C4031382	6' / 1830mm	5kg

REFERENCE	CURRENT RATING	LENGTH	WEIGHT
T6010281	200A	12' / 3,65m	4kg
T6010282	200A	15' / 4,57m	4,7kg









TEMPORARY LOAD DISCONNECT TOOL

TEMPORARY CLAMP

To interrupt load currents, the device makes use of a stainless-steel auxiliary blade within arc chute. The tool simply clamps onto primary conductor with a grip-all clampstick. Bronze stud at lower end accepts clamp on temporary tap jumper.

Made of aluminum alloy with two clamps. Clamp for mounting on a line with a screw–eye of bronze.

CHANCE

REFERENCE	MAX. LOAD	WEIGHT
PSC6010347	300A	5kg

REFERENCE	WEIGHT
S1530AA	420g







BLANKET CANISTER

WEBBING SLING

Made of hi-impact, hi-density polyethylene. Provide mechanical and contamination protection.

Made of a polyamide strip with a layer of latex to increase the abrasion resistance.

CHANCE

REFERENCE	DIAMTER	LENGTH	WEIGHT
C4032998	7" / 177mm	37" / 940mm	2,7kg







GLOVE BAG

One piece front and back, bar-tacked at all corners. Double nylon stitching, velcro flap fasteners. Gusset has 4-inch top tapering to 2-inch bottom.

SLEEVE BAG

For flat storage of rubber sleeves. Bar-tacked at all corners. Double nylon stitching, velcro flap fasteners. Gusset has 4-inch top tapering to 2-inch bottom.

CHANCE

REFERENCE	WIDE	LENGTH
C4170148	8" /20cm	18" /46cm

REFERENCE	WIDE (BOTTOM)	LENGTH
C4170149	7" /18cm	27" /69cm





MEDIUM VOLTAGE The overhead lines 15kV-20kV

Set on overhead lines 15kV-20kV

Set up to 15kV-20kV

Set up to 15kV-20kV

The overhead lines 15kV-20kV

ZST 900

Set for live line maintenance on overhead lines 15kV-20kV. For the team (4 linemans).

	ZST 900		
#	product name	reference	quantity
1	Rubber insulating gloves class 2, size 10	PSC216BCYB 10	2 pairs
2	Rubber insulating gloves class 3, size 10	PSC316BCYB 10	2 pairs
3	Rubber insulating gloves class 2, size 11	PSC216BCYB 11	2 pairs
4	Rubber insulating gloves class 3, size 11	PSC316BCYB 11	2 pairs
5	Leather protection gloves	ILP5S	4 pairs
6	Glove bag	C4170148	8 pcs.
7	Rubber insulating sleeves class 3, size XL	PSC3LYBEC	2 pairs
8	Rubber insulating sleeves class 3, size L	PSC3XLYBEC	2 pairs
9	Sleeve harness	H1	4 pcs.
10	Buttons	PSC4060600	16 pcs.
11	Sleeve bag	C4170149	4 pcs.
12	Line hose	C4060298	6 pcs.
13	Line hose	C4060308	10 pcs.
14	Insulator cover	OKRG	6 pcs.
15	Insulating blanket eyelet style	C4060346	8 pcs.
16	Insulating blanket eyelet style	1000-E	6 pcs.
17	Insulating blanket slotted style	C4060348	4 pcs.
18	Blanket canister	C4032998	3 pcs.
19	Clamp	C4060530	24 pcs.
20	Pole cover	C4060029	1 pc.
21	Pole cover	M49372	1 pc.
22	Insulated hanger	S1600-7	2 pcs.
23	Spiral link stick	H4722	2 pcs.
24	Grip-all clampstick	C4030292	2 pcs.
25	Wire-holding stick	C4033068	1 pc.
26	Ratchet cable cutters	C4031382	1 pc.
27	Insulated jumper set	T6010281	3 pcs.
28	Insulated jumper set	T6010282	1 pc.
29	Jumper bag	SPRB-3F/02	4 pcs.
30	Nylon-strap ratchet hoists	PSC3090323	1 pc.
31	Nylon-strap ratchet hoists bag	SHN10/03	1 pc.
32	Loadlooker ammeter	MEAMP32RN2	1 pc.
33	Temporary clamp	S1530AA	6 pcs.
34	Temporary load disconnect tool	PSC6010347	3 pcs.
35	Wire grip	H022	1 pc.
36	Webbing sling	C4170136	4 pcs.
37	Tarpaulin sheet for tools and equipment	H037	1 pc.

HIGH VOLTAGE

Sets up to 110kV, 220kV, 400kV



The equipment required to perform live working on high voltage overhead lines available from the catalog of CHANCE. www.hubbellpowersystems.com







MULTIMETERS, INDICATORS, DETECTORS (low, medium and high voltage)



DIGITAL CLAMP METER

- automatic polarity indication
- overload indication
- low battery indication
- data hold
- power supply: 9V battery
- measurement ranges:
- DC voltage max. 1000V
- AC voltage max. 750V (rms)
- AC current max. 1000A (rms)
- resistance max. $20k\Omega$
- continuity test (sound signal)
- insulation resistance test max 2000M Ω (with insulation tester unit 261)

INSULATION TESTER UNIT

- Using DC-DC converter, it converts 6V DC to 500V DC.
- Power supply: 4 x AA size batteries is the adaptor for clamp meter 266
- Range insulation tester:
 - 1. from $100k\Omega$ to $20M\Omega$
 - 2. from $20M\Omega$ to $2000M\Omega$
- Accessories:
- 2 test leads with an alligator clip



REFERENCE	DIMENSIONS	JAW OPENING	WEIGHT
EM266	230x70x37mm	45mm	310g



REFERENCE	DIMENSIONS	WEIGHT
261	90x70x50mm	200g





INFRARED THERMOMETER

- Infrared non-contact thermometer with single spot laser sighting and LCD display. Possible also the temperature measurement with a K type thermo-couple.
- Memory function (max. number of data -99)
- Auto-power off function(8s after releasing the button)
- Low battery indication
- Power supply: 9Vbattery type 6F22, battery life normal 12h, alkaline 30h
- Measurement range: $-58^{\circ} 2822^{\circ} F / -50^{\circ} 1550^{\circ} C$ (infrared) $-58^{\circ} 3362^{\circ} F / -50^{\circ} 1850^{\circ} C$ (thermo-couple)
- Accuracy: $\pm 4^{\circ}F/\pm 1,8^{\circ}C$ (infrared) $\pm 2^{\circ}F/\pm 1^{\circ}C$ (thermo-couple) [for ambient temp. $23^{\circ}C\div 25^{\circ}C$]
- Response time: 250ms
- Spectral response: 8÷14µm
- Emissivity adjustment: 0,10÷1,00
- Distance to spot: 50:1

INFRARED THERMOMETER

- Infrared non-contact thermometer with single spot laser sighting and LCD display
- Auto-power off function (10s after releasing the button)
- Low battery indication
- Power supply: 9Vbattery type 6F22, battery life 12h
- Measurement range: -4° 968°F / -20° 520°C
- Accuracy: ±3°F / ±2°C
- Response time: 500ms
- Spectral response: 7 18µm
- Emissivity adjustment: 0,95
- Distance to spot: 8:1



REFERENCE	DIMENSIONS	WEIGHT
UT 305C	170x140x53mm	270g



REFERENCE	DIMENSIONS	WEIGHT
EM 520B	160x90x43mm	180g





DIGITAL POWER CLAMP METER

Measurement ranges:

- AC voltage max. 600V (rms)
- frequency 20 ~ 500 (Hz)
- AC current max. 1000A (rms)
- Active power 600 kW max (ranges: voltage 600 V, current 1000A)
- Apparent power 600 kVA max (ranges: voltage 600 V, current 1000A)
- Reactive power 600 kVar max (ranges: voltage 600 V, current 1000A)
- Power factor 0.3 ~ 1
- Phase angle $0o \sim 360^{\circ}$
- Active energy 1 ~ 9999 (kWh)
- Temperature -50 $^{\circ}$ C ~ 1300 $^{\circ}$ C

Accessories:

- 1pair test leads (2,5m, 1000V),
- 1 pair alligator clip (1000V),
- Software,
- USB interface cable,
- Thermocouple,
- Tool box.

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REFERENCE	DIMENSIONS	JAW OPENING	WEIGHT
UT 231	303x112x39mm	55mm	650g

INSULATED PERFORATION MEASURING CLAMP

Blade made of hardened alloy steel. Cover made of polyamide with the addition of fiberglass.

REFERENCE	WIRES CROSS-SECTION	MAX LOAD
H100/1	10÷300mm²	1000mA





UNIPOLAR ACOUSTIC-OPTICAL PHASING DEVICE AND INDICATOR ROTATION DIRECTION

EN 61243-1:2005

Used in three phase network with the voltage from 48 to 500V and 120 $^{\rm o}$ interphase angle

- Power supply: 9V battery, 6LR61 type
- Optical and acoustic signalling
- The phase info is saved for max. 25s
- Signals: saving the phase, compatibility and incompatibility the phases, measuring the direction of rotation,
- All featuring signals are strong and easily recognisable
- The device is delivered in hard case

UNIPOLAR ACOUSTIC-OPTICAL BAR VOLTAGE INDICATORS

EN 61243-1:2005

Used in the networks from 200V to 36kV. The indicator is adjusted to be fitted on insulating stick (according to IEC 60832). Power supply: 9V battery, 6LR61 type

Operating and efficient indicator produces periodical audio and light signals. Voltage control is carried out in the way of touching to examined area with the contact stud. In the casa the place is under voltage, periodical audio and light signals change into constant.





REFERENCE	LENGTH	WEIHT
JUFr-0,05/0,5	240mm	350g





REFERENCE	VOLTAGE RANGE	LENGTH	WEIGHT
JWNd 0,2/1	200÷1000V	240mm	350g
JWNd 12/36	12÷36kV	240mm	350g





VOLTAGE TESTER EASY VOLT I

Voltage measurement:

- Voltage range 6÷690V
- LED resolution: 6, 12, 24, 36, 50, 120, 230, 400, 690V Single pole phase test:
- Voltage range 6÷690V
- Frequency range 45÷65Hz

Continuity test:

- Threshold <200k Ω
- Test current<20µA

Phase rotation of a three-phase mains:

- Voltage range 100÷690V
- Frequency range 50÷65Hz



REFERENCE	DIMENSIONS	WEIGHT
306201	245x61x36	230g

VOLTAGE TESTER EASY VOLT II

Voltage measurement:

- Voltage range 6÷690V
- Bargraph resolution: 6, 12, 24, 36, 50, 120, 230, 400, 690V
- LCD voltage range: 10÷690V

Single pole phase test:

- Voltage range 6÷690V
- Frequency range 45÷65Hz

Resistance measurement:

- Range: 0÷2kΩ

Continuity test:

- Threshold <200k Ω
- Test current<20µA

Phase rotation of a three-phase mains:

- Voltage range 100÷690V
- Frequency range 50÷60Hz



REFERENCE	DIMENSIONS	WEIGHT
306202	245x61x36	230g





VOLTAGE TESTER

DIGITAL THERMOHIGROMETER

- Indication: LED lights up to voltage reading Voltage range:

- 12V/24V/50V/120V/230V/400V/600V
- Frequency range: 0÷60Hz

Power supply: AA battery

- Measurement ranges:
- Relative humidity (0% \div 100% RH),
- Temperature $(0^{\circ}\text{C} \div 50^{\circ}\text{C}, 32^{\circ}\text{F} \div 122^{\circ}\text{F})$
- Low battery indication,
- Data hold
- Max. and min. memory

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REFERENCE	WIRE LENGTH	WEIGHT
GK 10	1000mm	180g

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REFERENCE	DIMENSIONS	WEIGHT
EM608	230x84x43mm	260g





DIGITAL EARTH CLAMP TESTER

Earth resistance:

- Ranges 0...20-200-600-1200 Ω
- Resolution. 0,01-0,1-1-10 Ω

AC current:

- Ranges 0...100-1000mA-10-30A
- Resolution. 0,1-1mA-0,01-0,1A
- Auto-ranging wide measuring range
- -True rms measurement
- Memory function (max. number of data -99)
- Data hold function
- Noise check function
- Low battery indication
- Display LCD with a maximum count of 2099
- Sample rate 1x/s
- Response time 7s(resistance), 2s (current AC)

LOADLOOKER AMMETER

It has a splined end-fitting for attachment to the stick.

- Power supply: 9Vbattery
- Operating temperature -30 \div +60 $^{\circ}$ C
- Memory function
- Low battery indication
- The housing is resistant to shock water



REFERENCE	MAX WIRE DIAMETER	MEASUREMENT FREQUENCY	DIMENSIONS	WEIGHT
KEW 4200	32mm	2400Hz	246x120x54mm	780g

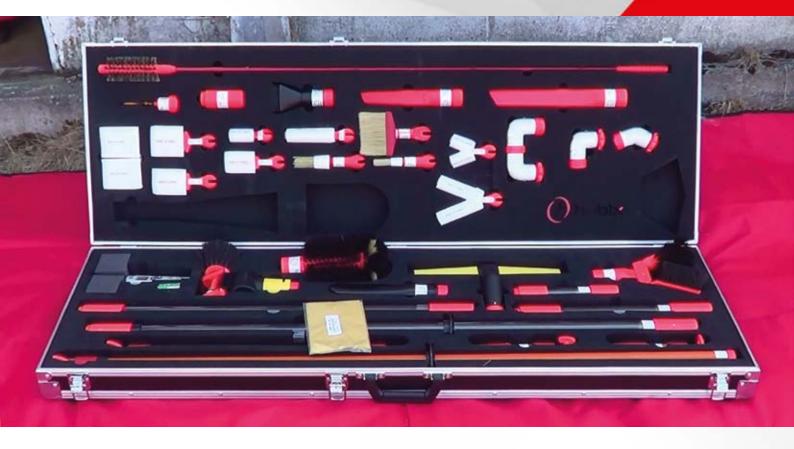


REFERENCE	MAX VOLTAGE	MEASREMENT RANGE	FREQU- ENCY	JAW SIZE	WEIGHT
MEAM- P32RN2	500kV	do 5000A	50HZ	2,5"/ 63,5mm	1,4kg





BAGS, BOXES AND COVERS FOR STORAGE AND TRANSPORTATION



TOOL BAG

TOOL BOX

Made of hard leather, mechanical damage and moisture resistant. Corners of the bag are reinforced with aluminum slats.

Made of ABS. Double handles. Boxes can be connected for transport and storage. Tools are stored in foam inserts, made directly for type of tools. The possibility of configuring boxes.

REFERENCE	DIMENSIONS	WEIGHT
НТО	540x300x180	4,7kg

REFERENCE	DIMENSIONS	NUMBER OF FOAM INSERTS	WEIGHT
2608438692	442x357x151mm	1	2,2kg
2608438693	442x357x253mm	3	2,7kg
2608438694	442x357x389mm	4	3,3kg









STICKS COVER

STICK COVER

Made of impregnated polyester fabric, mechanical damage resistant. For H010, H011, H012 stick, transport.

Made of impregnated polyester fabric, mechanical damage resistant. For H094 stick, external pocket for sockets.

REFERENCE	DIMENSIONS	WEIGHT
SH10/11/12	2350x190mm	460g

REFERENCE	DIMENSIONS	WEIGHT
H090-20	1900x190mm	460g





EQUIPMENT BAG

STICK H010 EQUIPMENT COVER

Made of impregnated polyester fabric, mechanical damage resistant. Pockets for insulating equipment (blankets, flexible covers, rigid covers, clamps, etc.).

Made of impregnated polyester fabric, mechanical damage resistant. For stick H010 equipment (pruning saws: H013, H014,brush H015 and spiral hook H016) transport.

REFERENCE	DIMENSIONS	WEIGHT
H059	900x600mm	1500g

REFERENCE	DIMENSIONS	WEIGHT
SH013/14	590x210mm	150g





1204

PORTABLE SHUNT CABLES BAG

MIDDLE BAG

Made of impregnated polyester fabric, mechanical damage resistant. The bottom reinforced insert. For shunt cables transport.

Made of impregnated polyester fabric, mechanical damage resistant. For rope block H017, the transport block H019 or the equipment for the workplace marking transport.

REFERENCE	DIMENSIONS	WEIGHT
SPRB-3F/02	250x310x310	870g

REFERENCE	DIMENSIONS	WEIGHT
SH017/19	410x270x125mm	220g





DRY CLEANING SET BAG

CLEANING AND MAINTENANCE SET BAG

Made of impregnated polyester fabric, mechanical damage resistant. Internal pockets for dry cleaning equipment segregation.

Made of impregnated polyester fabric, mechanical damage resistant. Internal pockets for wet cleaning, bolted connection and cables terminations equipment segregation.

REFERENCE	DIMENSIONS	WEIGHT
H091-19	1440x320mm	1850g

REFERENCE	DIMENSIONS	WEIGHT
H090-17/19	1420x250mm	1480g









DRY AND WET CLEANING SET BOX

Rigid box made of plywood with aluminium profiles. Lined with polyurethane foam with cut-outs for various equipment mounting. For dry and wet method equipment transport and storage.

CLEANING AND MAINTENANCE SET BOX

Rigid box made of plywood with aluminium profiles. Lined with polyurethane foam with cut-outs for various equipment mounting. For live working equipment transport and storage.

REFERENCE	DIMENSIONS	WEIGHT
ZST 5060	1400x450x120mm	10kg

For special orders box dimensions may be changed.

REFERENCE	TYPE OF EQUIPMENT	DIMENSIONS	WEIGHT
ZST 500	dry cleaning method		
ZST 600	wet cleaning method	1400-440-420	71
ZST 700	handle bolted con- nections	1400x410x120mm	7kg
ZST 800	filling cable termi- nations		

For special orders box dimensions may be changed.







CABLES CUTTER COVER

SMALL TOOL BAG

Made of impregnated polyester fabric, mechanical damage resistant. For cables cutters HN10N transport and storage.

Made of artificial leather, mechanical damage resistant.

REFERENCE	DIMENSIONS	WEIGHT
SHN10/03	520x230mm	135g

REFERENCE	DIMENSIONS	WEIGHT
H025	320x320x60mm	470g







GLOVE BAG

SLEEVE BAG

One piece front and back, bar-tacked at all corners. Double nylon stitching, velcro flap fasteners. Gusset has 4-inch top tapering to 2-inch bottom.

For flat storage of rubber sleeves. Bar-tacked at all corners. Double nylon stitching, velcro flap fasteners. Gusset has 4-inch top tapering to 2-inch bottom.

CHANCE

CHANCE

REFERENCE	WIDE	LENGTH
C4170148	8" /20cm	18" /46cm

REFERENCE	WIDE (BOTTOM)	LENGTH
C4170149	7" /18cm	27" /69cm





GLOVE BAG

BOX WITH FOAMED INSERT

Made of impregnated polyester fabric, mechanical damage resistant. It is used for protection and proper storage of dielectric gloves, leather protective gloves, and cotton gloves.

Made of polypropylene. For tool and equipment transport.

REFERENCE	DIMENSIONS	WEIGHT
H047	400x200mm	120g

REFERENCE	DIMENSIONS	WEIGHT
ZST 110		
ZST210		
ZST220	390x320x120mm	900g
ZST550		
ZST551		







TRANSPORT BAG (long)

TRANSPORT BAG (short)

Bag made of polyester fabric, impregnated, reinforced webbing. Used for wires covers transport.

Bag made of polyester fabric, impregnated, reinforced webbing Used for tools and equipment transport.



REFERENCE	DEPTH	DIAMETER	WEIGHT
H035	1250mm	230mm	750g



REFERENCE	DEPTH	DIAMETER	WEIGHT
H036	400mm	300mm	530g









BIG HARD BOX

EQUIPMENT BOX

Rigid box made of plywood with aluminium profiles, lined with polyurethane foam. It has wheels for easy transport. For transport and storage of cable crimping or cutting device.

Rigid box made of plywood with aluminium profiles lined with polyurethane with cut-outs foam for fixing various accessories. For dry method cleaning up to 1kV equipment transport and storage.

REFERENCE	DIMENSIONS	WEIGHT
SINK/PHI	820x590x230mm	12,6kg

REFERENCE	DIMENSIONS	WEIGHT
ZST 555	720x470x140mm	6,1kg





NYLON-STRAP RATCHET HOISTS BAG

Made of impregnated polyester fabric, mechanical damage resistant. For nylon-strap ratchet hoists store and transport.

REFERENCE	DIMENSIONS	WEIGHT
H068	800x200x100mm	400g



STANDARDS INDEX

LIST OF MAIN STANDARDS USED TO PERFORMANCE AND TESTING EQUIPMENT AND TOOLS FOR LIVE WORKING

EN 166:2001

"Personal eye-protection - Specification"

EN 170:2002

"Personal eye-protection - Ultraviolet filters - Transmittance requirements and recommended use"

EN 172:1994 + EN 172:1994/A2:2001

"Personal eye protection - Sunglare filters industrial use"

EN 388:2003

"Protective gloves against mechanical risks"

EN 397:2012

"Industrial safety helmets"

EN 420:2003 + EN 420:2003/AC:2006

"Protective gloves - General requirements and test methods"

EN-50340:2010

"Hydraulic cable cutting devices - Devices to be used on electrical installations with nominal voltage up to AC 30kV"

EN 60832-1:2010

"Live working - Insulating sticks and attachable devices - Part 1: Insulating sticks"

EN 60832-2:2010

"Live working - Insulating sticks and attachable devices - Part 2: Attachable devices"

EN 60855:1996

"Insulating foam-filled tubes and solid rods for live working"

EN 60900:2012

"Live working - Hand tools for use to 1 000 V a.c. and 1500 V d.c."

EN 60903:2003 + AC2:2005

"Live working - Gloves of insulating material"

EN 60947-3:2009 + EN 60947-3:2009/A21:2012

"Low-voltage switchgear and controlgear. Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units"

EN 61057:1993 + EN 61057:1993/AC:2005

"Aerial devices with insulating boom used for live working exceeding 1 kV a.c."

EN 61112:2009

"Live working - Electrical insulating blankets"

EN 61229:1995 + EN 61229:1995/A2:2002

"Rigid protective covers for live working on a.c. installation"

EN 61479:2001 + EN 61479:2001/A1:2002

"Live working - Flexible conductor covers (line hoses) of insulating material"

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