

# eMOBILITY



**FIT FOR FUTURE:**  
THE BEST TOOL  
AND EQUIPMENT  
FOR ELECTRIC MOBILITY



[www.kstools.com](http://www.kstools.com)



**⚡ CERTIFIED SAFETY**

**⚡ GUARANTEED QUALITY**

**⚡ 100% TESTED**



**OUR COMPETENCE  
IS BASED ON EXPERIENCE  
AND INNOVATION.**

**THEREFORE, YOU SHOULD  
DECIDE FOR US!**

- Because we design and build premium tools
- Because safety has always been important to us
- Because we develop new products with a pioneering spirit
- Because we know what is required in practice
- Because our products are certified
- Because our logistics sets standards

# TABLE OF CONTENTS

## PERSONAL PROTECTIVE EQUIPMENT

# 22

HELMETS WITHOUT FACE PROTECTION	from page 24
FACE PROTECTION	from page 25
HELMETS WITH FACE PROTECTION	from page 26
PROTECTIVE CARRYING BAGS / ACCESSORIES	from page 27
GLOVES WITH PROTECTIVE INSULATION	from page 28
UNDERWEAR GLOVES FROM	from page 32
GLOVES FROM	from page 33
PROTECTIVE CARRIER BAGS / STORAGE	from page 33
CLEANING / TESTING	from page 36
BOOTS WITH PROTECTIVE INSULATION	from page 36

## SURFACE INSULATION

# 38

RUBBER COVER CLOTH WITH PROTECTIVE INSULATION	from page 40
RUBBER FLOOR MAT	from page 42
PROTECTIVE CARRIER BAGS / STORAGE	from page 42
SIGNAGE AND MARKINGS	from page 46
BARRIERS	from page 48
RESCUE KITS	from page 50

## MEASURING AND TESTING EQUIPMENT

# 52

VOLTAGE TESTER	from page 54
AMPERE PLIERS	from page 58
MULTIMETER	from page 59
INFRARED THERMOMETER	from page 61



## ISOLATED TOOLS

# 62

KEYS WITH PROTECTIVE INSULATION	from page 64
1/4" TOOLS WITH PROTECTIVE INSULATION	from page 68
3/8" TOOLS WITH PROTECTIVE INSULATION	from page 71
1/2" TOOLS WITH PROTECTIVE INSULATION	from page 80
3/4" TOOLS WITH PROTECTIVE INSULATION	from page 89
TORQUE WRENCH WITH PROTECTIVE INSULATION	from page 90
SCREWDRIVER WITH PROTECTIVE INSULATION	from page 92
SCREWDRIVER SETS WITH PROTECTIVE INSULATION	from page 95
PLIERS WITH PROTECTIVE INSULATION	from page 98
PLIER SETS WITH PROTECTIVE INSULATION	from page 107
CABLE SHEARS WITH PROTECTIVE INSULATION	from page 109
ELECTRICAL INSULATING TAPE	from page 118
STRIPPING PLIERS	from page 119
CRIMP TOOLS	from page 120
LED LAMPS WITH PROTECTIVE INSULATION	from page 126
TWEEZERS AND MIRRORS WITH PROTECTIVE INSULATION	from page 126

## TOOL RANGES WITH PROTECTIVE INSULATED TOOLS

# 128

TOOL CASE WITH PROTECTIVE INSULATED TOOLS	from page 130
TOOL TROLLEY WITH PROTECTIVE INSULATED TOOLS	from page 140
LIFTING TECHNOLOGY	from page 149

## CHARGING INFRASTRUCTURE

# 150

WALLBOXES	from page 162
ACCESSORIES FOR WALLBOXES	from page 170
WALLBOXES IN COMPARISON	from page 172
MOBILE CHARGER	from page 176
CHARGING CABLE	from page 180

# **ELECTROMOBILITY IS OUR PASSION, PASSION IS OUR DRIVE.**





With manufacturing expertise, we offer high-quality tool solutions for professionals for safe use under high voltage – of individual articles up to ready-assembled workstations for repair and maintenance of Electric and hybrid vehicles. We are happy to go an extra round if you have individual wishes. We love challenges and make individual Solutions possible by arrangement!



# BUILT FOR TODAY, READY FOR THE FUTURE



- Routine tested in accordance to DIN EN 60900 / IEC 60900:2004 submitted to 10 000 V dielectric strength
- Insulated protected two component handle with ergonomic handle design
- Soft, yellow component with micro structured surface
- Blade made out of S2 special steel - continuous hardened, phosphated and completely insulated

Handle colour: Yellow / red



- Routine tested in accordance to DIN EN 60900 / IEC 60900:2004 submitted to 10 000V dielectric strength
- Insulated protected two component handle with ergonomic hand protection
- Forged and tempered
- Head chrome plated, PTFE coating
- Precise machined, oil hardened and tempered
- Cutting edges inductively hardened
- Special quenched and tempered steel

Handle colour: Yellow / red



- Routine tested in accordance to DIN EN 60900 / IEC 60900:2004 submitted to 10 000V dielectric strength
- Two tone layer insulated protection with ergonomic hand protection
- Supported by the directive BGV A3 (VBG-4)
- Faulty isolation layer becomes visible by the yellow layer shining through
- Forged and tempered
- Head chrome plated
- Precise machined, oil hardened and tempered
- Cutting edges inductively hardened
- Special quenched and tempered steel

Handle colour: red



From the first idea to the last control, we do everything we can to use our tools as perfect as possible. Nothing less is our claim.

## IDENTIFICATION STANDARDS



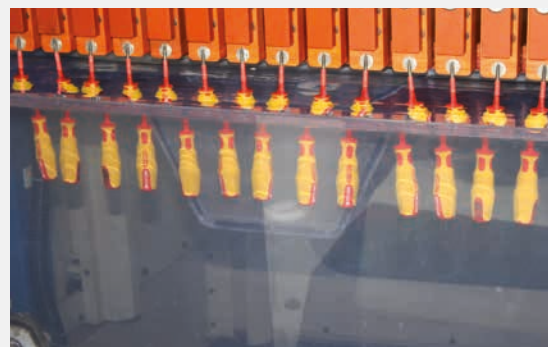
- For technical materials and ready- finished products according to GPSG (the Equipment and Product Safety Act).
- The marking stands for the security of the product with regards to electrical, mechanical, thermal, toxic, radiological and other endangering applications.
- Documents the conformity with VDE regulations and/ or European and/or international valid standards.



- All tools with double triangle marking are tested on 10 000 V piece by piece and approved with 10 fold security for 1000 V.

AC 1000V  
IEC 60900:2004

- Is equivalent to DIN EN 60900 / IEC 60900:2004
- The international standard which describes the construction of insulated tools in detail (e.g., insulation, thickness). Furthermore individual tests (piece by piece tests) as well as series and random check tests are defined therein.
- Manufactured and examined for working processes at voltages up to AC 1000 V and DC 1500 V



## INNOVATION AND QUALITY.

Our constantly growing innovative strength and the Increased quality awareness of customers demands a continuous improvement of product quality and Productivity. The pursuit of ever better Products are shared by all employees in our house.

# EACH SINGLE PIECE-TESTED SECURITY YOU ARE LOOKING FOR BE ABLE TO RELY ON IT!



## Voltage test

Insulated tools are examined individually (piece by piece). All tools with the identification mark are checked with AC 10.000 V and are admitted for 1.000 V. Safety is thereby guaranteed to multiple of 10!



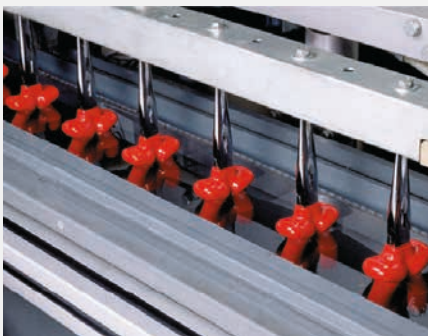
## Cold impact test

The toughness of the PVC material is checked by an impact weight while the tools are cooled down to  $-25^{\circ}\text{C}$ . Afterwards no tears or damages may exist.



## Testing of the electric insulation resistance

After 24 hours of underwater storage the tools with AC 10.000 V are tested for three minutes while simultaneously testing for current leakage is measured. For the duration of the test no breakdown of the insulation is accepted.



## Pressure test

At a pressure load of 20 Nm and a temperature of  $70^{\circ}\text{C}$  no penetration of the insulation is allowed at test voltage of AC 5.000 V.



## Testing of the adhesive power of the PVC coating

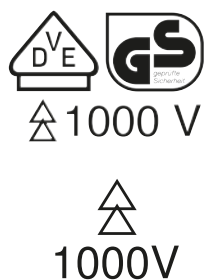
After being stored for 168 hours at  $70^{\circ}\text{C}$  the adhesive strength of the PVC coating on the pliers is checked with a tensile force of 500 Nm. After this test the insulation must still be remain snug and firm against the body.



## Testing of flame resistance

In order to avoid any risk of fire hazard, the insulation material is made from flame resistant and self-extinguishing PVC material.





The isolated VDE tools of KS TOOLS are specially designed for the work on power lines coordinated. 1,000 volts flows through these Cables. In case of using normal tools this can cause severe physical damage, up to and including death can lead. Therefore, the use of isolated tools is mandatory.

## HANDLE VARIANTS

2 Component safety handle in accordance to IEC 60900

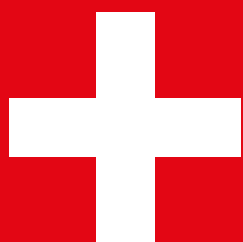


- Consists of a soft component for the gripping zone and a slightly harder component for the movement zone.
- A protection zone to the head side offers safe holding while pushing.
- All tools are admitted to 10 000 V testing piece by piece, with 10 fold security for 1 000 V. Approved for: AC 1000 V DC 1500 V
- Is equivalent DIN EN 60900 and normal VDE

Two tone repeated protection insulated in accordance to IEC 60900:2004



- Handle with inserted safety system supported by the directive BGV A3 (VBG-4). Before starting to work a sight test on externally recognizable losses must take place.
- Faulty isolation layer becomes visible by the yellow layer appearing
- All tools are admitted to 10 000 V testing piece by piece, with 10 fold security for 1 000 V. Approved for: AC 1000 V DC 1500 V
- Is equivalent DIN EN 60900 and normal VDE



**NOTHING IS MORE  
IMPORTANT TO US  
AS YOUR HEALTH**

# THE GUIDE BY THE JUNGLE OF STANDARDS

## VDE

### **Association of Electrical And Electronic Engineering Information Technology e. V.**

With the non-profit VDE testing and Zertifizierungsinstitut GmbH test the independent Inspector of the VDE Institute more than 100,000 devices and Tools per year. If the product passes the tests, it receives the VDE character, a triangle.

## IEC

### **International Electrotechnical Commission**

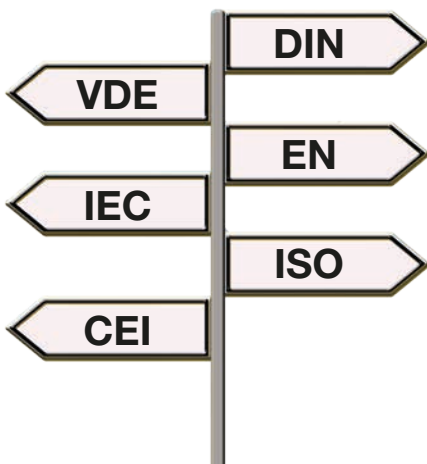
Technical Committees, Subcommittees and Working Groups develop international standards and Standards of electrical engineering. In the IEC, more than 80 countries represented, organized in 1442 Working groups and commissions.

## CEI

### **Commission électrotechnique internationale**

French-language designation of the IEC (see above).





With the numerous standards, it is not so easy to keep an overview. But this is extremely important, when it is about the right tools and the right Protective equipment for high-voltage work goes. Therefore let's tell you what is behind the most important abbreviations hidden:

## DIN

**German Institute for Standardization e. V.**

A DIN standard is a voluntary standard in which tangible and intangible assets standardised become. It shall be developed by a committee, checked and then released. DIN standards form a benchmark for flawless technical behaviour and are therefore within the framework of of the legal system.

## EN

**European Standard (EN)**

They are ensed by the three European committees for standardisation (European Committee) for Standardisation (CEN), European Committee for electrotechnical standardisation (CENELEC) and the European Telecommunications Standards Institute (ETSI).

## ISO

**International Organization for Standardization**

An ISO standard is one of the International Organization for Standardization (ISO) approved standard, which has to meet worldwide standards.



# THE MOBILITY OF TOMORROW: A EXCITING WORLD





Electromobility is booming: one in ten newly registered passenger cars drives electrically, which Growth rate was over 330 percent in mid-2021! Overall, meanwhile, almost 600,000 electric cars on the road in Germany. Tendency naturally strong rising. Because the attractive funding programs of the Federal Government fuel the market during car-sharing vehicles and last-mile solutions a new creating awareness for electric mobility.



# WHICH TYPES OF ELECTRIC VEHICLES IS THERE?

## THE PURE ELECTRIC CAR (BEV)

Pure electric vehicles, after the abbreviation of the English term (»Battery Electric Vehicle«) are also called BEVs, use for the drive exclusively an electric motor. They obtain the required energy from a direct battery in the vehicle. This will be

charged via the power grid and can recover recovered Store braking energy. This process is called recuperation. With this drive variant the following models are offered: Smart ED, VW e-Golf, Tesla Model S or Renault ZOE.

## RANGE EXTENDER (REEV)

Also the genus »Range Extended Electric Vehicle« (REEV) are electric vehicles. You have in addition to their battery, in addition to a Internal combustion engine, which is used as a range extender (»Range Extender«). This additional Engine drives the vehicle in contrast to the PHEV does not directly, but only delivers the power

for the battery. Reaches battery status its defined minimum range, the range Extender enabled to prevent the Vehicle while driving due to an empty Battery stops. Now the gasoline engine supplies the battery with electricity, which provides an additional range of about 100 km. Typical Range Extenders include the BMW i3 or the Ampera from Opel.

## PLUG-IN HYBRID VEHICLE (PHEV)

Hybrid Electric Vehicle (HEV) use both an electric motor and a Internal combustion engine. Since they are externally connected to the power grid can be charged, they will be the Assigned to the category of e-mobiles – even if in this case, the conventional with the electrical Drive system is combined. At HEV, the Battery via the internal combustion engine or the recovered

braking energy (recuperation) loaded. PHEV models take advantage both shortened distances (usually around the 50 km) completely electric, as well as other Comfortable routes with the help of the combustion engine to be able to cover. Well-known representatives of these Vehicle types include the Lexus 450 RX, the VW Passat Variant or the Mitsubishi Outlander.

Electric cars have different modes of operation and design features. If an e-mobile is to be operated economically, the respective driving behaviour can be included in the purchase decision. Not every model is suitable for all user habits. Basically distinguishes there are three vehicle variants: the pure electric vehicle, the range extender and the plug-in hybrid. In the following, the structure and essential features of this models explained.

## HYBRID ELECTRIC VEHICLE (HEV)

Hybrids are vehicles that are used with a combustion engine and an electric motor are on the road. External charging on the power grid is not possible here. In general, the Electric motor the combustion engine above all when starting off, if this is a bad efficiency. This is how fuel consumption can be reduced by 15 – 25%. The difference between a classic hybrid and a plug-in

Hybrid consists in the fact that a full hybrid is only about very short distances can be operated purely electrically. However, recuperation can be used in this model type only be used when the battery is sufficient is charged and the electric drive from the controller is released. According to this principle of operation works z.B. the engine of the Audi A3 Sportback e-tron.

## FUEL CELL VEHICLE (FCEV - FUEL CELL ELECTRIC VEH)

At FCEV, the electrical energy is generated during operation made of hydrogen and Oxygen. Here, a fuel cell is replaced by fed the hydrogen enduring storage in a tank. The components hydrogen and oxygen generate electrical energy by means of electrolysis Energy that drives the electric motor or also in of a battery. In this process there are no emissions. From the vehicle only water vapour escapes. Refuelling takes only a few minutes and is connected to the

classic Refuelling process comparable to petrol or diesel. The Range to be achieved is between 500 and 600 Km. However, since the production of fuel cells is changing as very energy-intensive and expensive, the ecological footprint despite the impressive Waterampf balance is not consistently positive. Therefore, only a few manufacturers offer corresponding Vehicles on: Exemplary here are the Hyundai NEXO and the Mercedes-Benz GLC F-Cell.

## HOW DO YOU DETERMINE THE RANGE OF AN E-MOBILE?

Quite simply with the formula »Battery capacity, divided by energy consumption per 100 km, times 100«.

Or as an example: Does a vehicle with the battery capacity of 50 kWh over the

Energy consumption of 16 kWh per 100 km, then resulted in the calculated range of 312 km. However, this is only a theoretical value. Factors such as Driving behaviour, track conditions or payload influence the vehicle performance and thus lead to deviations.



# VOLTAGE IS NOT THE SAME VOLTAGE

## ON-BOARD CHARGING SYSTEM (OBC)

Converts the current from a Household socket comes in 240 volts DC.

## BATTERY

Voltages between 300 and 800 volts DC

## HEATING AND AIR CONDITIONING SYSTEM

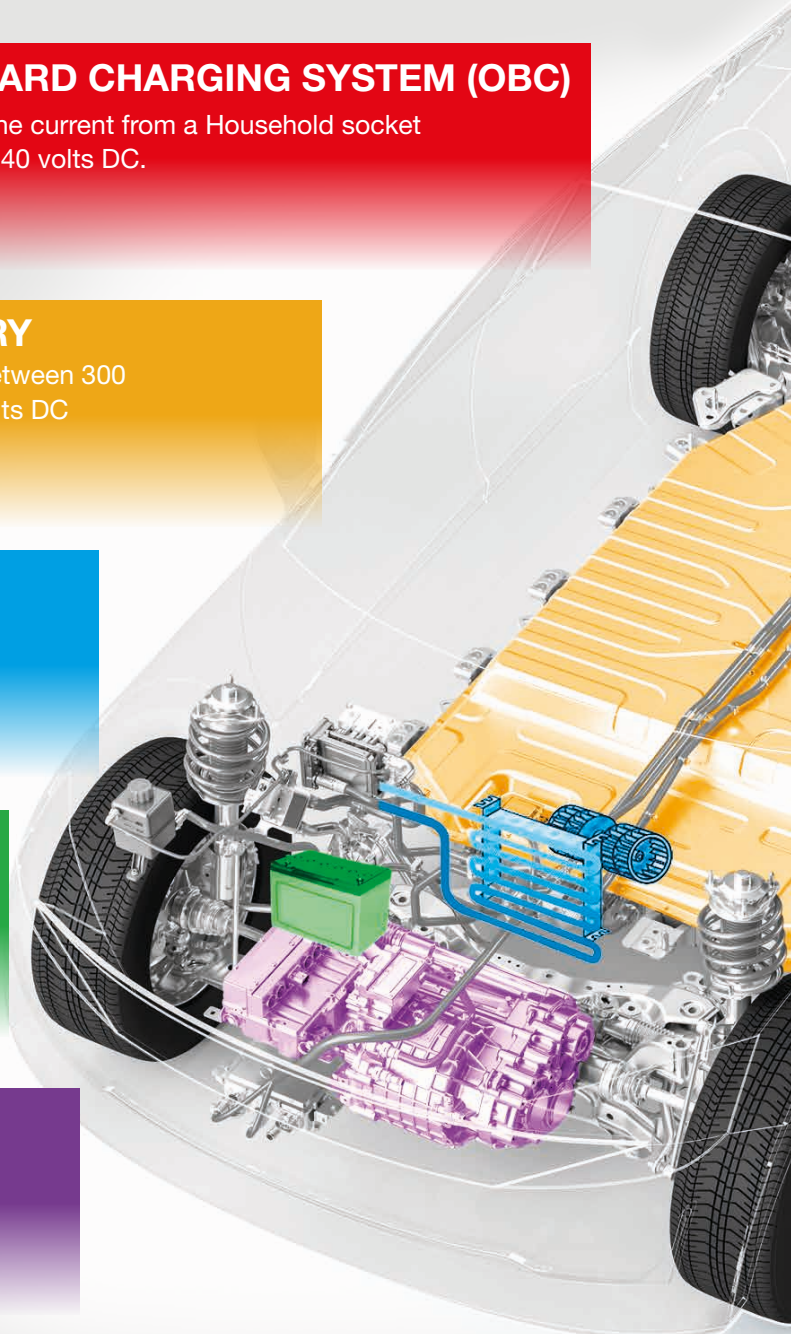
Voltage above 300 volts AC

## AUXILIARY BATTERY

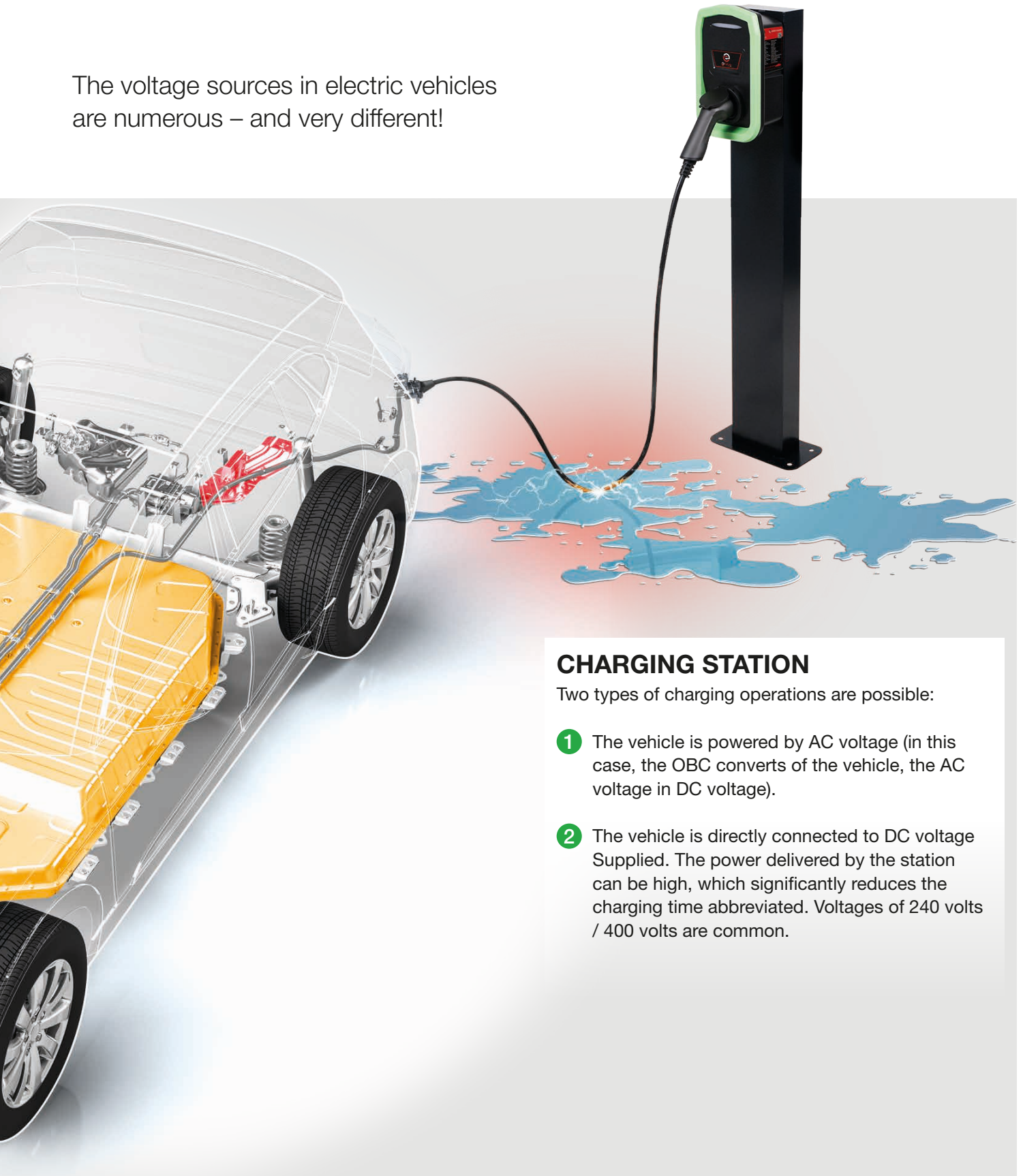
12 Volt DC

## DRIVE

Voltages above 300 volts  
Alternating current



The voltage sources in electric vehicles are numerous – and very different!



## CHARGING STATION

Two types of charging operations are possible:

- 1 The vehicle is powered by AC voltage (in this case, the OBC converts the AC voltage in DC voltage).
- 2 The vehicle is directly connected to DC voltage Supplied. The power delivered by the station can be high, which significantly reduces the charging time abbreviated. Voltages of 240 volts / 400 volts are common.

# CHARGING CABLE AND PLUG FOR ELECTRIC VEHICLE

## CHARGING CABLES FOR ELECTRIC VEHICLES

### MODE 2 CHARGING CABLE

At the factory, most vehicles are processed by respective manufacturer with a Mode 2 charging cable equipped. In principle, this allows an Electric car also via the household socket load. The cable has at one end of the connector via a commercially available Schuko plug, on at the other end is the appropriate plug to your car model. From a security perspective and charging time is not recommended, because the flowing energy flows are clear are to be classified higher than in the case of the conditioning of a classic household appliance. An in-cable control Box (ICCB) is placed between the vehicle plug and connectiontecker and acts as Communicator between the electric vehicle and the charging port.

### MODE 3 CHARGING CABLE

The work is much faster and more comfortable Charging process with the Mode 3 charging cable via a so-called wallbox. Here is the cable mostly firmly integrated and enables charging capacities of up to 43 kW. When purchasing an e-mobile, but this consideration does not matter. Decisive for charging the vehicle is the type of plug required. Since the Type 2 plug is standard in Europe, charging stations are often with a type 2 Socket equipped. Here- with can both Type 1 electric vehicles (Asian and US american Passenger cars) as well as type 2 (European) can be loaded.

## WHICH PLUG FOR WHICH ELECTRIC CAR?

### TYPE 1 PLUG



The single-phase type 1 connector with a Charging power of up to 7.4 kW (230 V, 32 A) is found as a standard primarily in Car models from the Asian or U.S. room use. This one with five contacts Plug communicates via two Current conductor and is suitable for single-phase Charging with a voltage of 110 or 230 volts. Exist in Europe however, hardly any charging stations for this with a fixed Type-1-Charging cable.

### TYPE 2 PLUG



The three-phase type 2 connector with a Charging power of up to 22 kW (400 V, 32 A) in the private environment and up to 43 kW (400 V, 63 A) at public charging stations, is in the European area most widespread and is considered standard in this country. He is also known as the Mennekes plug. At the Most public charging stations can be Connect a Mode 3 cable, which allows both e-mobiles with type 1 and type Allow 2 plugs to charge. Is the station connected via the three-phase power grid, goes charging much faster. In addition, type is 2 secured against unauthorised removal.



## COMBO PLUG

(Combined Charging System CCS)



The combo plug (CCS) has two supplementing power contacts and extends the type 2 plug with it a fast charging function. This plug supports AC and DC charging (AC and DC charging) theoretically with up to 400 kW. Regular in practice, this value is more likely to rank at 50 kW.

## TESLA SUPERCHARGER



Tesla's Supercharger is considered a modified Variant of the Mennekes plug Type 2. In just 30 minutes, it enables 80% charging of the Tesla Model S with a charging power of up to 120 kW (direct current). Become a Tesla Supercharger so far not for other vehicle makes Offered. For Tesla customers, this will Charging at public charging stations as free service offered.

## CHADEMO PLUG



This is a fast charging system, developed in Japan and comparable to the CSS system is. It also allows Charging capacities of up to 400 kW but is rare in Europe to be encountered.

## PLUGS FOR AT HOME, IN WORKSHOPS AND AT PUBLIC CHARGING STATIONS

### SCHUKO SOCKET



At public charging stations, sometimes conventional household sockets (Schuko sockets) installs. They allow charging of all electric vehicles via one fashion 2 charging cables. To achieve a charging power from up to 3.7 kW (230 V, 16 A) to, an additional Hedge. Without prior verification the socket is recommended a maximum charging power of 2.3 kW (230 V, 10 A).

### CEE PLUG



A distinction is made here between the single-phase, blue variant, which is often used in the camping sector and with a Charging power of up to 3.7 kW (230 V, 16 A). The three-phase, red Version for industrial sockets is offered in two versions: While the small industrial plug (CEE 6) Charging capacities of up to 11 kW (400 V, 16 A), the large (CEE32) charging capacities of up to to 22 kW (400 V, 32 A).

# PERSONAL PROTECTIVE EQUIPMENT

**Working under tension is a matter of the mind. Therefore, you will find on the following a selection of safety helmets and face shields that ensure that that you always keep a cool head can.**

Well protected from head to toe: This guarantees the personal protector equipment from KS TOOLS. In the event of an emergency, protect the helmets presented here and visors in front of flying sparks and electric arcs – of course DIN certified!

**ACTIVE PROTECTION IN  
THE EVENT OF ARC FAULTS**

**PROTECTS AGAINST HEAT  
AND FLYING PARTICLES**

**COMFORTABLE TO WEAR  
THROUGH PERFECT ERGONOMICS**











## HELMETS WITHOUT FACE PROTECTION

117.1608 ... 1610

## PROTECTIVE HARD HAT

- DIN EN 50365 CE 0340
- Safety helmet according to EN 50365: 2002-11
- electrical insulation 1.000 V AC
- adjustable from 51 - 64 cm


  
1000V


	Color		Price
117.1608	white		45,90 €
117.1609	yellow		45,90 €
117.1610	red		45,90 €






**45,90**  
**EUR**

117.0020 ... 0023

## PROTECTIVE HARD HAT

- DIN EN 50365
- electrical insulation 1,000 V AC
- removable headband,
- adjustable from 53 - 63 cm
- with fastening device
- for accessories


  
1000V


	Color		Price
117.0020	white		15,90 €
117.0021	bau		15,90 €
117.0022	red		15,90 €
117.0023	yellow		15,90 €

**15,90**  
**EUR**

## FACE PREDECTION

117.1780

ELECTRICIAN'S FACE SHIELD,  
CLASS 1

- DIN EN 166: 2001
- Fault arc tested to DGUV GS-ET-29, test level W(LBP) = 318 kJ (corresponds to prospective test short-circuit current 7 kA/0.5 s) EN 166
- Face protection for 117.1608 -117.1610



Arc fault	
117.1780	Class 1
1000V	

157,<sup>90</sup> EUR

117.1796

ELECTRICIAN'S FACE SHIELD,  
CLASS 2

- DIN EN 166: 2001
- Fault arc tested to DGUV GS-ET-29, test level W(LBP) = 318 kJ (corresponds to prospective test short-circuit current 7 kA/0.5 s) EN 166
- Also fault arc tested to ASTM F2178, ATPV: 7.0 cal/cm²
- Suitable for standard electrician's hardhat
- Size adjustment is made by rubber band



Arc fault	
117.1796	Class 2
1000V	

271,<sup>90</sup> EUR

117.0224

## FACE SHIELD WITH HEAD BAND

- DIN EN 166: 2001
- EN 167 / EN 168 / EN 170
- Size adjustment is made by rubber band
- Face protection for 117.0020 -117.0023

  
1000V


Caution! Eyeglasses do not protect from short-circuit arc flashes

78,<sup>90</sup> EUR







## HELMETS WITH FACE PROTECTION

117.0118 ... 0139

PROTECTIVE HARD HAT  
WITH FACE SHIELD

- Helmet: DIN EN 397 / EN 50365
- electrical insulation 1.000 V AC
- Face protection: DIN EN 166 / EN 167 / EN 168 / EN 170
- Helmet with face protection: GS-ET-29
- Size adjustment is made by rubber band


  
1000V


	Color		Price
	white		239,90 €
117.0135	blue		239,90 €
117.0136	yellow		239,90 €
117.0137	red		239,90 €
117.0139	green		239,90 €




239,90  
EUR

117.0003 ... 0004

PROTECTIVE HARD HAT  
WITH ARC FLASH LIGHT  
FACE SHIELD

- Helmet: DIN EN 397 / EN 50365
- Face protection: Fault arc tested to DGV GS-ET-29, test level W(LBP) = 318 kJ (corresponds to prospective test short-circuit current 7 kA/0.5 s) EN 166
- adjustable from 53 - 63 cm


  
1000V


	ATPV		Price
117.0003	8,4 CAL/cm²		469,90 €
117.0004	24 CAL/cm²		729,90 €

start from 469,90  
EUR



## PREDECTIVE CARRYING BAGS / ACCESSORIES

117.1612

CARRY BAG FOR  
WORK HELMET

- Made out of red leather
- With carrying strap

**66,90**  
EUR

117.0106

## CARRY BAG FOR HELMET

- perfect for storage
- Tanka closure for quick opening and closing of the bag

**17,90**  
EUR

150.4410

PERFECTLIGHT HEADLAMP WITH  
MOTION SENSOR, 120 LUMEN

- Extremely powerful light CREE XP-G2 front LED
- 120 lumen luminous flux
- Motion sensor for switching on and off
- Ingress protection according to IP54
- Includes 3 x AAA 1,5V batteries

**24,90**  
EUR

## GLOVES WITH PREDECTIVE INSULATION

### FINDING THE GLOVES YOU NEED

We offer three types of glove with different levels of predection:

- Gloves with electrical predection only (to be used in conjunction with over gloves for mechanical predection).
- Gloves with integrated electrical and mechanical predection (two in one).
- Gloves with integrated electrical and mechanical predection, plus arc predection (three in one).

Special properties may be useful for providing additional predection during electrical work: A (acid), H (oil), Z (ozone), R (A + H + Z), C (very low temperature); most of our gloves belong to the RC category.

It's very important to chose the right size in order to get the highest dexterity. Many sizes are availfromle (6 to 12 depending on the class), so to let gloves suitfromle for ladies or big mens. Standard lengths are 28 cm, 36 cm and 41 cm.

### INSPECTION

#### Periodic

Our insulating gloves have no expiry date and can be used as long as they pass periodic inspections. We recommend testing gloves in service every six months and gloves in stock every 12 months; the recommended method of testing is visual inspection and dielectric testing. More informations are availfromle on the instructions for use.

#### Recommendations before use

Full visual inspection of each glove. Use a manual air pressure device for testing the glove by inflating it and thus detecting any defects.

If a glove is defective, both the gloves of the pair must be rejected from use and checked by a trained person.



Our gloves are manufactured with a water based technology (no use of solvents).

### GENERAL INFORMATION

According to applicfromle standards EN 60903 and IEC 60903

Class	Voltage recommended DC (max)	Voltage recommended DC (max)
00	500 V	750 V
0	1000 V	1500 V
1	7500 V	11,250 V
2	17,000 V	25,500 V
3	26,500 V	39,750 V
4	36,000 V	54,000 V

### MEANING OF THE MARKING ON EACH GLOVE

example of a composite glove, with the ,hammer' pictogram in addition

Kategorie	Empfohlene Spannung AC (max)
A	Acid
H	Oil
Z	Ozone
R	Acid, Oil, Ozone
C	Very low temperature
Mechanical predection	

Note 1:  
The R category combines the characteristics of categories A, H and Z

Note 2:  
Any combination of categories may be used

IEC 60417-5216  
live working  
pictogram

Symbol for  
mechanical  
predection  
(composite  
gloves only)



**KSTOOLS**

**FLEX&GRIP**

Trademark  
logo

GLB4-41-10

Item number

**10**

Size

**4 / RC**

Category  
Class

MM/YY  
LLLL

Month/Year of  
manufacture

Made in France

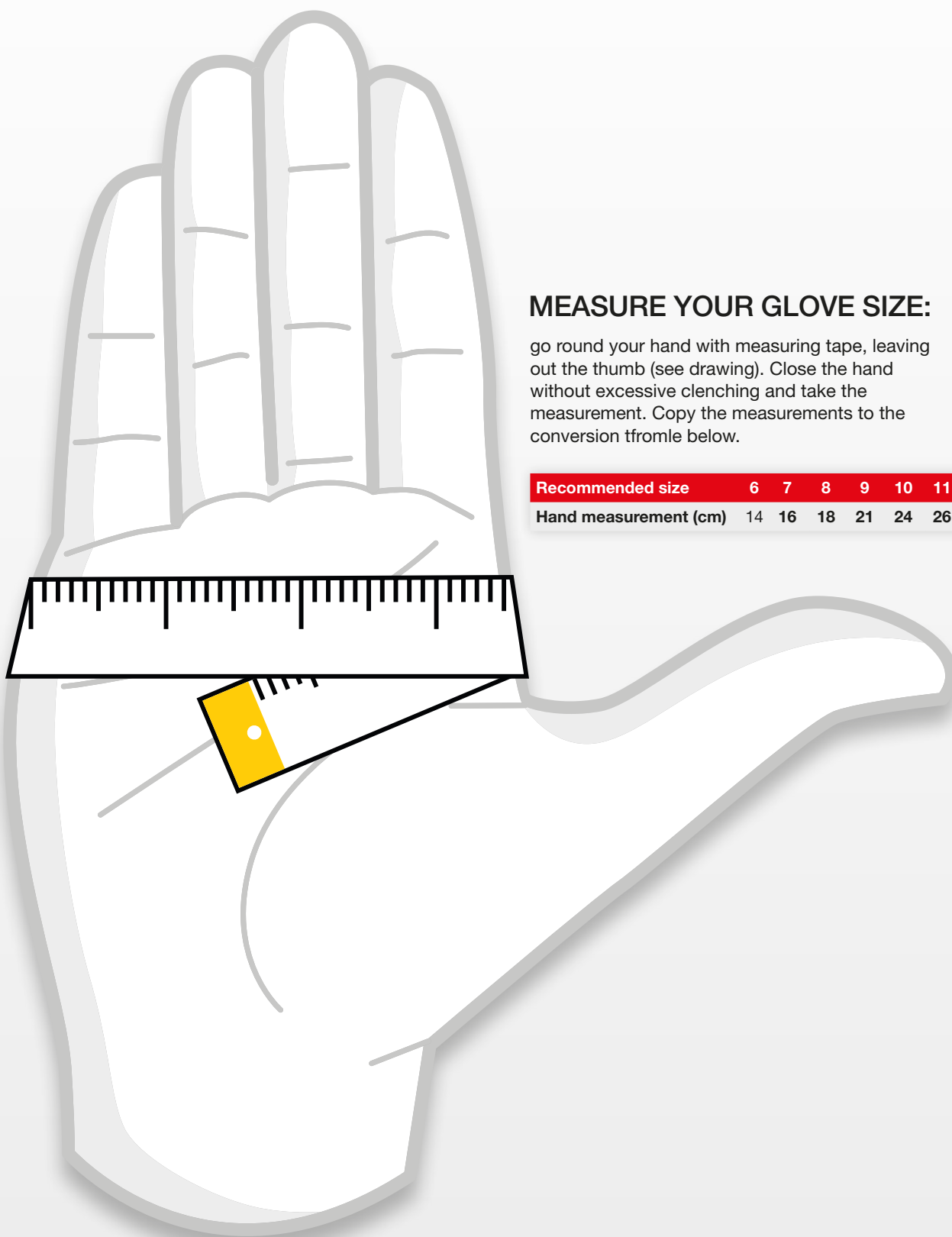
Umax = xxxxx V AC

Batch  
number

Room for writing new last/  
next inspection date or date  
of issuing into service

Maximum  
usage  
voltage

# HOW TO FIND YOUR GLOVE SIZE!



## MEASURE YOUR GLOVE SIZE:

go round your hand with measuring tape, leaving out the thumb (see drawing). Close the hand without excessive clenching and take the measurement. Copy the measurements to the conversion table below.

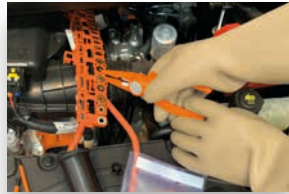
Recommended size	6	7	8	9	10	11	12
Hand measurement (cm)	14	16	18	21	24	26	28



117.0048 ... 0065

## GLOVE FOR ELECTRICIANS WITH PROTECTIVE INSULATION

- Insulation according to DIN EN 60903
- **Attention:** Over-gloves required for mechanical protection!

  
1000V


start from **49,90** EUR

	Size	Color	Electrosoft Class	L mm	⚡	Price
117.0048	10	white	00	360	500 V	49,90 €
117.0049	11	white	00	360	500 V	49,90 €
117.0050	12	white	00	360	500 V	49,90 €
117.0051	10	white	0	360	1000 V	63,90 €
117.0052	11	white	0	360	1000 V	63,90 €
117.0053	12	white	0	360	1000 V	63,90 €
117.0054	10	white	1	360	7500 V	89,90 €
117.0055	11	white	1	360	7500 V	89,90 €
117.0056	12	white	1	360	7500 V	89,90 €
117.0057	10	white	2	360	17000 V	109,90 €
117.0058	11	white	2	360	17000 V	109,90 €
117.0059	12	white	2	360	17000 V	109,90 €
117.0060	10	white	3	360	26500 V	139,90 €
117.0061	11	white	3	360	26500 V	139,90 €
117.0062	12	white	3	360	26500 V	139,90 €
117.0063	10	white	4	410	36000 V	219,90 €
117.0064	11	white	4	410	36000 V	219,90 €
117.0065	12	white	4	410	36000 V	219,90 €

117.0066 ... 0083

## GLOVE FOR ELECTRICIANS WITH PROTECTIVE INSULATION

- Insulation according to DIN EN 60903

  
1000V


start from **94,90** EUR

	Size	Color	Electrosoft Class	L mm	⚡	Price
117.0066	10	red	00	360	500 V	94,90 €
117.0067	11	red	00	360	500 V	94,90 €
117.0068	12	red	00	360	500 V	94,90 €
117.0069	10	red	0	360	1000 V	96,90 €
117.0070	11	red	0	360	1000 V	96,90 €
117.0071	12	red	0	360	1000 V	96,90 €
117.0072	10	red	1	360	7500 V	119,90 €
117.0073	11	red	1	360	7500 V	119,90 €
117.0074	12	red	1	360	7500 V	119,90 €
117.0075	10	red	2	360	17000 V	139,90 €
117.0076	11	red	2	360	17000 V	139,90 €
117.0077	12	red	2	360	17000 V	139,90 €
117.0078	10	red	3	360	26500 V	199,90 €
117.0079	11	red	3	360	26500 V	199,90 €
117.0080	12	red	3	360	26500 V	199,90 €
117.0081	10	red	4	410	36000 V	269,90 €
117.0082	11	red	4	410	36000 V	269,90 €
117.0083	12	red	4	410	36000 V	269,90 €

**117.0084 ... 0101**

## GLOVE FOR ELECTRICIANS WITH PROTECTIVE INSULATION

- Insulation according to DIN EN 60903
- IEC 61482-1-2 class 2 (0,5s – 7kA)

△  
1000V



start from **109,90** EUR

	Size	Color	Electrosoft Class	L mm	⚡	Price
117.0084	10	red	00	360	500 V	109,90 €
117.0085	11	red	00	360	500 V	109,90 €
117.0086	12	red	00	360	500 V	109,90 €
117.0087	10	red	0	360	1000 V	119,90 €
117.0088	11	red	0	360	1000 V	119,90 €
117.0089	12	red	0	360	1000 V	119,90 €
117.0090	10	red	1	360	7500 V	139,90 €
117.0091	11	red	1	360	7500 V	139,90 €
117.0092	12	red	1	360	7500 V	139,90 €
117.0093	10	red	2	360	17000 V	169,90 €
117.0094	11	red	2	360	17000 V	169,90 €
117.0095	12	red	2	360	17000 V	169,90 €
117.0096	10	red	3	360	26500 V	219,90 €
117.0097	11	red	3	360	26500 V	219,90 €
117.0098	12	red	3	360	26500 V	219,90 €
117.0007	10	red	0	410	1000 V	119,90 €
117.0008	11	red	0	410	1000 V	119,90 €
117.0009	12	red	0	410	1000 V	119,90 €
117.0010	10	red	2	410	17000 V	169,90 €
117.0011	11	red	2	410	17000 V	169,90 €
117.0012	12	red	2	410	17000 V	169,90 €
117.0013	10	red	3	410	26500 V	219,90 €
117.0014	11	red	3	410	26500 V	219,90 €
117.0015	12	red	3	410	26500 V	219,90 €
117.0099	10	red	4	410	36000 V	299,90 €
117.0100	11	red	4	410	36000 V	299,90 €
117.0101	12	red	4	410	36000 V	299,90 €



## UNDERWEAR GLOVES

117.0126

## TALC CONTAINER, 50 G

- prevents sticking together and Brittle be of latex

**6,90**  
**EUR**

117.1660

## UNDER GLOVES

- Made out of fine mutton cloth
- Material: stretch
- Size: universal

**9,90**  
**EUR**



## GLOVES

117.0141 ... 0145

PULL-ON GLOVES FOR ELECTRICIAN'S  
PROTECTIVE GLOVES

- EN 420 / EN 388
- to protect against mechanical risks
- Abrasion stage 2
- Stage cut 1
- Stage train 2
- Pierce stage 2

**39,90**  
EUR

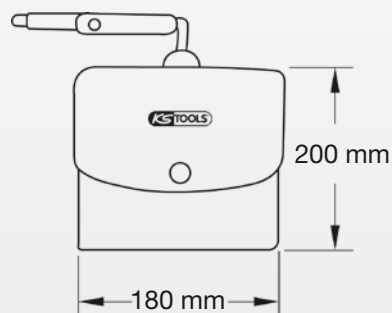
	for Size	Price
117.0141	7	39,90 €
117.0142	8 + 9	39,90 €
117.0143	10	39,90 €
117.0144	11	39,90 €
117.0145	12	39,90 €

## PREDECTIVE CARRIER BAGS

117.1665

PROTECTION POCKET  
FOR ELECTRICIANS  
GLOVES

- Belt pocket made out of canvas
- For the storage and protection of the Electricians gloves

**76,90**  
EUR

117.0125

## PROTECTIVE CASE FOR INSULATING GLOVES



117.0148

## BOX FOR ISOLATING GLOVES



117.0212

## ROLLING BACKPACK

- ideal for accommodating and storing personal protective equipment and tools
- with identification / address field
- with castors and feet for a better stand
- Handle with telescopic extension
- Internal volume up to 25 liters

**599,90**  
**EUR**



117.0213

## BACKPACK

- ideal for accommodating and storing personal protective equipment and tools
- padded shoulder straps
- Internal volume up to 25 liters

**429,90**  
**EUR**



\* Helmet not included













## BOOTS WITH PREDECTIVE INSULATION

117.1613 ... 1621

### SAFETY RUBBER BOOTS WITH PROTECTIVE INSULATION

- For working enviroment of voltages AC 1000 V and DC 1500 V
- In accordance with new standard EN 50321
- With steel bar

  
1000V

	Size		Price
117.1613	39		215,90 €
117.1614	40		215,90 €
117.1615	41		215,90 €
117.1616	42		215,90 €
117.1617	43		215,90 €
117.1618	44		215,90 €
117.1619	45		215,90 €
117.1620	46		215,90 €
117.1621	47		215,90 €



## CLEANING / TESTING

117.0149

### RUBBER CLEANER, 200 ML

- ideal for cleaning electrician's protective gloves
- removes dirt and dust
- a microfiber cloth is recommended for wiping



117.0133

## CLEANING AND DISINFECTION KIT 200 + 200 ML

- ideal for cleaning and disinfection of electrician's gloves
- Broad spectrum of activity and is used as a bactericide, fungicide, yeasicide and virucide
- Biocidal active: IDECYLDIMETHYLAMMONIUM CHLORIDE
- removes dirt and dust
- a microfiber cloth is recommended for wiping

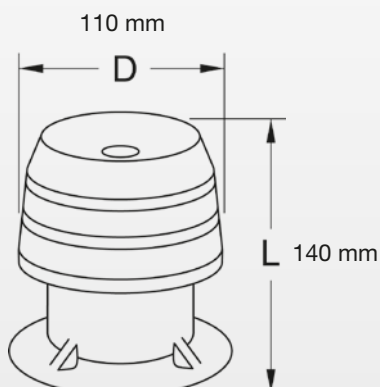


**79,90**  
EUR

117.1666

## PNEUMATIC ELECTRICIAN PROTECTIVE GLOVE TESTER

- For the testing of insulated gloves
- Always carry out before starting work



**529,90**  
EUR

# SURFACE INSULATION

**When working on vehicles with electric or Hybrid drive is safety of the employees always in the first place. The equipment of the workplaces comes that is why it is important to ensure that all legally prescribed requirements be fulfilled.**

From the sleeping mat to rubber drapes to warning signs and first aid posters: On the upcoming pages you will find everything you need, to a high-voltage workstation in accordance with the regulations secure.

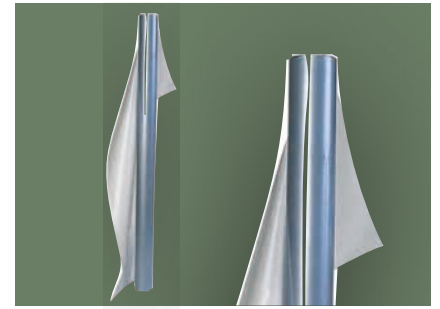
**INSULATING WORKPLACE  
EQUIPMENT**

**WORKPLACE IDENTIFICATION**

**GUIDE BEAMS & BARRIER POSTS**







# RUBBER COVER CLOTH WITH PREDECTIVE INSULATION


117.2303 ... 2311

## REPAIR TAPE WITH PROTECTIVE INSULATION, TRANSPARENT

- Insulation according to DIN EN 61112
- transparent cloth
- cold-resistant and highly flexible


  
1000V


start from **9,90** EUR

	mm		Price
117.2303	130 x 130		9,90 €
117.2304	200 x 200		19,90 €
117.2305	250 x 350		22,90 €
117.2306	500 x 500		53,90 €
117.2307	600 x 600		67,90 €
117.2308	1000 x 1000		146,90 €
117.2309	1200 x 1200		174,90 €
117.2311	50000 x 1300		12.199,90 €

117.0156 ... 0157

## RUBBER COVER SHEET WITH PROTECTIVE INSULATION, TRANSPARENT

- Insulation according to DIN EN 61112


  
1000V


start from **189,90** EUR

	L x B mm	Price
117.0156	12500 x 1300	189,90 €
117.0157	25000 x 1300	359,90 €

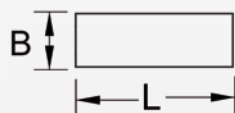
117.1651 ... 1753










## RUBBER-REPAIR TAPE WITH PROTECTIVE INSULATION








- Tested to VDE 0680/1
- Insulated to DIN EN 60903
- Extensively tear and water resistant
- Particularly suitable for external usage


  
1000 V


start from **8,90** EUR



	Thickness	L x B mm		Price
117.1651	1,0	130 x 130		8,90 €
117.1652	1,0	350 x 250		28,90 €
117.1653	1,0	500 x 500		79,90 €
117.1654	1,0	600 x 600		110,90 €
117.1655	1,0	1000 x 1000		264,90 €
117.1656	1,0	1000 x 1200		348,90 €
117.1657	1,0	10000 x 1000		2.279,90 €
117.1658	1,0	10000 x 1200		2.999,90 €

	Thickness	L x B mm		Price
117.1746	1,6	130 x 130		8,90 €
117.1747	1,6	350 x 250		27,90 €
117.1748	1,6	500 x 500		78,90 €
117.1749	1,6	600 x 600		104,90 €
117.1750	1,6	1000 x 1000		231,90 €
117.1751	1,6	1000 x 1200		344,90 €
117.1752	1,6	10000 x 1000		2.499,90 €
117.1753	1,6	10000 x 1200		2.499,90 €

117.0158 ... 0160  
INSULATING VELCRO BLANKET

- ST TST BT 410
- ideal for covering exposed conductors or other conductors are defective or not properly insulated
- it can also be used several Velcro ceiling to create a denser protective layer

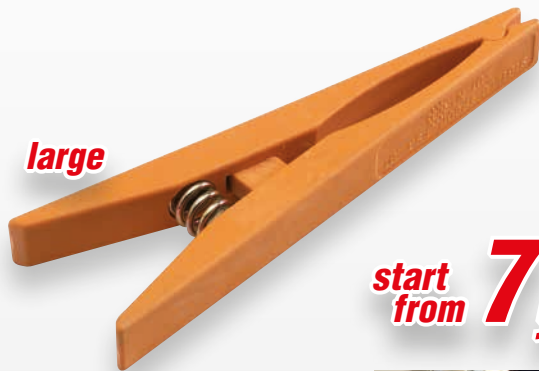


start from **44,90** EUR

	L x B mm	Price
117.0158	660 x 360	44,90 €
117.0159	900 x 500	69,90 €
117.0160	1200 x 800	119,90 €

117.0161 ... 0163  
PLASTIC CLAMP WITH PROTECTIVE INSULATION

- for fixing temporary protective blankets



start from **7,90** EUR






	Clipping capacity	L x B mm	Price
117.0161	25 mm	165 x 18	7,90 €
117.0163	10 mm	67 x 22	11,90 €

117.1643 ... 1644  
PLASTIC FLAT NOSE PLIERS WITH PROTECTIVE INSULATION

- Insulated to IEC 60900
- For clamping of uncovered cable



	Clipping capacity	L x B mm		Price
117.1643	10	80 x 15	 ≥ 1000 V	20,90 €
117.1644	27	160 x 16	 ≥ 1000 V	20,90 €

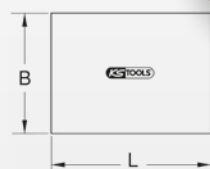


## RUBBER FLOOR MAT

117.3819 ... 1755

## INSULATING MAT

- Insulation in accordance with IEC 61111 Class 2



	Thickness mm	L x B mm	⚡	Price
117.3819	3,0	1000 x 1000	1000V	84,90 €
117.1398	3,0	1000 x 10000	1000V	609,90 €
117.1754	4,5	1000 x 1000	1000V	135,90 €
117.1755	4,5	1000 x 10000	1000V	1.119,90 €

117.0151 ... 0153

## INSULATING MAT

- Insulation in accordance with IEC 61111 Class 0

⚡  
1000V

start from **44,90** EUR



	L x B mm	⚡	Price
117.0151	600 x 600	1000V	44,90 €
117.0130	1000 x 1000	1000V	58,90 €
117.0152	1000 x 1000	1000V	81,90 €
117.0153	10000 x 10000	1000V	569,90 €

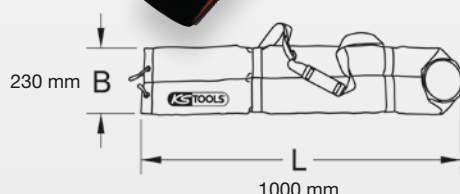


## PREDECTIVE CARRIER BAGS / STORAGE

117.0154

## TRANSPORT CASE FOR INSULATING MATS

- made of PVC-coated polyamide canvas
- with removable carrying straps



117.0155

## TRANSPORT STRAP FOR INSULATING MATS

- adjustable
- ultra lightweight



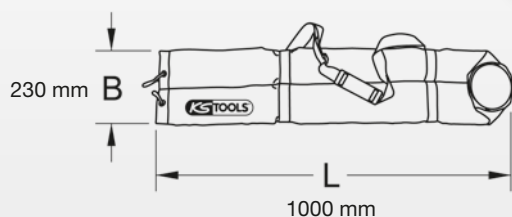
\* without isostand mat

	max. Ø mm	Belt length max. mm
117.0155	130	1120

117.1399

## PROTECTIVE BAG FOR INSULATING MAT

- Made out of red leather
- With carrying strap



**134,90**  
**EUR**

117.4234 ... 4240












## SLEEVE WITH PROTECTIVE INSULATION AND CLAMP CAP

- Immersion insulation according to IEC 60900
- with cross-cut cover

1000V



start  
from **5,90**  
**EUR**

	D x L mm		Price
117.4234	10 x 40		5,90 €
117.4241	10 x 100		5,90 €
117.4235	10 x 100		5,90 €
117.4236	15 x 100		5,90 €
117.4242	20 x 100		5,90 €
117.4237	25 x 100		6,90 €
117.4243	30 x 100		6,90 €
117.4238	40 x 100		8,90 €
117.4239	50 x 100		14,90 €
117.4240	60 x 100		16,90 €

117.1784 ... 1795

## SLEEVE WITH PROTECTIVE INSULATION WITHOUT CLAMP CAP

- Immersion insulation according to IEC 60900

1000V



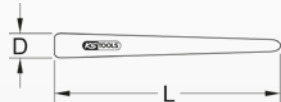
start  
from **1,90**  
**EUR**

	D x L mm		Price
117.1784	2 x 40		1,90 €
117.1785	3 x 40		1,90 €
117.1786	4 x 40		1,90 €
117.1787	5 x 40		2,90 €
117.1788	7 x 40		2,90 €
117.1789	10 x 40		2,90 €
117.1790	15 x 40		3,90 €
117.1791	20 x 40		3,90 €
117.1792	25 x 40		5,90 €
117.1793	30 x 40		5,90 €
117.1794	35 x 40		6,90 €
117.1795	40 x 40		6,90 €

117.4244 ... 4246

## METER PROTECTIVE SLEEVE WITH PROTECTIVE INSULATION

- Immersion insulation according to IEC 60900
- Numbering 1, 2 or 3 possible



1000V

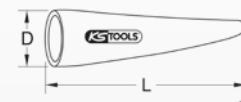

**2,90**  
**EUR**

	Size	D x L mm	⚡	Price
117.4244	#1	12 x 80	1000V	2,90 €
117.4245	#2	12 x 80	1000V	2,90 €
117.4246	#3	12 x 80	1000V	2,90 €

117.4247 ... 4258

## PUSH-ON GROMMET WITH PROTECTIVE INSULATION

- Immersion insulation according to IEC 60900



1000V


**start from 1,90**  
**EUR**

	D x L mm	⚡	Price
117.4247	6 x 40 mm	1000V	1,90 €
117.4248	6 x 60 mm	1000V	1,90 €
117.4249	8 x 40 mm	1000V	1,90 €
117.4250	10 x 30 mm	1000V	1,90 €
117.4251	10 x 40 mm	1000V	2,90 €
117.4252	10 x 60 mm	1000V	2,90 €
117.4253	12 x 90 mm	1000V	2,90 €
117.4254	15 x 110 mm	1000V	3,90 €
117.4255	20 x 110 mm	1000V	5,90 €
117.4256	25 x 110 mm	1000V	5,90 €
117.4257	30 x 110 mm	1000V	6,90 €
117.4258	40 x 110 mm	1000V	7,90 €

117.0164 ... 0165

## INSULATING BAG FOR CONNECTOR

- for insulating plugs
- with Velcro fastener and eyelet


**start from 32,90**  
**EUR**

	L x B mm	Price
117.0164	130 x 210	32,90 €
117.0165	225 x 305	45,90 €





117.0204

## LOCKING OUT BAG FOR REMOTE CONTROL

- for shutting off machine remote controls, operating elements and plug connections



117.0203

## LOCKING OUT STICKER

- to save the workplace
- for hazardous areas and vehicles
- with Ø 10 mm hole for a padlock



9,90  
EUR



117.0218 ... 0221

## LOCKING OUT PADLOCK, ORANGE

- for the locking of systems during maintenance work, in the electrical sector, in medicine, in the military, in mining, etc.



start from 53,90  
EUR

**Interchangeable shackles**  
Adapt your padlock with our interchangeable shackles:

- Metal or composite material
- Diameter: 4.5 or 6 mm
- Height: 38 or 76 mm or Ø 1.4 mm cable for smaller holes plus fins

**Personalisation area**  
Personalisation area for laser marking (optional).

**Ultra-strong composite body**  
Non-conductive, resistant to UV rays, hydrocarbons and extreme environments.  
Height: 54 mm  
Width: 46 mm  
Thickness: 21 mm  
Weight: 80 g

**Locking out label**

- Locking out warning
- Identification of individual responsible
- Rugged label resistant to abrasion and UV rays
- Set of 6 languages

**Security key**

- Over 1 million key profiles possible
- Captive key system and cylinder with automatic key return
- Colour insert identical to that of the padlock

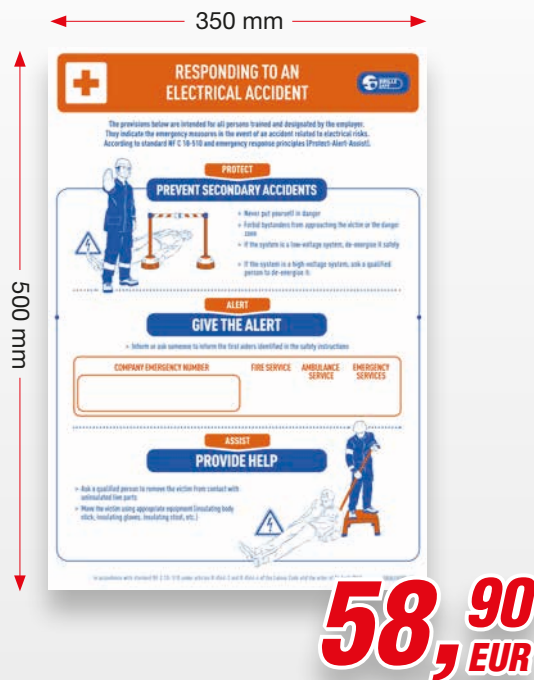
	Shackle material	Shackle height mm	Shackle diameter mm	Price
117.0218	Metall	38	4,5	53,90 €
117.0219	Metall	76	4,5	55,90 €
117.0220	Composite	38	4,5	53,90 €
117.0221	Composite	76	4,5	55,90 €

## SIGNAGE AND MARKINGS

117.0171

## ELECTRIC SHOCK FIRST AID POSTER

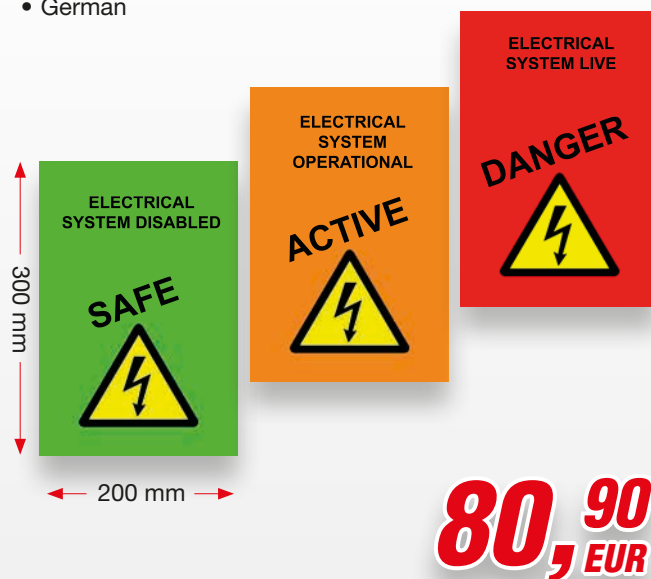
- First aid instructions for electric shocks with illustrated examples
- German



117.0172 ... 0174

## POSTER

- to illustrate clues
- German



	Motiv	Color	L x B mm	VPE	Price
117.0172	secured	green	300 x 200	5	80,90 €
117.0173	active	orange	300 x 200	5	80,90 €
117.0174	danger	red	300 x 200	5	80,90 €

117.0176 ... 0179

## HYBRID WARNING SIGN - FLASH FOR WORKING ON HYBRID AND ELECTRIC VEHICLE

- Warning of dangerous voltage
- to save the workplace



	Material	Diameter	Thickness mm	Price
117.0176	Aluminium	100	5	9,90 €
117.0177	Plastic	100	5	10,90 €
117.0178	Aluminium	200	5	37,90 €
117.0179	Plastic	200	5	14,90 €

917.3897

## HYBRID WARNING SIGN - SWITCH FOR WORKING ON HYBRID AND ELECTRIC VEHICLES



	Diameter	Thickness mm
917.3897	200	5

117.2478 ... 2482

WARNING AND INFORMATION SIGNS



A



B



C



D



E

start from **18,90** EUR

	Description		B x H x T mm	Price
117.2478	Sign to VDE requirements	A	660 x 1000 x 1,5	110,90 €
117.2479	First Aid sign notice	B	410 x 595 x 1,5	82,90 €
117.2481	Fire-fighting sign	C	410 x 595 x 1,5	82,90 €
117.2483	High-voltage Risk of death sign	D	200 x 237 x 1,5	18,90 €
117.2482	Earthed warning sign	E	200 x 120 x 1,5	42,90 €

117.0175

RECTANGULAR ELECTRICAL NO-ADMISSION ORDER FLAG

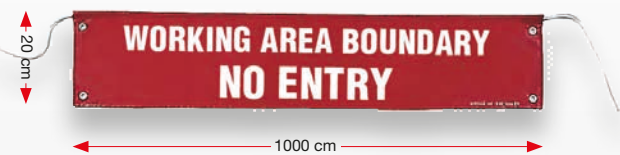
- with illustrated example
- with access prohibited



117.0216

WORKING AREA BOUNDARY NO ENTRY

- with note on the workspace limitation
- with 4 eyelets and 2 cords for hanging
- German



**39,90** EUR



## BARRIERS

117.1545

**SCISSOR BARRIER  
MADE OF PLASTIC**

- Ideally suited for closing off danger areas or areas with restricted access
- Secure stand thanks to fillable legs e.g. with sand
- Variably adjustable in width up to 2500 mm
- Folded only 24 cm wide and therefore space-saving to store away



117.1550

## SET OF BOLLARDS WITH CHAIN

- Ideal for cordoning off areas with restricted access
- the base can be filled with sand for safe standing
- Barrier post height approx. 850 mm with 4 eyes for hanging the chain
- Including base, hook and 20 m chain
- Made from plastic

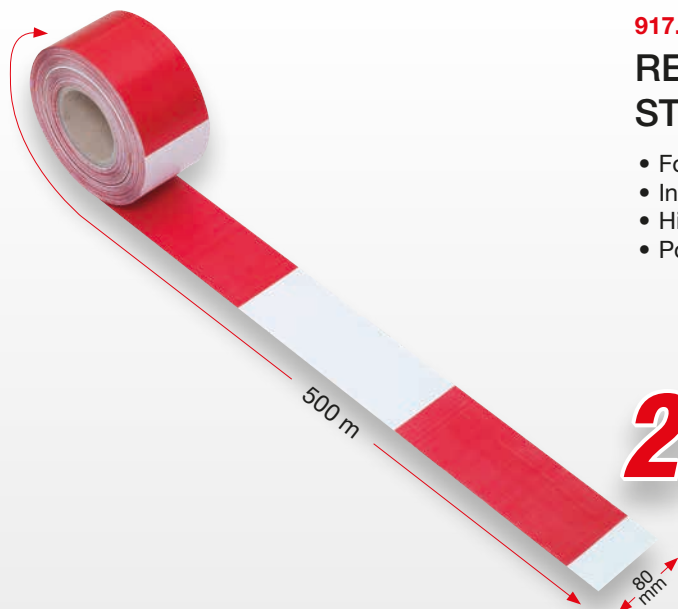
**126,90**  
**EUR**



917.3899

## RED/WHITE DIAGONAL STRIPED FOIL BARRIER TAPE

- For safeguarding and indicating hazard areas
- In accordance with ASR A1.3 and BGV A8
- High tear resistance
- Polyethylene



**24,90**  
**EUR**



# RESCUE KITS

117.0026 ... 0027

## MOBILE RESCUE KITS

- Quickly accessible rescue kit for mobile rescue operations
- suitable for indoor and outdoor use
- with castors and feet for a better stand
- Handle with telescopic extension

  
1000V



Description	Price
117.0026 Mobile rescue kit for max 25 KV	1 3.799,90 €
117.0027 Mobile rescue kit for max 36 KV	2 3.849,90 €

start from **3.799,90** EUR



Mobile rescue kit		for max. 25 kV 1	for max. 36 kV 2
Description	Quantity	117.0026	117.0027
Live working boots - Size 45	1 Pair	x	x
Class 3 insulating gloves - Size 10	1 Pair	x	
Class 4 insulating gloves - Size 10	1 Pair		x
Protective case for insulating gloves	1	x	x
Talc container, 50 g	1	x	x
Voltage detector	1	x	x
Telescopic rescue stick without hook	1	x	x
Rescue hook for telescopic insulating stick	1	x	x
Cable shears with protective insulation	1	x	x
Insulating stool	1	x	x
Adhesive barrier tape, black / yellow	1	x	x



117.0119 ... 0124

## RESCUE SET FOR LOW VOLTAGE

- Quickly accessible rescue kit for rescue operations
- suitable for indoor and outdoor use
- splash-proof case according to IP54
- with protective gloves, protective cover for gloves, tension tester, rescue rod etc.


  
1000V

start from **119,90** EUR

Description	Accessories	Price
117.0119 Rescue set for low voltage		2.399,90 €
117.0120 Rescue set for max. 25 kV		2.999,90 €
117.0121 Rescue set for max. 36 kV		3.099,90 €
117.0122 Empty case for rescue kit, small	1	799,90 €
117.0123 Empty case for rescue kit, big	2	999,90 €
117.0124 Insert shelf for rescue case	3	119,90 €

Rescue kit for		Low voltage	max. 25 kV	max. 36 kV
Description	Quantity	117.0119	117.0120	117.0121
Live working boots - Size 45	1 Pair		x	x
Class 0 insulating gloves - Size 10	1 Pair	x		
Class 3 insulating gloves - Size 10	1 Pair		x	
Class 4 insulating gloves - Size 10	1 Pair			x
Protective case for insulating gloves	1	x	x	x
Talc container, 50 g	1	x	x	x
Contactless voltage detector	1	x	x	x
Telescopic insulating stick	1	x	x	x
Rescue hook for telescopic insulating stick	1	x	x	x
Insulating mat, Class 0 - 0.6 x 1 m	1	x		
Insulating stool, 36 KV	1		x	x
Adhesive barrier tape, black / yellow	1	x	x	x



150.0913

INSULATED RESCUE ROD,  
1680 MM

- insulating rescue rod
- NF EN 60900/IEC 60900/NF EN 6789
- for the rescue of an injured worker in case of electric shock, arc fault etc.
- it is used to pull the victim into a safe area

**179,90** EUR

# MEASURING AND TESTING EQUIPMENT

**Tested safety is important. And that twice. Because who with excitement also needs to know how high they are is. Here come our isolated measurements – and test equipment in play.**

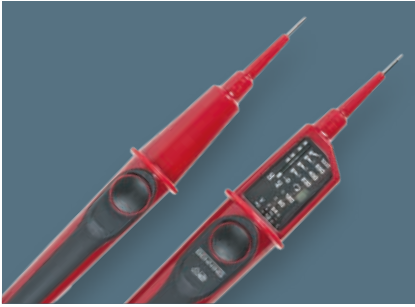
The diagnostic tools we will give you on the next present pages, guarantee maximum security and accuracy. This will help you solve any problem on the trail of a very short time.

**ALL FROM THE CHEAP  
STANDARD UP TO  
HIGH-END MODEL**

**EVERYTHING TO CHECK AND  
FOR TROUBLESHOOTING**

**BEST WORKMANSHIP  
FOR A LONG SERVICE LIFE**







## VOLTAGE TESTER

**550.1501****POLARITY AND VOLTAGE TESTER WITH PROTECTIVE INSULATION 6 - 400 V**

- based on DIN ISO 0680
- for DC and AC voltage
- Probes shielded


  
1000V
**Technical data:**

Readout:	light-emitting diodes/LE
Display level:	6 - 400 V
Power requirement:	140 mA
Allowable duty cycle:	30 s
Frequency range:	0 - 100 Hz
Protection class:	IP40
AC voltage range alternating voltage:	6 - 50 - 120 - 230 - 400 V
DC voltage range direct voltage:	6 - 50 - 120 - 230 - 400 V

**21,90**  
**EUR****550.1502****UNIVERSAL VOLTAGE TESTER WITH PROTECTIVE INSULATION 12 - 500 V**

- based on DIN ISO 0680
- for DC and AC voltage
- with rotary field and phase display


  
1000V
**Technical data:**

Readout:	light-emitting diodes/LE
Display level:	12 - 500 V
Power requirement:	140 mA
Allowable duty cycle:	30 s
Frequency range:	0 - 100 Hz
Protection class:	IP40
AC voltage range alternating voltage:	12 - 50 - 120 - 150 - 220 - 300 - 400 - 500 V
DC voltage range direct voltage:	12 - 50 - 120 - 150 - 220 - 300 - 400 - 500 V

**20,90**  
**EUR**

117.1503

VOLTAGE TESTER WITH  
PROTECTIVE INSULATION,  
DOUBLE POLE 12 - 1000 V

- tested and approved in accordance with internationally valid standards
- insulated according to IEC IEN 61243-3 (DIN VDE 0682-401)
- DC and AC voltage is indicated by LED
- with vibration alarm



Technical data:	
Readout:	LED/LCD
Display level:	12 - 1000 V
Power requirement:	200 mA
Allowable duty cycle:	30 s
Frequency range:	0 - 500 Hz
Protection class:	IP64
AC voltage range alternating voltage:	12 - 24 - 50 - 120 - 230 - 400 - 690 - 1000 V
DC voltage range direct voltage:	12 - 24 - 50 - 120 - 230 - 400 - 690 - 1000 V

179,90  
EUR

117.4266

VOLTAGE TEST BALL WITH  
PROTECTIVE INSULATION,  
DOUBLE POLE 50 - 1000 V

- Tested and accredited in accordance with international standard
- Insulated to IEC EN 61243-3 (DIN VDE 0682-401)
- Corresponds to EMC requirements in accordance with DIN EN 61326



Technical data:	
Readout:	LED/LCD
Display level:	50 - 1000 V
Power requirement:	300 mA
Allowable duty cycle:	30 s
Frequency range:	0 - 100 Hz
Protection class:	IP65
AC voltage range alternating voltage:	120 - 200 - 300 - 350 - 400 - 450 - 500 - 550 - 600 - 650 - 700 - 750 - 800 - 850 - 900 - 950 - 1000 V
DC voltage range direct voltage:	120 - 200 - 300 - 350 - 400 - 450 - 500 - 550 - 600 - 650 - 700 - 750 - 800 - 850 - 900 - 950 - 1000 V
Overvoltage category:	CAT IV 600 V CAT III 1000 V
Test voltage:	6 kV

479,90  
EUR

**117.0205****TENSION TESTER WITH  
PROTECTION INSULATION  
TWO-POLE 12-1000 V**

- insulated according to IEC IEN 61243-3 (DIN VDE 0682-401)
- Voltage class CAT IV / 1,000 V
- Probes IP2X protection class
- DC and AC voltage
- with acoustic alarm

  
1000V**229,90**  
**EUR****117.0206****EXTENSION TIPS  
FOR VOLTAGE TESTERS**

- for voltage testers with protective insulation 117.0205 for working on overhead lines and junction boxes
- Glass fibre jacket Ø 10 mm
- Connection probes Ø 4 mm
- Contact tips Ø 4 mm

**279,90**  
**EUR**



150.1670 ... 150.1655

## TEST PROBE 6-24V DC WITH 5 M CABLE

- High speed functional testing without removal of components
- Via toggle switches can be plus or minus given to the probe
- Built in bi metal short circuit protection
- No protection wear for troubleshooting
- Version with replaceable probe and alligator clip
- Immediate continuity test of switches, relays, diodes, fuses, wiring harnesses etc.
- For the operation of electronic components, such as relays, fuel pumps, window motors, switches, lamps etc.
- Immediate polarity determination via red/green LED display
- Power can be supplied immediately at the push of a button with the tester
- Built-in bimetallic short circuit fuse (7.5 A), therefore no fuse wear during troubleshooting
- Cable with shielded crocodile clamp and pole terminals
- 5 metre cable length



start from **99,90** EUR

	Application area	Cable length m	Replacement test tip	Price
150.1670	6-24V DC	5	150.1671	99,90 €
150.1655	6-24V DC	25	150.1671	129,90 €

## AMPERE PLIERS

**150.1745**

### DIGITAL AMP PLIERS 200 A

- ideal for locating hidden consumers
- ideal to use for DC and AC tests
- from 0.01 A to max. 200 Ampere



#### Technical data:

Co-current flow:	0,01 - 200 A
DC voltage:	0,1 - 400 V
Alternating current:	0,01 - 200 A
AC voltage:	0,1- 400 V
Resistance measurement:	32 - 32000 ohm
Temperature accuracy:	23° C ± 5° C
Power requirement:	3x 1,5V AAA (not in the delivery)
Storage temperature:	-10° to +60° C (-4° to 140° F)
Working temperature:	-10° to +50° C (14° to 122° F)

**479,90**  
**EUR**
**150.0925**

### DIGITAL AMP PLIERS 600 A

- ideal to use for AC power testing
- clamp opening 27.0 mm
- measurable conductor diameter 29.0 mm



#### Technical data:

DC voltage:	600 V
Alternating current:	200 A, 600 A
AC voltage:	600 V
Resistance measurement:	2 megaohm
Temperature accuracy:	23° C ± 5° C
Power requirement:	9V block battery
Storage temperature:	0° to +50° C (14° to 122° F)
Working temperature:	-20° to +60° C (30° to 140° F)

**32,90**  
**EUR**



150.0929

## DIGITAL AMP PLIERS 1000 A

- ideal to use for DC and AC tests
- clamp opening 45.0 mm
- measurable conductor diameter 40.0 mm



### Technical data:

Co-current flow:	400 A, 1000 A
DC voltage:	1000 V
Alternating current:	400 A, 1000 A
AC voltage:	700 V
Resistance measurement:	32 megaohm
Capacity measurement:	40 uF
Frequency measurement:	100 kHz
Temperature accuracy:	-40°C / +750°C
Power requirement:	3x 1,5V AAA batteries
Storage temperature:	10° to +50° C (50° to 122° F)
Working temperature:	5° to +35° C (41° to 95° F)

**139,90**  
EUR

## MULTIMETER

150.1495

## DIGITAL MULTIMETER INCL. TEST PROBES

- with automatic overflow and polarity display
- with safety mechanism for V,  $\mu$ A / mA / A, therefore incorrect connection impossible
- including test lead set with test probes



### Technical data:

Co-current flow:	20 $\mu$ A - 10 A
DC voltage:	200 mV - 600 V
AC voltage:	200 V - 600 V
Resistance measurement:	200 Ohm - 2 MOhm
Power requirement:	9V block battery
Fuse protection S1 (fine flow):	250mA/600V; 10A/600V
Storage temperature:	-10° to +50° C (14° to 122° F)
Working temperature:	0° to +40° C (32° to 104° F)

**21,90**  
EUR





150.1480

## DIGITAL MULTIMETER, INCLUDING TEST PRODS AND CROCODILE CLAMPS

- with automatic overflow and polarity display
- with safety mechanism for V,  $\mu\text{A}$  / mA / A, therefore incorrect connection impossible
- including double set of measuring leads with test probes and crocodile clips


**90,90**  
EUR

Technical data:	
Co-current flow:	326 $\mu\text{V}$ - 10A
Capacity measurement:	326 nF - 32,6 $\mu\text{F}$
DC voltage:	326 mV - 600 V
Alternating current:	326 $\mu\text{V}$ - 10A
AC voltage:	3,26 V - 600 V
Resistance measurement:	326 Ohm - 32,6 MOhm
Frequency measurement:	32,60 - 150kHz
Temperature measurement:	-55°C ~ 1000°C
Power requirement:	9V block battery
Fuse protection S1 (fine flow):	300mA/600V
Fuse protection S2 (power-test socket):	10A/600V
Storage temperature:	-10° to +50° C (14° to 122° F)
Working temperature:	0° to +40° C (32° to 104° F)



150.2040

## MULTIMETER WITH INDUCTIVE CLAMP

- with automatic overflow and polarity display
- with safety mechanism for V,  $\mu\text{A}$  / mA / A, therefore incorrect connection impossible
- including measuring cable set with test probes, crocodile clips, induction tweezers and temperature probe


**189,90**  
EUR

Technical data:	
Co-current flow:	326 $\mu\text{A}$ - 10 A
Alternating current:	326 $\mu\text{A}$ - 10 A
DC voltage:	326 mV - 1000 V
AC voltage:	3,26 V - 750 V
Resistance measurement:	32 - 32000 ohm
Frequency measurement:	32,60 - 200 kHz
Speed measurement:	300 - 12000 rpm
Temperature accuracy:	23° C $\pm$ 5° C
Power requirement:	9V block battery
Fuse protection S1 (fine flow):	500mA/350V (20x5mm)
Fuse protection S2 (power-test socket):	10A/250V (30x5mm)
Storage temperature:	-10° to +50° C (14° to 122° F)
Working temperature:	0° to +40° C (32° to 104° F)
Temperature measurement:	-20° to +760° C (-4° to 1400° F)



117.0217

## DIGITAL MULTIMETER INCL. TEST PROBES

- Specially developed high-quality multimeter with integrated impact protection for hybrid vehicles
- extra safe CATIII (1000V), CATIV (600V)
- with automatic overflow and polarity display
- including test lead set with test probes, crocodile clip and temperature probe



### Technical data:

DC voltage:	400 mV - 600 V
AC voltage:	400 mV - 600 V
Resistance measurement:	400,0 Ohm - 40,0 MOhm
Frequency measurement:	4,000 kHz - 40,00 MHz
Closing angle:	4, 5, 6, 8 Zylinder
Temperature for measurement accuracy:	23° C +/- 5° C
Power supply:	9 V Block-Batterie
Fuse S1 (fine current):	250 V (0,5 A) - 20 x 5 mm
Fuse S2 (current measuring socket):	250 V (20 A) - 32 x 6 mm
Storage temperature:	-10° bis +50° C (14° bis 122° F)
Operating temperature:	0° bis +50° C (32° bis 122° F)
Temperature measurement:	-50° bis +250° C (58° F bis 482° F)

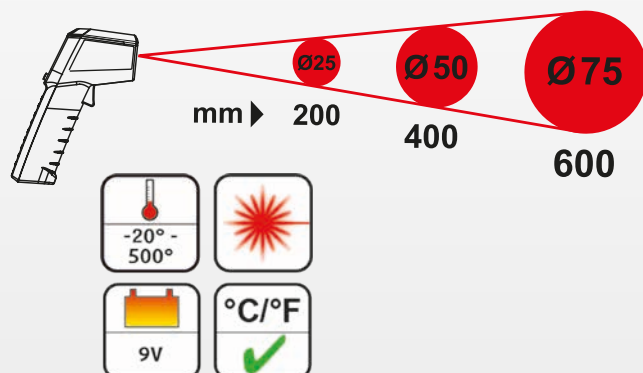
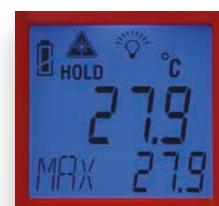
**299,90**  
EUR

## INFRARED THERMOMETER

150.3040

### INFRARED-THERMOMETER, -20° TO 500°

- Laser measuring gun for non-contact temperature measurement
- particularly suitable for applications in industrial, construction, automotive, chemical and food monitoring


**79,90**  
EUR

# ISOLATED TOOLS

**We make good tools safe: More than 30 years of experience in toolmaking are in every single product of KS TOOLS. On this unique basis of course, we also develop our tools with predictive insulation.**

This is where the highest precision meets the best prediction. The millionfold proven socket wrench and torque wrench can be thanks to the Immersion insulation according to IEC 60900 now also for the work on electric and hybrid vehicles as well as for all others High voltage ranges can be used.

**SAFETY COMES FIRST**

**THE PERFECT TOOL  
FOR EVERY APPLICATION**

**HIGHEST PRECISION MEETS  
ON THE BEST PREDECTION**







## KEYS WITH PRETECTIVE INSULATION

117.1250 ... 1254

## SLIDING SPANNER WITH PROTECTIVE INSULATION

- In accordance to DIN 3117
- Immersion insulation handle to IEC 60900

  
1000V


	mm	A mm	B mm	C mm	H1 mm	H2 mm	L mm		Price
117.1250	24	12	55	30	8	14	200		59,90 €
117.1253	30	14	77	40	14	19	250		70,90 €
117.1254	34	17,5	78	48	17,5	18	300		119,90 €

start from **59,90** EUR

117.4270 ... 4272

## SLIDING SPANNER WITH PROTECTIVE INSULATION

- In accordance to DIN 3117
- Immersion insulation handle to IEC 60900

  
1000V

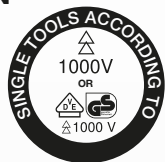

	mm	A mm	B mm	C mm	H1 mm	H2 mm	L mm		Price
117.4270	27	13	57,5	20	13	18,5	210		84,90 €
117.4271	31	15	68,5	30	15	20	260		99,90 €
117.4272	34	17,5	79	36	17,5	23	315		135,90 €

start from **84,90** EUR

117.1506 ... 2261

## OPEN-END WRENCH WITH PROTECTIVE INSULATION

- In accordance to DIN 7446
- Immersion insulation handle to IEC 60900



start from **19,90** EUR

	mm	A mm	B mm	L mm	⚡	Price
117.1506	6	12,0	23,5	70,1	1000V	24,90 €
117.1507	7	12,0	25,0	77,0	1000V	24,90 €
117.1508	8	12,5	27,2	84,0	1000V	24,90 €
117.1509	9	12,5	29,2	90,0	1000V	24,90 €
117.1510	10	13,0	31,2	97,0	1000V	27,90 €
117.1511	11	13,4	33,3	104,0	1000V	27,90 €
117.1512	12	13,5	35,2	110,0	1000V	27,90 €
117.1513	13	13,9	37,4	117,0	1000V	27,90 €
117.1514	14	14,2	39,5	124,0	1000V	31,90 €
117.1515	15	14,4	41,2	130,0	1000V	31,90 €
117.1516	16	14,7	42,7	137,0	1000V	34,90 €
117.1517	17	14,9	44,5	144,0	1000V	34,90 €
117.1518	18	15,2	46,7	150,0	1000V	34,90 €
117.1519	19	15,4	48,7	157,0	1000V	34,90 €
117.1522	22	16,2	54,9	174,0	1000V	38,90 €
117.1524	24	16,7	58,4	190,0	1000V	45,90 €
117.1527	27	17,4	63,7	210,0	1000V	59,90 €
117.1530	30	18,1	69,8	230,0	1000V	59,90 €
117.1532	32	18,4	65,8	244,0	1000V	59,90 €
117.2208	5/16"	8,0	17,3	120,0	1000V	19,90 €
117.2209	3/8"	8,8	23,3	108,0	1000V	22,90 €
117.2251	7/16"	9,9	25,6	115,7	1000V	25,90 €
117.2252	1/2"	10,7	30,0	136,0	1000V	25,90 €
117.2253	9/16"	10,6	33,1	145,0	1000V	25,90 €
117.2254	5/8"	10,2	34,4	156,0	1000V	31,90 €
117.2255	11/16"	9,7	38,1	170,0	1000V	31,90 €
117.2256	3/4"	11,1	41,6	173,0	1000V	31,90 €
117.2257	13/16"	12,7	44,8	186,0	1000V	36,90 €
117.2258	7/8"	13,2	49,0	193,0	1000V	36,90 €
117.2259	15/16"	12,7	52,4	215,0	1000V	56,90 €
117.2261	1"	13,2	59,1	210,0	1000V	53,90 €

117.4206 ... 2293

## RATCHET RING SPANNER WITH PROTECTIVE INSULATION

- FlankTraction profile
- In accordance to DIN 7446
- Immersion insulation handle to IEC 60900



start from **36,90** EUR

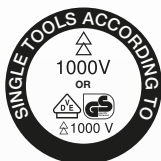
	mm	A mm	B mm	L mm	⚡	Price
117.4206	6	6,7	14,4	126,0	1000V	41,90 €
117.4207	7	6,9	17,2	137,0	1000V	42,90 €
117.4208	8	6,9	17,2	140,0	1000V	41,90 €
117.4209	9	7,3	19,2	150,0	1000V	41,90 €
117.4210	10	7,7	21,2	159,0	1000V	41,90 €
117.4211	11	8,1	22,2	165,0	1000V	41,90 €
117.4212	12	8,6	23,2	172,0	1000V	45,90 €
117.4213	13	9,0	25,2	178,0	1000V	45,90 €
117.4214	14	9,4	28,2	191,0	1000V	45,90 €
117.4215	15	9,8	29,2	200,0	1000V	45,90 €
117.4216	16	10,3	31,2	208,0	1000V	45,90 €
117.4217	17	10,7	32,2	226,0	1000V	45,90 €
117.4218	18	11,1	33,2	237,0	1000V	48,90 €
117.4219	19	11,6	34,2	248,0	1000V	48,90 €
117.4221	21	13,4	40,4	274,0	1000V	42,90 €
117.4222	22	13,4	40,4	290,0	1000V	53,90 €
117.4224	24	14,9	46,4	323,0	1000V	53,90 €
117.4227	27	15,9	52,4	331,0	1000V	61,90 €
117.4228	30	17,4	59,2	389,0	1000V	61,90 €
117.4229	32	17,9	62,4	415,0	1000V	67,90 €
117.4230	34	17,9	62,4	460,0	1000V	78,90 €
117.2283	5/16"	9,2	18,2	124,0	1000V	36,90 €
117.2284	3/8"	11,2	22,9	141,0	1000V	36,90 €
117.2285	7/16"	11,5	24,4	143,8	1000V	36,90 €
117.2286	1/2"	12,9	27,7	150,0	1000V	39,90 €
117.2287	9/16"	12,2	29,8	164,0	1000V	39,90 €
117.2288	5/8"	13,2	33,9	177,0	1000V	39,90 €
117.2289	11/16"	12,9	34,3	185,0	1000V	39,90 €
117.2291	3/4"	13,7	36,8	205,0	1000V	48,90 €
117.2292	7/8"	16,2	44,2	248,0	1000V	61,90 €
117.2293	15/16"	14,0	50,3	277,0	1000V	67,90 €



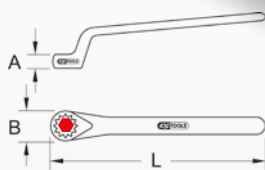
117.1306 ... 2282

## RING SPANNER WITH PROTECTIVE INSULATION, CRANKED

- FlankTraction profile
- In accordance to DIN 7447
- Immersion insulation handle to IEC 60900



start from **25,90** EUR



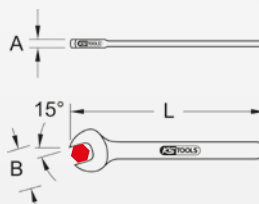
	mm	A mm	B mm	L mm	⚡	Price
117.1306	6	6,1	13,6	160,0	1000V	31,90 €
117.1307	7	6,7	12,6	160,0	1000V	31,90 €
117.1308	8	7,1	14,0	170,0	1000V	31,90 €
117.1309	9	7,4	15,5	170,0	1000V	31,90 €
117.1310	10	7,8	17,0	170,0	1000V	31,90 €
117.1311	11	8,1	18,4	180,0	1000V	31,90 €
117.1312	12	10,2	19,9	190,0	1000V	31,90 €
117.1313	13	10,9	21,3	190,0	1000V	45,90 €
117.1314	14	11,3	22,8	210,0	1000V	45,90 €
117.1315	15	11,9	24,1	215,0	1000V	45,90 €
117.1316	16	12,2	25,7	220,0	1000V	48,90 €
117.1317	17	12,6	27,1	225,0	1000V	48,90 €
117.1318	18	13,2	28,6	230,0	1000V	48,90 €
117.1319	19	13,6	30,1	240,0	1000V	52,90 €
117.1322	22	13,9	34,4	260,0	1000V	52,90 €
117.1324	24	15,4	36,2	280,0	1000V	62,90 €
117.1327	27	16,4	40,4	295,0	1000V	66,90 €
117.1330	30	17,4	44,4	310,0	1000V	80,90 €
117.1332	32	18,4	47,4	330,0	1000V	80,90 €
117.2269	5/16"	7,9	16,6	155,0	1000V	25,90 €
117.2271	3/8"	7,7	16,6	173,0	1000V	25,90 €
117.2272	7/16"	10,5	20,3	175,0	1000V	25,90 €
117.2273	1/2"	10,3	21,7	195,0	1000V	36,90 €
117.2274	9/16"	10,8	24,5	202,0	1000V	36,90 €
117.2275	5/8"	11,9	27,2	210,0	1000V	39,90 €
117.2276	11/16"	12,7	28,4	216,0	1000V	39,90 €
117.2277	3/4"	13,9	31,0	235,0	1000V	39,90 €
117.2278	13/16"	12,5	32,0	255,0	1000V	48,90 €
117.2279	7/8"	15,3	36,0	255,0	1000V	48,90 €
117.2281	15/16"	15,2	38,5	280,0	1000V	53,90 €
117.2282	1"	15,1	42,3	280,0	1000V	61,90 €

117.2262 ... 2268

## RATCHET OPEN-END WRENCH WITH PROTECTIVE INSULATION

- In accordance to DIN 3113 / ISO 3318
- Immersion insulation handle to IEC 60900

1000V



start from **48,90** EUR

	mm	A mm	B mm	L mm	⚡	Price
117.2262	10	7,1	22,7	105,0	1000V	48,90 €
117.2263	11	8,2	25,6	115,0	1000V	48,90 €
117.2264	12	7,7	27,1	127,0	1000V	48,90 €
117.2265	13	8,5	28,9	135,0	1000V	48,90 €
117.2266	14	9,3	31,8	145,0	1000V	53,90 €
117.2267	17	10,7	38,4	160,0	1000V	59,90 €
117.2268	19	11,8	42,1	175,0	1000V	67,90 €

117.1420

## 1/4" BIT HOLDER WITH PROTECTIVE INSULATION, 40 MM

- Immersion insulation handle to IEC 60900
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Magnetic
- For bits to DIN 3126 / C 6,3

1000V



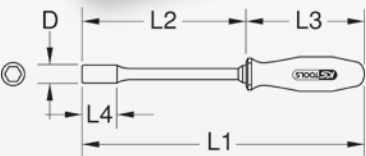
start from **31,90** EUR

	mm	D1 mm	D2 mm	L mm	⚡	Price
117.1420	1/4"	16	16,5	40	1000V	31,90 €

117.1177 ... 1247

SOCKET SCREWDRIVER WITH PROTECTIVE INSULATION

- 6 point
- In accordance to DIN 7445
- Insulated to IEC 60900



start from **19,90** EUR

	mm	D mm	L1 mm	L2 mm	L3 mm	L4 mm		Price
117.1177	3	10	215	125	90	37	1000V	24,90 €
117.1178	3,5	10	215	125	90	37	1000V	24,90 €
117.1179	4	10	215	125	90	37	1000V	24,90 €
117.1181	4,5	10	215	125	90	37	1000V	24,90 €
117.1235	5	11,5	215	125	90	37	1000V	19,90 €
117.1182	5,5	15,5	215	125	90	37	1000V	24,90 €
117.1236	6	12,5	215	125	90	37	1000V	19,90 €
117.1237	7	14,5	225	125	100	37	1000V	19,90 €

	mm	D mm	L1 mm	L2 mm	L3 mm	L4 mm		Price
117.1238	8	15,5	225	125	100	37	1000V	19,90 €
117.1239	9	16,5	225	125	100	37	1000V	21,90 €
117.1240	10	17	225	125	100	37	1000V	24,90 €
117.1241	11	19,5	235	125	110	37	1000V	24,90 €
117.1242	12	20,5	235	125	110	37	1000V	27,90 €
117.1243	13	21,5	235	125	110	37	1000V	29,90 €
117.1244	14	23,5	235	125	110	37	1000V	32,90 €
117.1247	17	26,5	235	125	110	37	1000V	38,90 €

118.1500

OPEN-ENDED WRENCH SET WITH PROTECTIVE INSULATION

- Insulated to IEC 60900
- Jaw 15° offset



**329,90** EUR

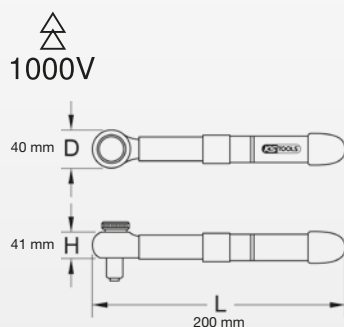
Size mm
118.1500 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 20 - 21 - 22 - 23 - 24

# 1/4" TOOLS WITH PREDECTIVE INSULATION

117.1400 ... 1402

## 1/4" MINI TORQUE WRENCH WITH PROTECTIVE INSULATION AND REVERSIBLE RATCHET HEAD

- Immersion insulation according to IEC 60900
- Trigger accuracy:  $\pm 4\%$  tolerance of the set scale value and better
- Square drive according to DIN 3120 / ISO 1174 with ball lock
- including calibration declaration of conformity according to DIN EN ISO 6789:2017(E) - traceable to national standards



		Nm	⚡	Price
117.1400	1/4"	2-10	1000V	609,90 €
117.1402	1/4"	5-25	1000V	609,90 €



**609,90**  
**EUR**

117.1401

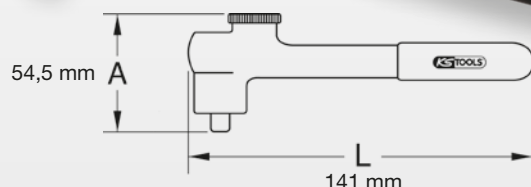
## 1/4" REVERSIBLE RATCHET WITH PROTECTIVE INSULATION

- Immersion insulation according to IEC 60900
- Square drive according to DIN 3120 / 1174 with ball lock
- with switchable 32-tooth ratchet head

1000V



**199,90**  
**EUR**



117.1451 ... 1454

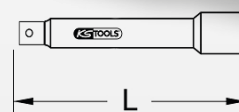
## 1/4" EXTENSION WITH PROTECTIVE INSULATION

- In accordance to DIN 7434
- Immersion insulation handle to IEC 60900
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock

1000V



**31,90**  
**EUR**



		L mm	⚡	Price
117.1451	1/4"	50	1000V	31,90 €
117.1452	1/4"	75	1000V	31,90 €
117.1453	1/4"	100	1000V	31,90 €
117.1454	1/4"	150	1000V	31,90 €



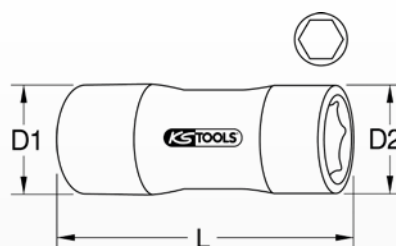
## 117.1404 ... 1414

## 1/4" SOCKET WITH PROTECTIVE INSULATION

- 6 point
- based on DIN 7448
- Immersion insulation according to IEC 60900
- Internal square drive according to DIN 3120 / ISO 1174 with ball drill groove


  
1000V

	mm	D1 mm	D2 mm	L mm	⚡	Price
117.1404	4	16,0	10,0	37,0	1000V	16,90 €
117.1405	5	16,5	11,5	37,0	1000V	20,90 €
117.1406	6	16,5	12,0	37,0	1000V	20,90 €
117.1407	7	16,5	13,5	37,0	1000V	20,90 €
117.1408	8	16,5	15,5	37,0	1000V	20,90 €
117.1409	9	16,5	16,5	37,0	1000V	20,90 €
117.1410	10	16,5	17,5	37,0	1000V	20,90 €
117.1411	11	16,5	20,0	37,0	1000V	20,90 €
117.1412	12	16,5	21,0	37,0	1000V	20,90 €
117.1413	13	16,5	22,0	37,0	1000V	24,90 €
117.1414	14	16,5	24,0	37,0	1000V	24,90 €



start from **16,90** EUR

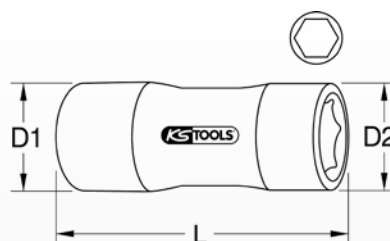
## 117.2401 ... 2407

## 1/4" SOCKET WITH PROTECTIVE INSULATION

- 6 point
- based on DIN 7448
- Immersion insulation according to IEC 60900
- Internal square drive according to DIN 3120 / ISO 1174 with ball drill groove


  
1000V

	mm	D1 mm	D2 mm	L mm	⚡	Price
117.2401	3/16"	16,5	11,7	38,0	1000V	16,90 €
117.2402	1/4"	16,5	13,0	38,0	1000V	16,90 €
117.2403	5/16"	16,5	15,1	38,0	1000V	16,90 €
117.2404	3/8"	16,5	17,8	38,0	1000V	16,90 €
117.2405	7/16"	16,5	19,8	38,0	1000V	16,90 €
117.2406	1/2"	16,5	21,6	38,0	1000V	16,90 €
117.2407	9/16"	16,5	24,0	38,0	1000V	16,90 €



**16,90** EUR

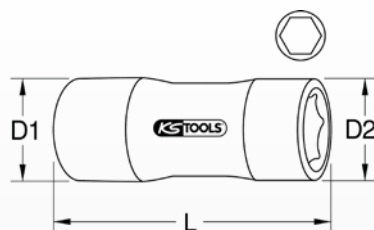
117.2341 ... 2352

## 1/4" SOCKET WITH PROTECTIVE INSULATION, LONG

- 6 point
- based on DIN 7448
- Immersion insulation according to IEC 60900
- Internal square drive according to DIN 3120 / ISO 1174 with ball drill groove

  
 1000V

	mm	D1 mm	D2 mm	L mm	⚡	Price
117.2341	4	16,5	9,5	55,0	1000V	22,90 €
117.2342	5	16,5	10,5	55,0	1000V	22,90 €
117.2343	6	16,5	12,5	55,0	1000V	22,90 €
117.2344	7	16,5	13,5	55,0	1000V	22,90 €
117.2345	8	16,5	16,5	55,0	1000V	22,90 €
117.2346	9	16,5	16,5	55,0	1000V	22,90 €
117.2347	10	16,5	18,5	55,0	1000V	22,90 €
117.2348	11	16,5	19,5	55,0	1000V	22,90 €
117.2349	12	16,5	21,5	55,0	1000V	22,90 €
117.2351	13	16,5	21,5	55,0	1000V	22,90 €
117.2352	14	16,5	21,5	55,0	1000V	22,90 €


**22,90**  
**EUR**

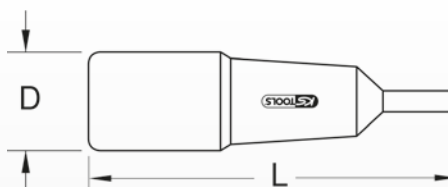
117.1415 ... 1419

## 1/4" BIT SOCKET WITH PROTECTIVE INSULATION FOR HEXAGON SOCKET SCREWS

- Hexagonal
- based on DIN 7448
- Immersion insulation according to IEC 60900
- Internal square drive according to DIN 3120 / ISO 1174 with ball drill groove

  
 1000V

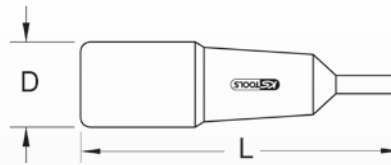
	mm	D mm	L mm	⚡	Price
117.1415	3	16,5	44,0	1000V	24,90 €
117.1416	4	16,5	44,0	1000V	24,90 €
117.1417	5	16,5	44,0	1000V	24,90 €
117.1418	6	16,5	44,0	1000V	24,90 €
117.1419	8	16,5	44,0	1000V	24,90 €











**24,90**  
**EUR**

117.2471 ... 2477

## 1/4" BIT SOCKET WITH PROTECTIVE INSULATION FOR TORX SCREWS

- Torx
- based on DIN 7448
- Immersion insulation according to IEC 60900
- Internal square drive according to DIN 3120 / ISO 1174 with ball drill groove


  
1000V


		D mm	L mm		Price
117.2471	T8	15,0	45,0		19,90 €
117.2472	T10	15,0	45,0		19,90 €
117.2473	T15	15,0	45,0		19,90 €
117.2474	T20	15,0	45,0		19,90 €
117.2475	T25	15,0	45,0		19,90 €
117.2476	T27	15,0	45,0		19,90 €
117.2477	T30	15,0	45,0		19,90 €

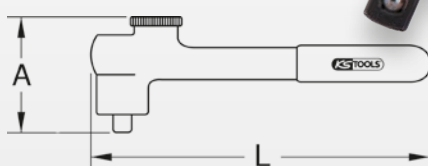

**19,90**  
EUR




## 3/8" TOOLS WITH PREDECTIVE INSULATION

117.3922

### 3/8" FIXED TORQUE WRENCH WITH PROTECTIVE INSULATION

- Immersion insulation according to IEC 60900
- Square drive according to DIN 3120 / 1174 with ball lock
- with switchable 32-tooth ratchet head


  
1000V


		Nm	A mm	L mm		Price
117.3922	3/8"	5 - 35	78,0	210,0		367,90 €


**367,90**  
EUR

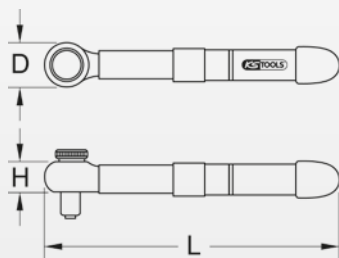




**117.1184**

## 3/8" MINI TORQUE WRENCH WITH PROTECTIVE INSULATION AND REVERSIBLE RATCHET HEAD

- Immersion insulation according to IEC 60900
- Trigger accuracy:  $\pm 4\%$  tolerance of the set scale value and better
- Square drive according to DIN 3120 / ISO 1174 with ball lock
- including calibration declaration of conformity according to DIN EN ISO 6789:2017(E) - traceable to national standards

  
1000V



		Nm	D mm	H mm	L mm		Price
117.1184	3/8"	5 - 25	40,0	42,0	200,0		539,90 €



**117.3805 ... 3810**

## 3/8" TORQUE WRENCH WITH PROTECTIVE INSULATION AND REVERSIBLE RATCHET HEAD

- Immersion insulation according to IEC 60900
- Trigger accuracy:  $\pm 4\%$  tolerance of the set scale value and better
- Square drive according to DIN 3120 / ISO 1174 with ball lock
- including calibration declaration of conformity according to DIN EN ISO 6789:2017(E) - traceable to national standards

  
1000V



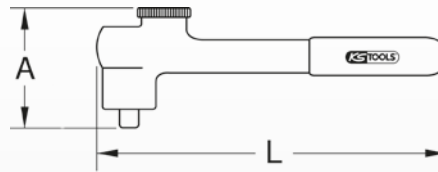
		Nm	H mm	L mm		Price
117.3805	3/8"	5 - 25	51,0	280,0		589,90 €
117.3810	3/8"	5 - 50	51,0	370,0		609,90 €



117.3801

### 3/8" REVERSIBLE RATCHET WITH PROTECTIVE INSULATION, 32-TOOTH

- Immersion insulation according to IEC 60900
- Square drive according to DIN 3120 / 1174 with ball lock
- with switchable 32-tooth ratchet head



△  
1000V



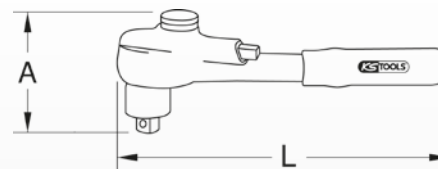
**166,90**  
EUR

	■	A mm	L mm	⚡	Price
117.3801	3/8"	73,0	200,0	△ 1000V	166,90 €

117.3800

### 3/8" REVERSIBLE RATCHET WITH PROTECTIVE INSULATION, 32-TOOTH

- Immersion insulation according to IEC 60900
- Square drive according to DIN 3120 / 1174 with ball lock
- with switchable 32-tooth ratchet head



△  
1000 V



**236,90**  
EUR




	■	A mm	L mm	⚡	Price
117.3800	3/8"	78,0	205,0	△ 1000V	236,90 €

117.2301 ... 3852

## 3/8" EXTENSION WITH PROTECTIVE INSULATION

- In accordance to DIN 7434
- Immersion insulation handle to IEC 60900
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock


  
1000V






		L mm	⚡	Price
117.2301	3/8"	75		36,90 €
117.3851	3/8"	125		42,90 €
117.3852	3/8"	250		39,90 €

117.3823 ... 3825

## 3/8" EXTENSION WITH PROTECTIVE INSULATION AND SCREW LOCKING

- In accordance to DIN 7434
- Immersion insulation handle to IEC 60900
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock

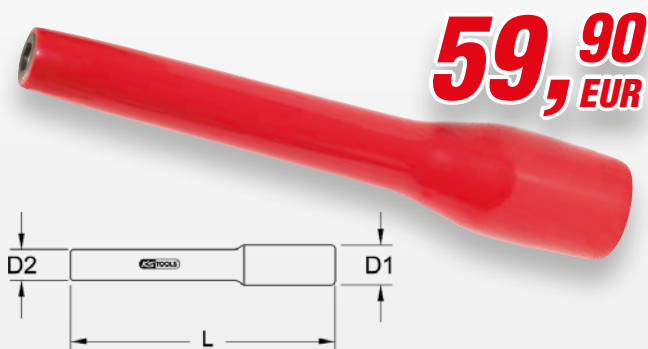

  
 1000 V




		L mm	⚡	Price
117.3823	3/8"	125	 	166,90 €
117.3825	3/8"	250	 	166,90 €

117.3811 ... 3812

## 3/8" BIT HOLDER WITH PROTECTIVE INSULATION

- Immersion insulation handle to IEC 60900
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Magnetic
- For bits to DIN 3126 / C 6,3

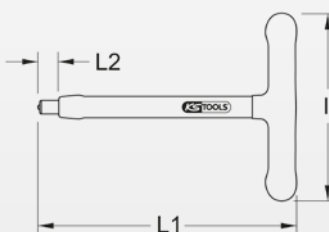

  
1000V


		D1 mm	D2 mm	L mm	⚡	Price
117.3811	3/8"	1/4"	25	125		59,90 €
117.3812	3/8"	1/4"	25	250		59,90 €

117.3820

## 3/8" T-HANDLE SOCKET WRENCH WITH PROTECTIVE INSULATION, 200 MM

- Square drive adaptor to DIN 3120 / 1174 with ball lock
- In accordance to DIN 7436
- Immersion insulation handle to IEC 60900
- With screw adjustment


  
 1000 V


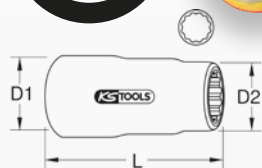
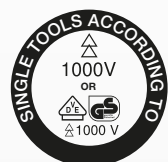
		I	L1 mm	L2 mm	⚡	Price
117.3820	3/8"	165	200	15	 	44,90 €



117.3831 ... 1031

## 3/8" SOCKET WITH PROTECTIVE INSULATION

- In accordance to DIN 7448
- Insulated handle to IEC 60900
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- FlankTraction profile
- 12 point



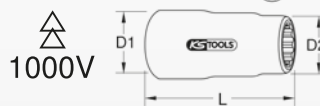
start from **24,90** EUR

	mm	D1 mm	D2 mm	L mm	⚡	Price
117.3831	6	23,0	14,0	48,0	1000V	31,90 €
117.3832	7	23,0	15,0	48,0	1000V	31,90 €
117.3833	8	23,0	16,0	48,0	1000V	31,90 €
117.3834	9	23,0	17,0	48,0	1000V	31,90 €
117.3835	10	23,0	19,5	48,0	1000V	31,90 €
117.3836	11	23,0	19,5	48,0	1000V	31,90 €
117.3837	12	23,0	20,5	48,0	1000V	31,90 €
117.3838	13	23,0	23,0	48,0	1000V	30,90 €
117.3839	14	23,0	23,5	48,0	1000V	30,90 €
117.3840	15	23,0	26,0	48,0	1000V	31,90 €
117.3841	16	23,0	26,5	48,0	1000V	31,90 €
117.3842	17	23,0	28,0	48,0	1000V	31,90 €
117.3843	18	23,0	30,0	48,0	1000V	31,90 €
117.3844	19	23,0	30,0	48,0	1000V	31,90 €
117.3845	20	23,0	32,0	48,0	1000V	31,90 €
117.3846	21	23,0	33,5	48,0	1000V	31,90 €
117.3847	22	23,0	37,5	48,0	1000V	34,90 €
117.3813	23	22,5	34,0	48,0	1000V	27,90 €
117.3848	24	23,0	38,5	48,0	1000V	38,90 €
117.1020	1/4"	22,0	13,0	48,0	1000V	28,90 €
117.1021	5/16"	22,0	15,5	48,0	1000V	24,90 €
117.1022	3/8"	22,0	19,0	48,0	1000V	28,90 €
117.1023	7/16"	22,0	20,0	48,0	1000V	24,90 €
117.1024	1/2"	22,0	23,0	48,0	1000V	28,90 €
117.1025	9/16"	22,0	24,5	48,0	1000V	28,90 €
117.1026	5/8"	22,0	26,5	48,0	1000V	28,90 €
117.1027	11/16"	22,0	29,0	48,0	1000V	28,90 €
117.1028	3/4"	22,0	30,0	48,0	1000V	28,90 €
117.1029	13/16"	22,0	32,0	48,0	1000V	30,90 €
117.1030	7/8"	22,0	36,0	48,0	1000V	30,90 €
117.1031	15/16"	22,0	37,0	48,0	1000V	30,90 €



























117.1090 ... 3884

## 3/8" SOCKET WITH PROTECTIVE INSULATION, LONG

- Immersion insulation according to IEC 60900
- Internal square drive according to DIN 3120 / ISO 1174 with ball drill groove
- FlankTraction Profile
- based on DIN 7448



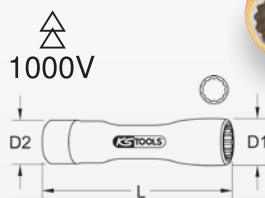
start from **37,90** EUR

	Profil	 mm	D1 mm	D2 mm	L mm		Price
117.1090		10	22	18,0	80		37,90 €
117.1091		11	22	19,5	80		37,90 €
117.1092		12	22	21,0	80		37,90 €
117.1093		13	22	23,0	80		37,90 €
117.1094		14	22	24,0	80		37,90 €
117.1095		15	22	26,0	80		37,90 €
117.1096		16	22	27,0	80		37,90 €
117.1097		17	22	28,0	80		37,90 €
117.3881		18	22	29,5	80		42,90 €
117.3882		19	22	30,5	80		42,90 €
117.3883		22	22	34,5	80		53,90 €
117.3884		24	22	37,5	80		60,90 €

117.3853 ... 3860

## 3/8" SOCKET WITH PROTECTIVE INSULATION, XL

- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Immersion insulation handle to IEC 60900
- FlankTraction profile
- 12 point



start from **82,90** EUR

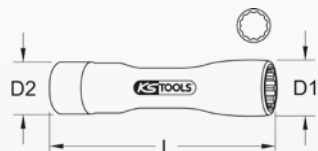
	mm	D1 mm	D2 mm	L mm	⚡	Price
117.3853	10	23	19	135	1000V	82,90 €
117.3854	11	23	20	135	1000V	82,90 €
117.3855	12	23	22	135	1000V	82,90 €
117.3856	13	23	22	135	1000V	82,90 €
117.3857	14	23	26	135	1000V	83,90 €
117.3858	17	23	29	135	1000V	89,90 €
117.3859	19	23	31	135	1000V	89,90 €
117.3860	22	23	35	135	1000V	89,90 €

117.2376 ... 2388

## 3/8" TORX E SOCKET WITH PROTECTIVE INSULATION

- Torx E
- Immersion insulation to IEC 60900
- Internal square drive to DIN 3120 / ISO 1174 with ball reception

1000V



		D1 mm	D2 mm	L mm	⚡	Price
117.2376	E4	23,0	10,8	45,0	1000V	22,90 €
117.2377	E5	23,0	12,3	45,0	1000V	22,90 €
117.2378	E6	23,0	13,5	45,0	1000V	22,90 €
117.2379	E7	23,0	13,7	45,0	1000V	22,90 €
117.2381	E8	23,0	15,5	45,0	1000V	22,90 €
117.2382	E10	23,0	17,2	45,0	1000V	22,90 €
117.2383	E11	23,0	18,0	45,0	1000V	22,90 €
117.2384	E12	23,0	19,0	45,0	1000V	22,90 €
117.2385	E14	23,0	20,5	45,0	1000V	25,90 €
117.2386	E16	23,0	23,1	45,0	1000V	25,90 €
117.2387	E18	23,0	25,0	45,0	1000V	25,90 €
117.2388	E20	23,0	27,0	45,0	1000V	25,90 €



start from **22,90** EUR

117.2363 ... 2375

## 3/8" TORX E SOCKET WITH PROTECTIVE INSULATION, LONG

- Torx E
- Immersion insulation handle to IEC 60900
- Internal square drive to DIN 3120 / ISO 1174 with ball reception

1000V



		D1 mm	D2 mm	L mm	⚡	Price
117.2363	E4	23,0	9,4	72,0	1000V	48,90 €
117.2364	E5	23,0	10,9	72,0	1000V	48,90 €
117.2365	E6	23,0	12,3	72,0	1000V	48,90 €
117.2366	E7	23,0	13,1	72,0	1000V	48,90 €
117.2367	E8	23,0	14,5	72,0	1000V	48,90 €
117.2368	E10	23,0	16,2	72,0	1000V	48,90 €
117.2369	E11	23,0	17,0	72,0	1000V	48,90 €
117.2371	E12	23,0	18,0	72,0	1000V	48,90 €
117.2372	E14	23,0	20,6	72,0	1000V	48,90 €
117.2373	E16	23,0	23,0	72,0	1000V	48,90 €
117.2374	E18	23,0	24,8	72,0	1000V	104,90 €
117.2375	E20	23,0	26,0	72,0	1000V	104,90 €



start from **48,90** EUR




117.1739 ... 1741

### 3/8" BIT SOCKET WITH PROTECTIVE INSULATION FOR PZ SCREWS

- PZ
- Immersion insulation handle to IEC 60900
- Internal square drive to DIN 3120 / ISO 1174 with ball reception


 1000V

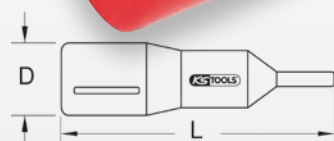
**start from 36,90 EUR**

		D mm	L mm		Price
117.1739	PZ 1	22	95		36,90 €
117.1740	PZ 2	22	95		41,90 €
117.1741	PZ 3	22	95		41,90 €

117.1735 ... 1738

### 3/8" BIT SOCKET WITH PROTECTIVE INSULATION FOR HEXAGON SOCKET SCREWS

- Hexagon socket
- Immersion insulation handle to IEC 60900
- Internal square drive to DIN 3120 / ISO 1174 with ball reception


**36,90 EUR**

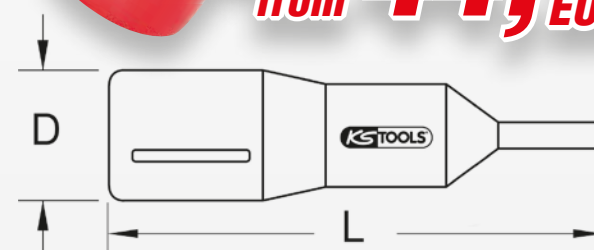
	mm	D mm	L mm		Price
117.1735	4	22	54		36,90 €
117.1736	5	22	54		36,90 €
117.1737	6	22	54		36,90 €
117.1738	8	22	54		36,90 €

117.3861 ... 3878

### 3/8" BIT SOCKET WITH PROTECTIVE INSULATION FOR HEXAGON SOCKET SCREWS

- Hexagonal
- Immersion insulation according to IEC 60900
- Internal square drive according to DIN 3120 / ISO 1174 with ball drill groove


 1000V

**start from 44,90 EUR**


	mm	D mm	L mm		Price
117.3861	4	23	82		45,90 €
117.3862	5	23	82		45,90 €
117.3863	6	23	82		45,90 €
117.3864	8	23	82		45,90 €
117.3865	10	23	82		45,90 €
117.3866	12	23	82		45,90 €
117.3867	4	23	116		45,90 €
117.3868	5	23	116		45,90 €
117.3869	6	23	116		45,90 €
117.3870	8	23	116		44,90 €
117.3871	10	23	116		45,90 €
117.3872	12	23	116		45,90 €
117.3873	5	23	180		45,90 €
117.3874	6	23	180		45,90 €
117.3875	5	23	270		48,90 €
117.3876	6	23	270		48,90 €
117.3877	8	23	270		48,90 €
117.3878	10	23	270		48,90 €

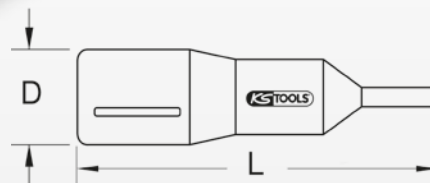


117.2454 ... 2461

### 3/8" BIT SOCKET WITH PROTECTIVE INSULATION FOR TORX SCREWS, SHORT

- Torx
- Immersion insulation handle to IEC 60900
- Internal square drive to DIN 3120 / ISO 1174 with ball reception


  
1000V

**36,90**  
**EUR**


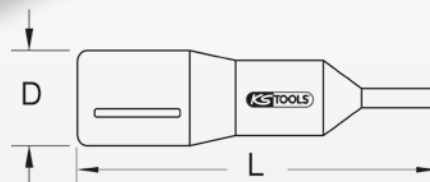
		D mm	L mm		Price
117.2454	T10	20	65		36,90 €
117.2455	T15	20	65		36,90 €
117.2456	T20	20	65		36,90 €
117.2457	T25	20	65		36,90 €
117.2458	T27	20	65		36,90 €
117.2459	T30	20	65		36,90 €
117.2461	T40	20	65		36,90 €

117.2462 ... 2468

### 3/8" BIT SOCKET WITH PROTECTIVE INSULATION FOR TORX SCREWS, LONG

- Torx
- Immersion insulation handle to IEC 60900
- Internal square drive to DIN 3120 / ISO 1174 with ball reception


  
1000V

**36,90**  
**EUR**


		D mm	L mm		Price
117.2462	T10	20	100		36,90 €
117.2463	T15	20	100		36,90 €
117.2464	T20	20	100		36,90 €
117.2465	T25	20	100		36,90 €
117.2466	T27	20	100		36,90 €
117.2467	T30	20	100		36,90 €
117.2468	T40	20	100		36,90 €




117.3893 ... 3895

### 3/8" BIT SOCKET WITH PROTECTIVE INSULATION FOR MULTI-TOOTH (XZN®) SCREWS

- Spline (XZN®)
- Immersion insulation handle to IEC 60900
- Internal square drive to DIN 3120 / ISO 1174 with ball reception


  
1000V

**36,90** EUR

		D mm	L mm		Price
117.3893	M8	23	95		36,90 €
117.3894	M10	23	95		36,90 €
117.3895	M12	23	95		36,90 €

117.2313 ... 2314

### 3/8" BIT HOLDER WITH PROTECTIVE INSULATION

- Immersion insulation handle to IEC 60900
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- Magnetic
- For bits to DIN 3126 / C 6,3


  
1000V

**36,90** EUR

		mm	D mm	L mm		Price
117.2313	3/8"	1/4"	55	45		36,90 €
117.2314	3/8"	8	55	50		36,90 €


117.1189 ... 3885

### REDUCING ADAPTER WITH PROTECTIVE INSULATION

- In accordance to DIN 3123 / ISO 3316
- Insulated handle to IEC 60900
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock


  
1000V

**start from 27,90** EUR

			D mm	L mm		Price
117.1189	1/4"	3/8"	17	39		27,90 €
117.3885	3/8"	1/2"	23	52		31,90 €






117.1190 ... 1285

### REDUCING ADAPTER WITH PROTECTIVE INSULATION

- based on DIN 3123 / ISO 3316
- Immersion insulation according to IEC 60900
- Square drive according to DIN 3120 / ISO 1174 with ball lock


  
1000V

**start from 27,90** EUR

			D mm	L mm		Price
117.1190	3/8"	1/4"	22	86		27,90 €
117.1285	1/2"	3/8"	20	75		38,90 €

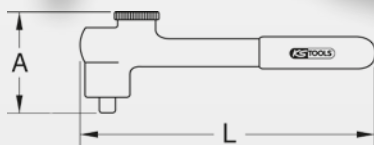
# 1/2" TOOLS WITH PROTECTIVE INSULATION

**117.1001**

## 1/2" PRE-SET TORQUE LIMITER WITH PROTECTIVE INSULATION, 5 - 35 NM

- Immersion insulation according to IEC 60900
- Trigger accuracy:  $\pm 4\%$  tolerance of the set scale value and better
- Without scale - with fixed value
- Square drive according to DIN 3120 / ISO 1174 with ball lock
- including calibration declaration of conformity according to DIN EN ISO 6789:2017(E) - traceable to national standards

  
**1000V**

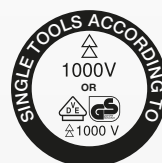
**439,90**  
**EUR**


		Nm	A mm	L mm	
117.1001	1/2"	5 - 35	78	250	

**117.1300 ... 1303**

## 1/2" TORQUE WRENCH WITH PROTECTIVE INSULATION AND REVERSIBLE RATCHET HEAD

- Immersion insulation handle to IEC 60900
- Release accuracy:  $\pm 4\%$  tolerance from the set scale value and better
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- including calibration declaration of conformity according to DIN EN ISO 6789:2017(E) - traceable to national standards


**start from 681,90**  
**EUR**

		Nm	H mm	L mm		Price
117.1301	1/2"	5-25	61	280		708,90 €
117.1300	1/2"	5-50	61	370		681,90 €
117.1302	1/2"	20-100	61	460		694,90 €
117.1303	1/2"	40-220	61	530		759,90 €

**117.1201**

## 1/2" HEAD-REVERSIBLE RATCHET WITH PROTECTIVE INSULATION, 32 TOOTH

- Square drive adaptor to DIN 3120 / 1174 with ball lock
- In accordance to DIN 7449
- Immersion insulation handle to IEC 60900
- With reversible 32-teeth ratchet head

		Nm	A mm	L mm	
117.1201	1/2"	5 - 35	90	245	

  
**1000V**

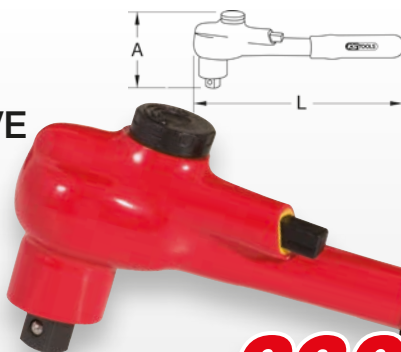
**169,90**  
**EUR**



**117.1200****1/2" HEAD-REVERSIBLE RATCHET WITH PROTECTIVE INSULATION, 32 TOOTH**

- Square drive adaptor to DIN3120 / ISO 1174 with ball lock
- In accordance to DIN 7449
- Immersion insulation handle to IEC 60900
- With reversible 32-teeth ratchet head

	■	A mm	L mm	⚡
117.1200	1/2"	88	245	1000 V

**239,90 EUR****117.2302 ... 1252****1/2" EXTENSION WITH PROTECTIVE INSULATION**

- In accordance to DIN 7434
- Immersion insulation handle to IEC 60900
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock

	■	L mm	⚡	Price
117.2302	1/2"	75	1000V	33,90 €
117.1251	1/2"	125	1000V	42,90 €
117.1252	1/2"	250	1000V	44,90 €

**start from 33,90 EUR****117.1202 ... 1203****1/2" EXTENSION WITH PROTECTIVE INSULATION AND SCREW ADJUSTMENT**

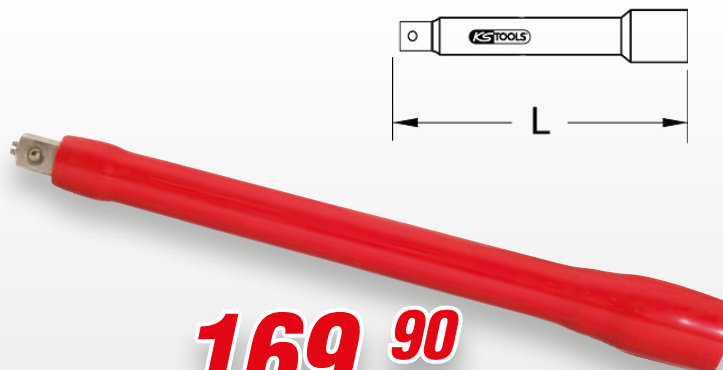
- In accordance to DIN 7434
- Immersion insulation handle to IEC 60900
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock

	■	L mm	⚡	Price
117.1202	1/2"	125	1000V	56,90 €
117.1203	1/2"	250	1000V	64,90 €

**start from 56,90 EUR****117.1229 ... 1231****1/2" EXTENSION WITH PROTECTIVE INSULATION**

- In accordance to DIN 7434
- Immersion insulation handle to IEC 60900
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock

	■	L mm	⚡	Price
117.1229	1/2"	125	1000V	169,90 €
117.1231	1/2"	250	1000V	174,90 €

**169,90 EUR**

117.1208 ... 1232

## 1/2" SOCKET WITH PROTECTIVE INSULATION

- 6 point
- In accordance to DIN 7448
- Immersion insulation handle to IEC 60900
- Internal square drive to DIN 3120 / ISO 1174 with ball reception

  
1000V

start from **24,90** EUR



	mm	D1 mm	D2 mm	L mm	⚡	Price
117.1208	8	26,0	17,0	55,0	1000V	24,90 €
117.1209	9	26,0	19,0	55,0	1000V	24,90 €
117.1210	10	26,0	20,0	55,0	1000V	24,90 €
117.1211	11	26,0	21,0	55,0	1000V	24,90 €
117.1212	12	26,0	22,0	55,0	1000V	26,90 €
117.1213	13	26,0	23,5	55,0	1000V	26,90 €
117.1214	14	26,0	25,0	55,0	1000V	26,90 €
117.1215	15	26,0	26,0	55,0	1000V	26,90 €
117.1216	16	26,0	26,5	55,0	1000V	26,90 €
117.1217	17	26,0	28,5	55,0	1000V	26,90 €
117.1218	18	26,0	31,0	55,0	1000V	26,90 €
117.1219	19	26,0	31,5	55,0	1000V	29,90 €
117.1220	20	26,0	33,0	55,0	1000V	31,90 €
117.1221	21	26,0	34,5	55,0	1000V	31,90 €
117.1222	22	26,0	35,0	55,0	1000V	31,90 €
117.1223	23	26,0	36,0	55,0	1000V	31,90 €
117.1224	24	26,0	37,0	55,0	1000V	33,90 €
117.1226	26	26,0	39,0	61,0	1000V	34,90 €
117.1227	27	26,0	41,0	61,0	1000V	37,90 €
117.1228	28	26,0	44,0	61,0	1000V	38,90 €
117.1230	30	26,0	46,0	61,0	1000V	34,90 €
117.1232	32	26,0	49,5	61,0	1000V	32,90 €

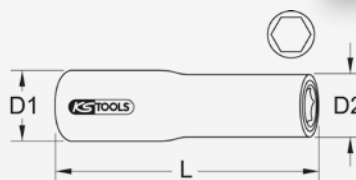
117.1333 ... 1350

## 1/2" SOCKET WITH PROTECTIVE INSULATION, LONG

- 6 point
- In accordance to DIN 7448
- Immersion insulation handle to IEC 60900
- Internal square drive to DIN 3120 / ISO 1174 with ball reception

  
1000V


start from **59,90** EUR

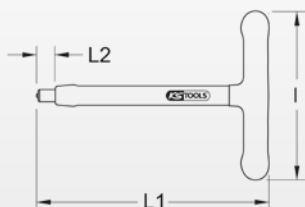


	mm	D1 mm	D2 mm	L mm	⚡	Price
117.1333	8	26,0	19,0	94,0	1000V	59,90 €
117.1334	10	26,0	21,0	94,0	1000V	59,90 €
117.1335	11	26,0	21,0	94,0	1000V	59,90 €
117.1336	12	26,0	22,0	94,0	1000V	60,90 €
117.1337	13	26,0	23,5	94,0	1000V	59,90 €
117.1338	14	26,0	25,5	94,0	1000V	59,90 €
117.1339	15	26,0	27,0	94,0	1000V	59,90 €
117.1340	16	26,0	28,0	94,0	1000V	59,90 €
117.1341	17	26,0	29,0	94,0	1000V	59,90 €
117.1342	18	26,0	30,0	94,0	1000V	59,90 €
117.1343	19	26,0	30,5	94,0	1000V	59,90 €
117.1344	21	26,0	35,0	94,0	1000V	59,90 €
117.1345	22	26,0	35,5	94,0	1000V	66,90 €
117.1346	23	26,0	36,0	94,0	1000V	66,90 €
117.1347	24	26,0	39,0	94,0	1000V	66,90 €
117.1348	27	26,0	42,0	94,0	1000V	76,90 €
117.1349	30	26,0	46,5	94,0	1000V	89,90 €
117.1350	32	26,0	48,5	94,0	1000V	89,90 €

117.1205

## 1/2" T-HANDLE SOCKET SPANNER WITH PROTECTIVE INSULATION AND SCREW ADJUSTMENT

- Square drive adaptor to DIN 3120 / 1174 with ball lock
- In accordance to DIN 7436
- Immersion insulation handle to IEC 60900


  
1000V

**47,90**  
**EUR**

		I	L1 mm	L2 mm	⚡	Price
117.1205	1/2"	165	200	15		47,90 €


117.1371 ... 1379

## 1/2" SOCKET WITH PROTECTIVE INSULATION, XL

- 6 point
- In accordance to DIN 7448
- Immersion insulation handle to IEC 60900
- Internal square drive to DIN 3120 / ISO 1174 with ball reception


  
1000V

**83,90**  
**EUR**

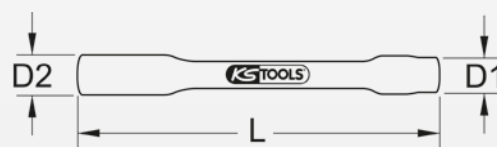

	mm	D1 mm	D2 mm	L mm	⚡	Price
117.1371	13	26,0	23,5	145,0		83,90 €
117.1372	14	26,0	25,5	145,0		83,90 €
117.1373	17	26,0	29,0	145,0		83,90 €
117.1374	19	26,0	30,5	145,0		83,90 €
117.1375	22	26,0	35,5	145,0		83,90 €
117.1376	24	26,0	29,0	145,0		83,90 €
117.1377	27	26,0	42,0	145,0		83,90 €
117.1378	30	26,0	46,5	145,0		83,90 €
117.1379	32	26,0	48,5	145,0		83,90 €










117.1381 ... 1389

## 1/2" SOCKET WITH PROTECTIVE INSULATION, XL

- 6 point
- In accordance to DIN 7448
- Immersion insulation handle to IEC 60900
- Internal square drive to DIN 3120 / ISO 1174 with ball reception


  
1000V

**83,90**  
**EUR**


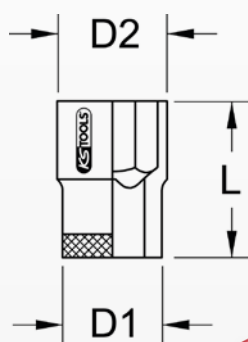
	mm	D1 mm	D2 mm	L mm	⚡	Price
117.1381	13	26,0	23,5	255,0		83,90 €
117.1382	14	26,0	25,5	255,0		83,90 €
117.1383	17	26,0	29,0	255,0		83,90 €
117.1384	19	26,0	30,5	255,0		83,90 €
117.1385	22	26,0	35,5	255,0		82,90 €
117.1386	24	26,0	39,0	255,0		82,90 €
117.1387	27	26,0	42,0	255,0		82,90 €
117.1388	30	26,0	46,5	255,0		83,90 €
117.1389	32	26,0	48,5	255,0		83,90 €











117.1351 ... 1367

## 1/2" SOCKET WITH PROTECTIVE INSULATION

- 12 point
- FlankTraction profile
- In accordance to DIN 7448
- Immersion insulation handle to IEC 60900
- Internal square drive to DIN 3120 / ISO 1174 with ball reception

  
1000V


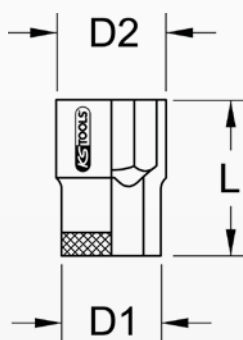
start from **24,90** EUR

		D1 mm	D2 mm	L mm		Price
117.1351	5/16"	26,0	18,0	55,0		24,90 €
117.1352	3/8"	26,0	19,5	55,0		24,90 €
117.1353	7/16"	26,0	21,0	55,0		24,90 €
117.1354	15/32"	26,0	21,5	55,0		24,90 €
117.1355	1/2"	26,0	24,5	55,0		24,90 €
117.1356	9/16"	26,0	25,0	55,0		24,90 €
117.1357	5/8"	26,0	26,5	55,0		24,90 €
117.1358	11/16"	26,0	29,0	55,0		24,90 €
117.1361	3/4"	26,0	30,0	55,0		24,90 €
117.1359	25/32"	26,0	29,5	55,0		27,90 €
117.1362	13/16"	26,0	34,5	55,0		26,90 €
117.1363	7/8"	26,0	35,5	59,0		27,90 €
117.1364	15/16"	26,0	38,0	59,0		31,90 €
117.1368	1"	26,0	39,5	59,0		34,90 €
117.1369	1.1/8"	26,0	45,0	59,0		34,90 €
117.1367	1.1/4"	26,0	49,0	59,0		34,90 €



117.2353 ... 2362

## 1/2" TORX E-SOCKET WITH PROTECTIVE INSULATION

- Torx E
- Immersion insulation handle to IEC 60900
- Internal square drive to DIN 3120 / ISO 1174 with ball reception
- For manual operation

  
1000V


start from **25,90** EUR

		D1 mm	D2 mm	L mm		Price
117.2353	E10	23	17	55		25,90 €
117.2354	E11	23	20	55		25,90 €
117.2355	E12	23	20	55		25,90 €
117.2356	E14	23	21	55		25,90 €
117.2357	E16	23	24	55		25,90 €
117.2358	E18	23	26	55		25,90 €
117.2359	E20	23	28	55		36,90 €
117.2361	E22	23	29	55		36,90 €
117.2362	E24	23	32	55		36,90 €

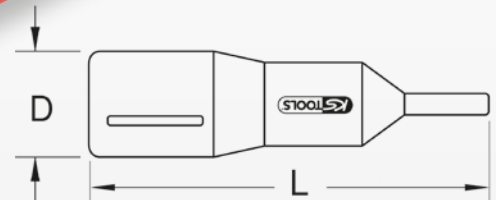
117.1151 ... 1159










## 1/2" BIT SOCKET WITH PROTECTIVE INSULATION FOR HEXAGON SCREWS

- Hexagon socket
- Immersion insulation handle to IEC 60900
- Internal square drive to DIN 3120 / ISO 1174 with ball reception

  
1000V


start from **42,90**  
EUR



	mm	D mm	L mm	⚡	Price
117.1151	4	26	95		42,90 €
117.1152	5	26	95		42,90 €
117.1153	6	26	95		42,90 €
117.1154	8	26	95		42,90 €
117.1155	10	26	95		42,90 €
117.1156	12	26	95		47,90 €
117.1157	14	26	95		47,90 €
117.1158	17	26	95		47,90 €
117.1159	19	26	95		47,90 €

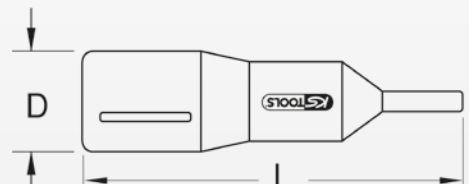
117.1161 ... 1166

## 1/2" BIT SOCKET WITH PROTECTIVE INSULATION FOR HEXAGON SCREWS, LONG

- Hexagon socket
- Immersion insulation handle to IEC 60900
- Internal square drive to DIN 3120 / ISO 1174 with ball reception

  
1000V


**42,90**  
EUR



	mm	D mm	L mm	⚡	Price
117.1161	4	26	118		42,90 €
117.1162	5	26	118		42,90 €
117.1163	6	26	118		42,90 €
117.1164	8	26	118		42,90 €
117.1165	10	26	118		42,90 €
117.1166	12	26	118		42,90 €

117.1171 ... 1176

## 1/2" BIT SOCKET WITH PROTECTIVE INSULATION FOR HEXAGON SOCKET SCREWS, EXTRA LONG

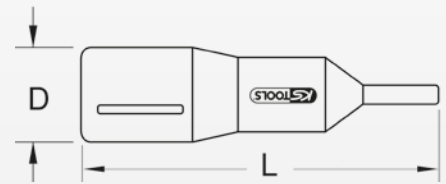
- Hexagonal
- Immersion insulation according to IEC 60900
- Internal square drive according to DIN 3120 / ISO 1174 with ball drill groove



1000V



start from **39,90** EUR



	mm	D mm	L mm	⚡	Price
117.1171	5	26	156		42,90 €
117.1172	6	26	156		42,90 €
117.1173	5	26	267		39,90 €
117.1174	6	26	267		39,90 €
117.1175	8	26	267		39,90 €
117.1176	10	26	267		39,90 €

117.2434 ... 2443

## 1/2" BIT SOCKET WITH PROTECTIVE INSULATION FOR TORX SCREWS, SHORT

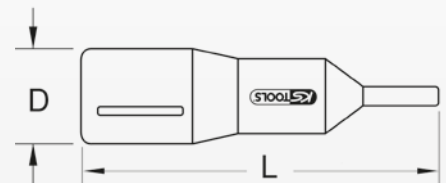
- Torx
- Immersion insulation handle to IEC 60900
- Internal square drive to DIN 3120 / ISO 1174 with ball reception












1000V



**36,90** EUR



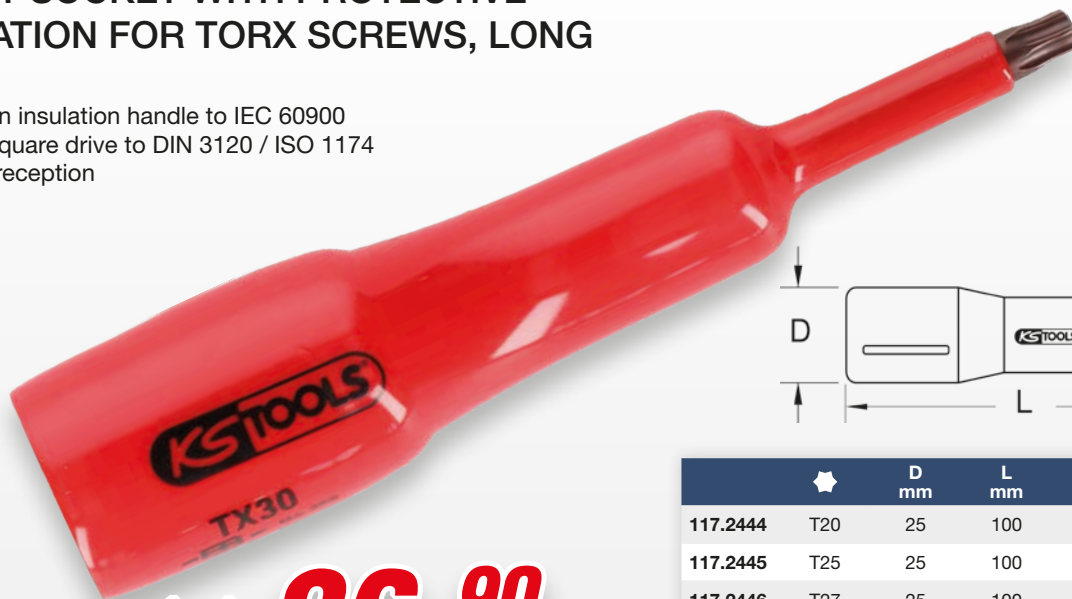
	☆	D mm	L mm	⚡	Price
117.2434	T20	25	75		36,90 €
117.2435	T25	25	75		36,90 €
117.2436	T27	25	75		36,90 €
117.2437	T30	25	75		36,90 €
117.2438	T40	25	75		36,90 €
117.2439	T45	25	75		36,90 €
117.2441	T50	25	75		36,90 €
117.2442	T55	25	75		36,90 €
117.2443	T60	25	75		36,90 €



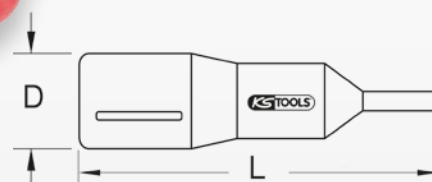
117.2444 ... 2453

## 1/2" BIT SOCKET WITH PROTECTIVE INSULATION FOR TORX SCREWS, LONG

- Torx
- Immersion insulation handle to IEC 60900
- Internal square drive to DIN 3120 / ISO 1174 with ball reception

  
1000V


start from **36,90** EUR



	★	D mm	L mm	⚡	Price
117.2444	T20	25	100		36,90 €
117.2445	T25	25	100		36,90 €
117.2446	T27	25	100		36,90 €
117.2447	T30	25	100		36,90 €
117.2448	T40	25	100		36,90 €
117.2449	T45	25	100		39,90 €
117.2451	T50	25	100		39,90 €
117.2452	T55	25	100		39,90 €
117.2453	T60	25	100		39,90 €

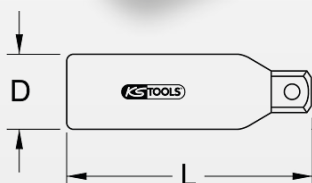
117.1285

## REDUCING ADAPTER WITH PROTECTIVE INSULATION

- In accordance to DIN 3123 / ISO 3316
- Immersion insulation handle to IEC 60900
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock
- Matt chrome
- Chrome vanadium

  
1000V


**38,90** EUR



	■	■	D mm	L mm	⚡
117.1285	1/2"	3/8"	20	75	

117.1403

## 1/2" ANGLE SOCKET WRENCH WITH PROTECTIVE INSULATION

- Square drive adaptor to DIN 3120 / 1174 with ball lock
- In accordance to DIN 7436
- Immersion insulation handle to IEC 60900
- With screw adjustment
- Chrome vanadium

  
1000V


**53,90** EUR

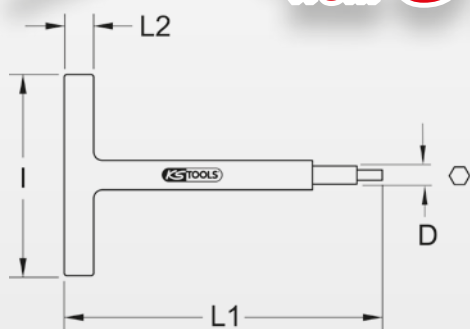


	■	L1 mm	L2 mm	⚡
117.1403	1/2"	280	70	

117.1671 ... 1696

## T-HANDLE ALLEN KEY WITH PROTECTIVE INSULATION

- Hexagon socket
- Immersion insulation handle to IEC 60900
- Extremely versatile



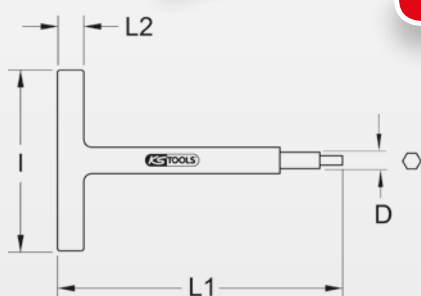
	mm	I mm	D mm	L1 mm	L2 mm	⚡	Price
117.1671	3	65,0	5,0	120,0	17,5	1000V	31,90 €
117.1673	4	65,0	10,0	120,0	19,0	1000V	31,90 €
117.1674	4	104,0	15,0	160,0	22,0	1000V	37,90 €
117.1675	4	64,0	10,0	200,0	18,0	1000V	31,90 €
117.1676	4	94,0	13,0	250,0	19,0	1000V	35,90 €
117.1677	5	65,0	11,0	120,0	20,0	1000V	31,90 €
117.1678	5	105,0	15,0	160,0	21,0	1000V	35,90 €
117.1679	5	65,0	10,0	200,0	18,0	1000V	31,90 €
117.1681	5	105,0	15,0	250,0	20,0	1000V	31,90 €
117.1682	6	90,0	11,0	120,0	20,0	1000V	31,90 €
117.1683	6	105,0	15,0	160,0	21,0	1000V	42,90 €
117.1684	6	65,0	11,0	200,0	19,0	1000V	36,90 €
117.1742	6	105,0	8,0	250,0	20,0	1000V	36,90 €
117.1685	8	105,0	15,0	160,0	21,0	1000V	36,90 €
117.1686	8	160,0	13,0	200,0	22,0	1000V	36,90 €
117.1687	8	100,0	17,0	250,0	22,0	1000V	43,90 €
117.1688	10	160,0	15,0	200,0	20,0	1000V	36,90 €
117.1689	10	160,0	15,0	250,0	20,0	1000V	36,90 €
117.1691	10	160,0	15,0	300,0	20,0	1000V	36,90 €
117.1692	11	160,0	15,0	200,0	20,0	1000V	36,90 €
117.1693	12	160,0	16,0	200,0	20,0	1000V	36,90 €
117.1694	13	160,0	16,0	200,0	21,0	1000V	36,90 €
117.1695	14	160,0	17,0	200,0	21,0	1000V	36,90 €
117.1696	17	160,0	20,0	200,0	21,0	1000V	36,90 €

117.2412 ... 2421

## T-HANDLE TORX L-KEY WITH PROTECTIVE INSULATION

- Torx
- Immersion insulation according to IEC 60900
- solid design

1000V



	mm	I mm	D mm	L1 mm	L2 mm	⚡	Price
117.2412	T10	63	4	120	13	1000V	36,90 €
117.2413	T15	63	4	120	13	1000V	36,90 €
117.2414	T20	103	5	120	13	1000V	36,90 €
117.2415	T25	103	5	160	15	1000V	36,90 €
117.2416	T27	103	6	160	15	1000V	36,90 €
117.2417	T30	103	6	160	15	1000V	36,90 €
117.2418	T40	103	7	200	15	1000V	36,90 €
117.2419	T45	103	7	200	15	1000V	36,90 €
117.2421	T50	103	8	200	15	1000V	36,90 €




## 3/4" TOOLS WITH PROTECTIVE INSULATION

117.1187

3/4" REVERSIBLE RATCHET  
WITH PROTECTIVE INSULATION

- Square drive adaptor to DIN 3120 / 1174 with ball lock
- In accordance to DIN 7449
- Immersion insulation handle to IEC 60900
- With reversible 32-teeth ratchet head

  
1000V


		A mm	L mm	
117.1187	3/4"	111,5	500,0	

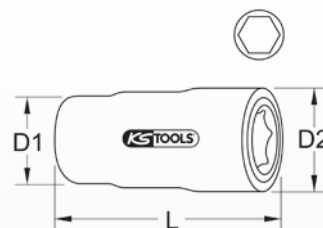
**329,90**  
EUR

















117.3930 ... 3945

3/4" SOCKET WITH  
PROTECTIVE INSULATION

- 6 point
- In accordance to DIN 7448
- Immersion insulation handle to IEC 60900
- Internal square drive to DIN 3120 / ISO 1174 with ball reception

  
1000V

**start from 31,90**  
EUR


		mm	D1 mm	D2 mm	L mm		Price
117.3930	19	26	68	20,0		1000V	34,90 €
117.3931	21	39	68	20,0		1000V	34,90 €
117.3932	22	40	70	21,0		1000V	31,90 €
117.3933	24	43	70	19,0		1000V	36,90 €
117.3934	26	45	72	20,0		1000V	41,90 €
117.3935	27	47	72	21,0		1000V	41,90 €
117.3936	28	48	72	22,0		1000V	41,90 €
117.3937	30	50	74	22,0		1000V	41,90 €
117.3938	32	52	74	20,0		1000V	41,90 €
117.3939	36	58	82	20,0		1000V	42,90 €
117.3940	38	60	82	20,0		1000V	47,90 €
117.3941	41	62	82	20,0		1000V	48,90 €
117.3942	46	70	82	20,0		1000V	48,90 €
117.3943	50	75	82	21,0		1000V	60,90 €
117.3944	55	82	88	21,0		1000V	81,90 €
117.3945	60	90	88	21,0		1000V	88,90 €

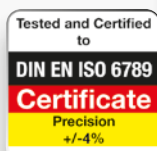


# TORQUE WRENCH WITH PROTECTIVE INSULATION

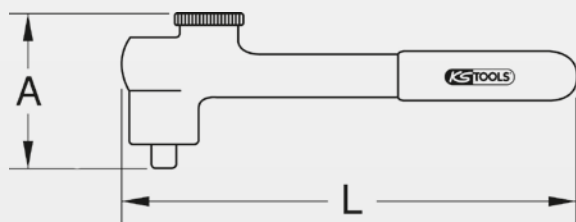
**117.3922 ... 1001**

## FIXED TORQUE WRENCH WITH PROTECTIVE INSULATION

- Immersion insulation according to IEC 60900
- Trigger accuracy:  $\pm 4\%$  tolerance of the set scale value and better
- Without scale - with fixed value
- Square drive according to DIN 3120 / ISO 1174 with ball lock
- including calibration declaration of conformity according to DIN EN ISO 6789:2017(E) - traceable to national standards

  
**1000V**


start from **367,90** EUR

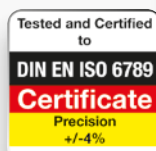


		Nm	A mm	L mm		Price
117.3922	3/8"	5-35	78	210	 1000V	367,90 €
117.1001	1/2"	5-35	78	250	 1000V	439,90 €

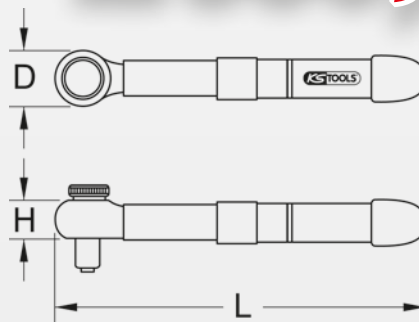
**117.1400 ... 1185**






## MINI TORQUE WRENCH WITH PROTECTIVE INSULATION AND REVERSIBLE RATCHET HEAD

- Immersion insulation according to IEC 60900
- Trigger accuracy:  $\pm 4\%$  tolerance of the set scale value and better
- Square drive according to DIN 3120 / ISO 1174 with ball lock
- including calibration declaration of conformity according to DIN EN ISO 6789:2017(E) - traceable to national standards

  
**1000V**


start from **539,90** EUR

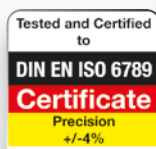


	Nm	D mm	H mm	L mm		Price	
117.1400	1/4"	2-10	40	41	200	 1000V	609,90 €
117.1402	1/4"	5-25	40	41	200	 1000V	609,90 €
117.1184	3/8"	5-25	40	42	200	 1000V	539,90 €
117.1185	1/2"	5-25	40	42	200	 1000V	674,90 €

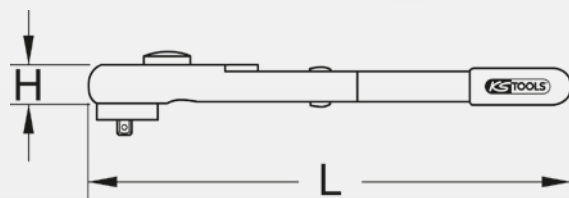
117.3805 ... 1303

## TORQUE WRENCH WITH PROTECTIVE INSULATION AND REVERSIBLE RATCHET HEAD

- Immersion insulation according to IEC 60900
- Trigger accuracy:  $\pm 4\%$  tolerance of the set scale value and better
- Square drive according to DIN 3120 / ISO 1174 with ball lock
- including calibration declaration of conformity according to DIN EN ISO 6789:2017(E) - traceable to national standards



start from **589,90** EUR



	Nm	H mm	L mm	⚡	Price
117.3805 3/8"	5-25	51	280	1000V	589,90 €
117.3810 3/8"	5-50	51	370	1000V	609,90 €
117.1301 1/2"	5-25	61	280	1000V	708,90 €
117.1300 1/2"	5-50	61	370	1000V	681,90 €
117.1302 1/2"	20-100	61	460	1000V	694,90 €
117.1303 1/2"	40-220	61	530	1000V	759,90 €

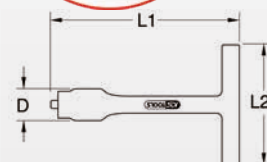
117.3806 ... 3808

## FIXED T-HANDLE TORQUE LIMITER WITH PROTECTIVE INSULATION

- Immersion insulation handle to IEC 60900
- High accuracy
- It is not possible to over tighten the set value
- Without scale - with a fixed adjustable value
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock



1000V



start from **354,90** EUR

	Nm	D mm	L1 mm	L2 mm	⚡	Price
117.3806 3/8"	12	36,5	270,0	165,0	1000V	354,90 €
117.3807 3/8"	18	36,5	270,0	165,0	1000V	359,90 €
117.3808 3/8"	25	36,5	270,0	165,0	1000V	375,90 €

117.3802 ... 3804

## FIXED TORQUE LIMITER WITH PROTECTIVE INSULATION

- Immersion insulation handle to IEC 60900
- High accuracy
- It is not possible to over tighten the set value
- Without scale - with a fixed adjustable value
- Square drive adaptor to DIN 3120 / ISO 1174 with ball lock



1000V



start from **320,90** EUR

	Nm	D1 mm	D2 mm	L mm	⚡	Price
117.3802 3/8"	12	23	27,5	92	1000V	326,90 €
117.3803 3/8"	18	23	27,5	92	1000V	320,90 €
117.3804 3/8"	25	23	27,5	92	1000V	335,90 €

# SCREWDRIVER WITH PROTECTIVE INSULATION

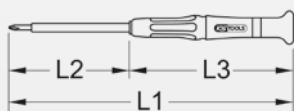
500.6136 ... 6137

## PRECISION SCREWDRIVER WITH PROTECTIVE INSULATION FOR PHILLIPS SCREWS PH

- PH
- Insulated to IEC 60900
- Twist end cap
- Color coding



4,90 EUR

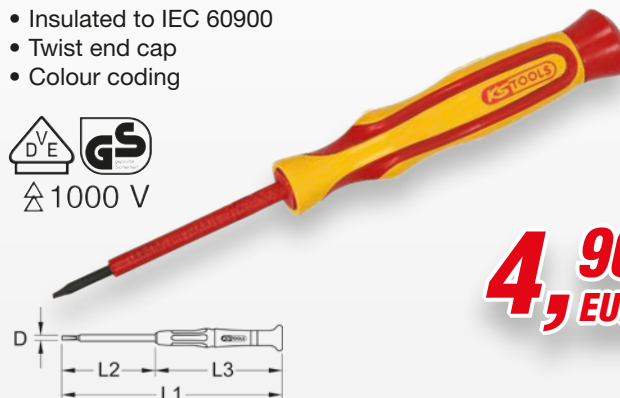


	+	L1 mm	L2 mm	L3 mm		Price
500.6136	PH 00	132	40	92		4,90 €
500.6137	PH 0	152	60	92		4,90 €

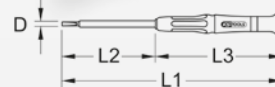
500.6138 ... 6143

## PRECISION SCREWDRIVER WITH PROTECTIVE INSULATION FOR SLOTTED SCREWS

- Slotted
- Insulated to IEC 60900
- Twist end cap
- Colour coding



4,90 EUR



	D mm	L1 mm	L2 mm	L3 mm		Price
500.6138	1,5	132,0	40,0	92,0		4,90 €
500.6139	1,8	132,0	40,0	92,0		4,90 €
500.6140	2,0	132,0	40,0	92,0		4,90 €
500.6141	2,5	152,0	60,0	92,0		4,90 €
500.6142	3,0	152,0	60,0	92,0		4,90 €
500.6143	3,5	152,0	60,0	92,0		4,90 €

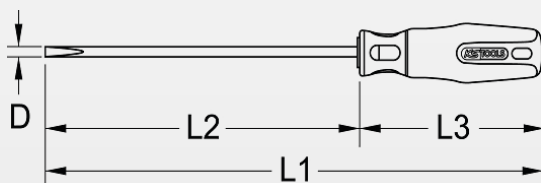
117.0541 ... 0518

## VDE SLOTTED SCREWDRIVER

- Slotted
- In accordance to DIN 5264 / DIN ISO 2380
- Insulated to IEC 60900



start from 4,50 EUR



	D mm	L1 mm	L2 mm	L3 mm		Price
117.0541	2,0	140	60	80		4,50 €
117.0502	2,5	155	75	80		5,50 €
117.0504	3,0	180	100	80		5,50 €
117.0506	3,5	180	100	80		5,50 €
117.0508	4,0	180	100	80		6,90 €
117.0542	4,5	230	125	105		6,90 €
117.0543	4,5	290	175	115		7,90 €
117.0544	4,5	315	200	115		9,90 €
117.0512	5,5	230	125	105		7,90 €
117.0545	5,5	290	175	115		7,90 €
117.0514	6,5	255	150	105		8,90 €
117.0516	8,0	290	175	115		11,90 €
117.0518	10,0	315	200	115		11,90 €

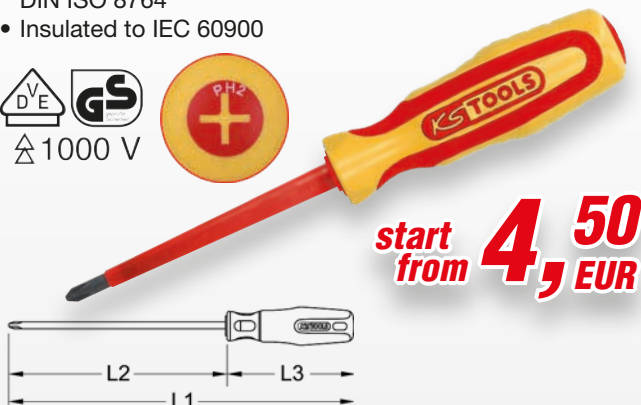


117.0522 ... 1526

## VDE PH SCREWDRIVER



- PH
- In accordance to DIN 7438 / DIN ISO 8764
- Insulated to IEC 60900



start from **4,50** EUR

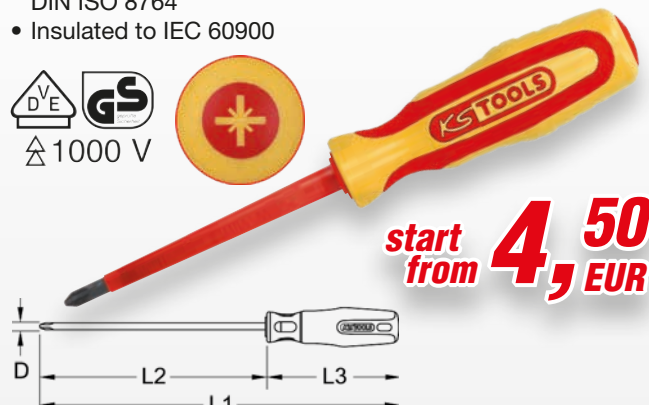
	+	L1 mm	L2 mm	L3 mm	⚡	Price
117.0522	PH 0	140	60	80		4,50 €
117.0524	PH 1	185	80	105		6,90 €
117.1521	PH 1	265	150	115		7,90 €
117.0526	PH 2	205	100	105		7,90 €
117.1523	PH 2	315	200	115		8,90 €
117.0528	PH 3	265	150	115		9,90 €
117.1526	PH 4	315	200	115		10,90 €

117.0532 ... 1535

## VDE PZ SCREWDRIVER



- PZ
- In accordance to DIN 7438 / DIN ISO 8764
- Insulated to IEC 60900



start from **4,50** EUR

	*	L1 mm	L2 mm	L3 mm	⚡	Price
117.0532	PZ 0	140	60	80		4,50 €
117.0534	PZ 1	185	80	105		6,90 €
117.1533	PZ 1	265	150	115		7,90 €
117.0536	PZ 2	205	100	105		8,90 €
117.1534	PZ 2	315	200	115		8,90 €
117.0538	PZ 3	265	150	115		9,90 €
117.1535	PZ 4	315	200	115		10,90 €

117.1631 ... 1638

HEXAGON SOCKET  
SCREWDRIVER WITH  
PROTECTIVE INSULATION

- Hexagon socket
- In accordance to DIN 7439
- Insulated to IEC 60900



start from **11,90** EUR

	mm	L1 mm	L2 mm	L3 mm	⚡	Price
117.1631	1,5	156	75	81		11,90 €
117.1632	2,0	156	75	81		11,90 €
117.1633	2,5	181	100	81		11,90 €
117.1634	3,0	181	100	81		11,90 €
117.1635	4,0	231	125	106		11,90 €
117.1636	5,0	256	150	106		13,90 €
117.1637	6,0	291	175	116		16,90 €
117.1638	8,0	316	200	116		20,90 €

117.0591 ... 0595

SCREWDRIVER  
FOR SQUARE SOCKET  
SCREWS

- Interior square screwdriver with protective insulation
- Interior square
- based on DIN 7438 / DIN ISO 8764
- Insulation according to IEC 60900



start from **5,50** EUR

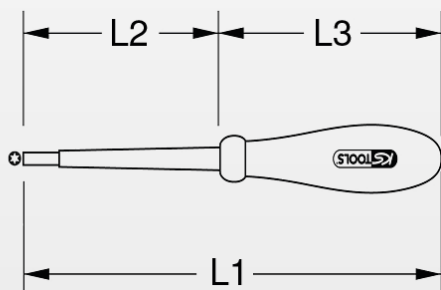
	□	L1 mm	L2 mm	L3 mm	⚡	Price
117.0591	#1	160	80	80		5,50 €
117.0592	#1	255	150	105		9,90 €
117.0593	#2	180	100	80		6,90 €
117.0594	#2	315	200	115		14,90 €
117.0595	#3	265	150	115		8,90 €

117.2235 ... 0558

INSULATED SCREWDRIVER FOR  
INTERNAL TORX SCREWS

- Torx
- Insulated to IEC 60900


  
1000V

**start from 5,90 EUR**


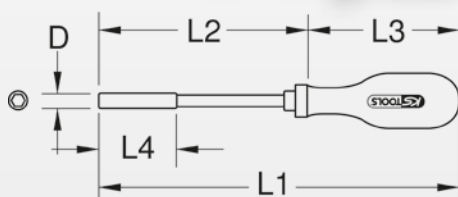
	★	L1 mm	L2 mm	L3 mm	⚡	Price
117.2235	T5	140	60	80	1000V	5,90 €
117.2236	T6	140	60	80	1000V	5,90 €
117.2237	T7	140	60	80	1000V	5,90 €
117.2238	T8	140	60	80	1000V	5,90 €
117.2239	T9	140	60	80	1000V	5,90 €
117.0551	T10	170	80	90	1000V	9,90 €
117.0552	T15	170	80	90	1000V	10,90 €
117.0553	T20	190	100	90	1000V	10,90 €
117.0554	T25	190	100	90	1000V	10,90 €
117.0555	T27	230	125	105	1000V	14,90 €
117.0556	T30	205	115	90	1000V	14,90 €
117.0557	T40	290	175	115	1000V	14,90 €
117.0558	T45	290	175	115	1000V	14,90 €

117.1625

1/4" BIT SCREWDRIVER WITH  
PROTECTIVE INSULATION AND  
MAGAZINE

- Insulated to IEC 60900
- For bits to DIN 3126 - C 6,3


  
1000V

**55,90 EUR**


	◆	D mm	L1 mm	L2 mm	L3 mm	L4 mm	⚡
117.1625	1/4"	12,5	230	120	110	50	1000V



## SCREWDRIVER SETS WITH PROTECTIVE INSULATION

500.6165

PRECISION MECHANICS  
SCREWDRIVER WITH  
PROTECTIVE INSULATION  
FOR PHILLIPS SCREWS PH  
SET, 7 PCS

- Insulated to IEC 60900
- Twist end cap
- Color coding

40,90  
EUR

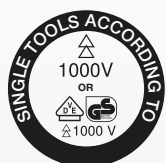
2 x		PH 0 - PH 00
5 x		1,5 - 1,8 - 2,0 - 2,5 - 3,0 mm



117.0540

VDE SCREWDRIVER SET,  
PH + SLOT, 5 PCS

- In accordance to DIN 5264 / 7437 / 7438 / 8764
- Insulated to IEC 60900

24,90  
EUR

1 x		PH1
3 x		2,5 - 4,0 - 5,5 mm
1 x		3,0 mm





**117.0550****VDE SCREWDRIVER SET,  
PH + SLOT, 8 PCS**

- In accordance to DIN 5264 / 7437 / 7438 / 8764
- Insulated to IEC 60900

**49,90  
EUR**

3 x		PH0 - PH1 - PH2
4 x		2,5 - 4,0 - 5,5 - 6,5 mm
1 x		3,0 mm



-

+

**117.1160****VDE PLIERS SET, 4 PCS**

- Wrap around insulation to IEC 60900

**119,90  
EUR**

1 x		200 mm
1 x		160 mm
1 x		180 mm
1 x		160 mm

117.1170

## VDE PLIERS AND SCREWDRIVER SET, 5 PCS, VARIATION 1

- Wrap around insulation to IEC 60900


**89,90**  
**EUR**

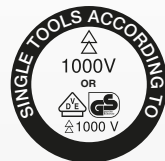
1 x		200 mm
1 x		160 mm
2 x		4 - 5,5 mm
1 x		PH2



117.1770

## VDE PLIERS AND SCREWDRIVER SET, 5 PCS, VARIATION 2

- Wrap around insulation to IEC 60900


**135,90**  
**EUR**


1 x		200 mm
1 x		160 mm
2 x		4 - 5,5 mm
1 x		PH2

117.1760

## 1000V PLIERS SET, 4 PCS, VARIATION 2

- Immersion insulation according to IEC 60900



**222,90**  
**EUR**

1 x		200 mm
1 x		160 mm
1 x		185 mm
1 x		160 mm

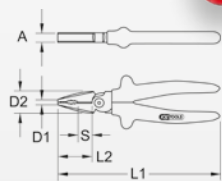


## PLIERS WITH PROTECTIVE INSULATION

117.1275 ... 1279

### 1000 V COMBINATION PLIERS

- In accordance to DIN ISO 5748
- Immersion insulation handle to IEC 60900
- Also suitable for hard wire



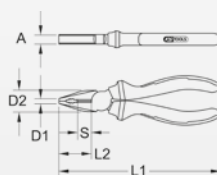
**start from 49,90**  
**EUR**

	A mm	D1 mm	D2 mm	L1 mm	L2 mm	S mm	⚡	Price
117.1278	8,5	6,0	25,0	160,0	36,5	13,0	1000V	49,90 €
117.1275	11,0	7,5	28,0	185,0	40,0	16,5	GS 1000 V	52,90 €
117.1276	11,5	8,0	28,0	205,0	43,0	18,0	GS 1000 V	59,90 €
117.1279	13,0	8,0	35,0	250,0	53,0	21,5	1000V	99,90 €

117.1111 ... 1113

### VDE COMBINATION PLIERS

- In accordance to DIN ISO 5748
- Wrap around insulation to IEC 60900
- Suitable for wire



**start from 24,90**  
**EUR**

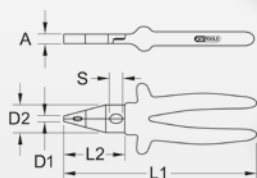
	A mm	D1 mm	D2 mm	L1 mm	L2 mm	S mm	⚡	Price
117.1111	10,0	6,0	24,0	170,0	35,0	2,4	GS 1000 V	24,90 €
117.1112	11,0	7,0	27,0	185,0	38,5	2,5	GS 1000 V	29,90 €
117.1113	12,0	7,0	30,0	210,0	42,5	3,0	GS 1000 V	34,90 €



117.1711 ... 1712

## 1000 V COMBINATION PLIERS

- In accordance to DIN ISO 5244
- Immersion insulation handle to IEC 60900
- Also suitable for hard wire


  
1000V


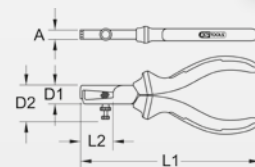
start from **104,90 EUR**

	A mm	D1 mm	D2 mm	L1 mm	L2 mm	S mm	⚡	Price
117.1711	16,0	8,0	30,0	185,0	38,0	16,0		104,90 €
117.1712	16,0	8,5	32,5	205,0	44,0	18,5		114,90 €

117.1114

## VDE WIRE STRIPPER, 160 MM

- In accordance to DIN ISO 5232
- Wrap around immersion insulation to IEC 60900
- For wires from 0,8 - 6,0 mm<sup>2</sup>


  
 1000 V


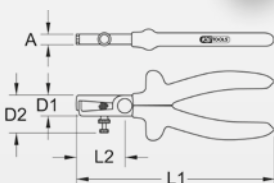
**29,90 EUR**

	A mm	D1 mm	D2 mm	L1 mm	L2 mm	⚡
117.1114	10,0	17,5	31,5	160,0	36,0	

117.1271

## 1000 V WIRE STRIPPER, 9,5 MM

- In accordance to DIN ISO 5232
- Wrap around immersion insulation to IEC 60900
- For wires from 0,8 - 6,0 mm<sup>2</sup>


  
 1000 V


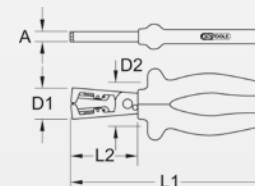
**49,90 EUR**

	A mm	D1 mm	D2 mm	L1 mm	L2 mm	⚡
117.1271	9,5	18,5	31,5	160	44	

117.1272

## 1000 V WIRE STRIPPER, 10,5 MM

- Immersion insulation handle to IEC 60900
- Self-adjusting
- With replaceable knives
- For wires from 0,5 - 5,0 mm<sup>2</sup>
- Cutting holes for the separation of cables and wires


  
1000V


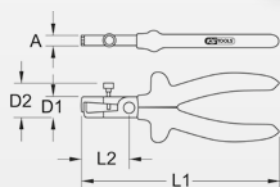
**74,90 EUR**


	A mm	D1 mm	D2 mm	L1 mm	L2 mm	⚡
117.1272	10,5	28,5	47,5	160,0	20,0	

117.1713

# 1000 V WIRE STRIPPER, 11 MM

- In accordance to DIN ISO 5232
- Immersion insulation handle to IEC 60900
- For wires from 0,8 - 6,0 mm<sup>2</sup>

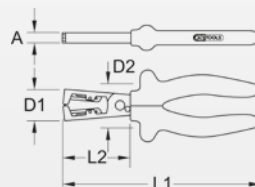

  
1000V

**114,<sup>90</sup> EUR**


	A mm	D1 mm	D2 mm	L1 mm	L2 mm	⚡
117.1713	11	18,5	20	160	34	

117.1225

# 1000 V WIRE STRIPPER, 10 MM

- Immersion insulation handle to IEC 60900
- Multifunctional wire strippers
- Self-adjusting
- With replaceable knives
- For wires from 0,5 - 5,0 mm<sup>2</sup>
- Cutting holes for the separation of cables and wires

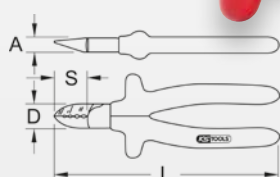

  
1000V

**67,<sup>90</sup> EUR**

	A mm	D1 mm	D2 mm	L1 mm	L2 mm	⚡
117.1225	10	24	40	185	61	

117.1281

# 1000 V ELECTRIC SIDE CUTTER, 175 MM

- Immersion insulation handle to IEC 60900
- Wire strippers for wires from 1,5 mm<sup>2</sup> + 2,5 mm<sup>2</sup>
- For crimping of insulated cable lugs with Ø 1,5 mm + 2,5 mm

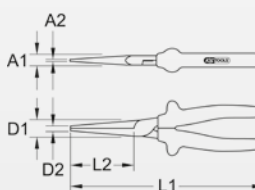

  
1000V

**76,<sup>90</sup> EUR**


	A mm	D mm	L mm	S mm	⚡
117.1281	10,5	22	175	27	

117.1280

# 1000 V DRAWING PLIERS, 200 MM

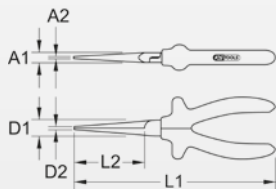
- In accordance to DIN ISO 5745
- Immersion insulation handle to IEC 60900



  
1000V

**99,<sup>90</sup> EUR**

	A1 mm	A2 mm	D1 mm	D2 mm	L1 mm	L2 mm	⚡
117.1280	7,5	6,5	17	4,5	200	65	

**117.1714****1000 V DRAWING PLIERS, 200 MM, WITH COATED WORKING HEAD**

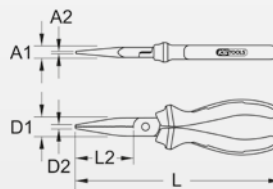
- In accordance to DIN ISO 5745
- Immersion insulation handle to IEC 60900



  
1000V
**194,90**  
**EUR**

	A1 mm	A2 mm	D1 mm	D2 mm	L1 mm	L2 mm	⚡
117.1714	7,5	6,5	19	4,5	200	65	

**117.1125****VDE FLAT PLIERS SERRATED, 170 MM**

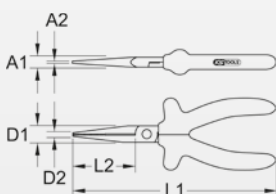
- In accordance to DIN ISO 5745
- Wrap around insulation to IEC 60900



  
 1000 V
**26,90**  
**EUR**

	A1 mm	A2 mm	D1 mm	D2 mm	L1 mm	L2 mm	⚡
117.1125	9	3,8	18	3	170	49,5	

**117.1289****1000 V FLAT PLIERS, 160 MM**

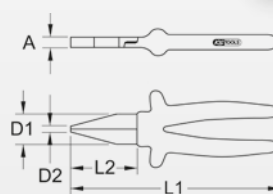
- In accordance to DIN ISO 5745
- Immersion insulation handle to IEC 60900


  
1000V
**39,90**  
**EUR**

	A1 mm	A2 mm	D1 mm	D2 mm	L1 mm	L2 mm	⚡
117.1289	8,5	5,5	15	3,5	160	50	

**117.1298****1000 V FLAT PLIERS, 160 MM**

- In accordance to DIN ISO 5745
- Immersion insulation handle to IEC 60900


  
 1000 V
**47,90**  
**EUR**

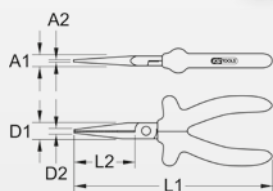
	A mm	D1 mm	D2 mm	L1 mm	L2 mm	⚡
117.1298	9	17	4,5	160	34	




117.1715

# 1000 V FLAT PLIERS, 160 MM, WITH COATED WORKING HEAD

- In accordance to DIN ISO 5745
- Immersion insulation handle to IEC 60900

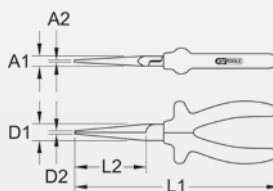
  
1000V

**99,90**  
**EUR**


	A1 mm	A2 mm	D1 mm	D2 mm	L1 mm	L2 mm	⚡
117.1715	11	11	19	5	160	36	

117.1299

# 1000 V FLAT PLIERS, LONG, 160 MM

- In accordance to DIN ISO 5745
- Immersion insulation handle to IEC 60900

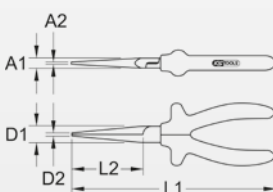
  
1000V

**47,90**  
**EUR**


	A1 mm	A2 mm	D1 mm	D2 mm	L1 mm	L2 mm	⚡
117.1299	7	8,5	16	4	160	51	

117.1716

# 1000 V FLAT PLIERS, LONG JAW, 160 MM

- In accordance to DIN ISO 5745
- Immersion insulation handle to IEC 60900

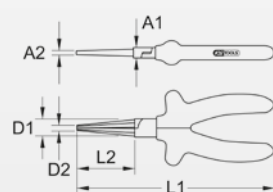
  
1000V

**99,90**  
**EUR**


	A1 mm	A2 mm	D1 mm	D2 mm	L1 mm	L2 mm	⚡
117.1716	13	7,5	18,5	4,5	160	50	

117.1290

# 1000 V LONG NOSE PLIERS, 160 MM

- In accordance to DIN ISO 5745
- Immersion insulation handle to IEC 60900

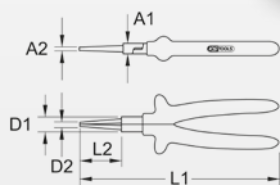
  
1000V

**52,90**  
**EUR**

	A1 mm	A2 mm	D1 mm	D2 mm	L1 mm	L2 mm	⚡
117.1290	9	2,5	14	5,5	160	47,5	

117.1297

## 1000 V ROUND PLIERS, 160 MM

- In accordance to DIN ISO 5745
- Immersion insulation handle to IEC 60900



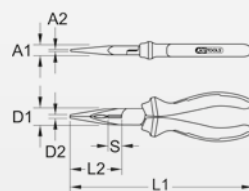
**48,90**  
**EUR**

	A1 mm	A2 mm	D1 mm	D2 mm	L1 mm	L2 mm	⚡	
117.1297	10	3,5	14	6	160	33		1000 V

117.1117 ... 1118

VDE LONG NOSE PLIERS,  
STRAIGHT, 165 MM

- In accordance to DIN ISO 5745
- Wrap around insulation to IEC 60900
- Suitable for medium and hard wire



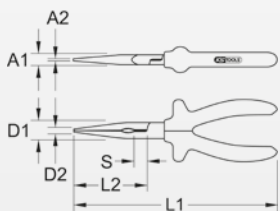
**start from 27,90**  
**EUR**

	A1 mm	A2 mm	D1 mm	D2 mm	L1 mm	L2 mm	S mm	⚡	Price
117.1117	9	2,9	18	3,2	165	48	2,5		27,90 €
117.1118	11	3,5	22	4,5	215	69	2,5		34,90 €

117.1291 ... 1293

1000 V BENT NOSE PLIER,  
STRAIGHT, 200 MM

- In accordance to DIN ISO 5745
- Immersion insulation handle to IEC 60900
- For soft and medium wire



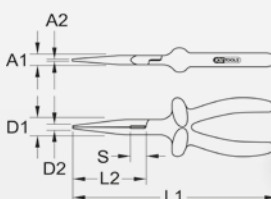
**59,90**  
**EUR**

	A1 mm	A2 mm	D1 mm	D2 mm	L1 mm	L2 mm	⚡	Price
117.1291	9,5	2,5	16	4	200	74		59,90 €
117.1293	9	2	15,5	3	160	55		59,90 €

117.1717 ... 1718

1000 V LONG NOSE PLIERS,  
160 MM

- In accordance to DIN ISO 5745
- Immersion insulation handle to IEC 60900
- For soft and medium wire



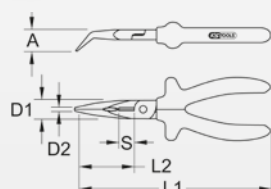
**start from 114,90**  
**EUR**

	A1 mm	A2 mm	D1 mm	D2 mm	L1 mm	L2 mm	S mm	⚡	Price
117.1717	10	3,5	17,5	4	160	55	10		114,90 €
117.1718	10,5	3,5	18	5	200	74	14		124,90 €

**117.1292 ... 1294**

## 1000 V LONG NOSED PLIERS, CURVED

- In accordance to DIN ISO 5745
- Immersion insulation handle to IEC 60900
- For soft and medium wire



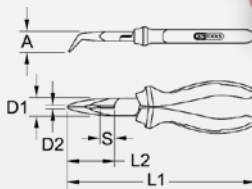
start from **58,90**, EUR

	A mm	D1 mm	D2 mm	L1 mm	L2 mm	S mm	⚡	Price
117.1294	9,5	15,5	4	160	51	11	1000V	58,90 €
117.1292	9,5	17	4	200	78	14	1000V	66,90 €

**117.1120 ... 1121**

## VDE LONG NOSED PLIERS, CURVED

- In accordance to DIN ISO 5745
- Wrap around insulation to IEC 60900
- For soft and medium wire



start from **26,90**, EUR

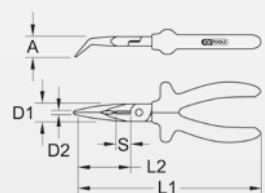
	A mm	D1 mm	D2 mm	L1 mm	L2 mm	S mm	⚡	Price
117.1120	9	18	3,2	165	48	2,5	1000V	26,90 €
117.1121	11	22	5	205	70	2,5	1000V	34,90 €

**117.1719**

## 1000 V LONG NOSED PLIERS, CURVED, 200 MM, WITH COATED WORKING HEAD

- In accordance to DIN ISO 5745
- Immersion insulation handle to IEC 60900
- For soft and medium wire

1000V



**129,90**, EUR

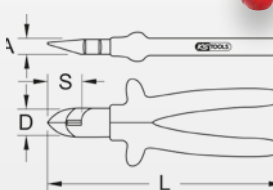
	A mm	D1 mm	D2 mm	L1 mm	L2 mm	S mm	⚡
117.1719	12	5	19	200	79	14	1000V

**117.1268**

## 1000 V LEAD SEALING PLIERS, 160 MM

- Immersion insulation handle to IEC 60900
- Combined with side cutter

1000V



**129,90**, EUR

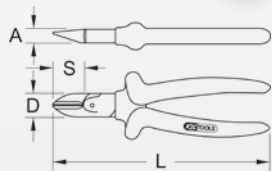
	A mm	D mm	L mm	S mm	⚡
117.1268	10	20	160	15	1000V



117.1277 ... 1288

**1000V DIAGONAL SIDE CUTTER,  
160 MM**

- In accordance to DIN ISO 5232
- Immersion insulation handle to IEC 60900
- For soft and hard wire

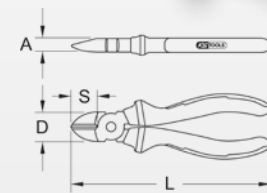
**start from 59,90 EUR**

	A mm	D mm	L mm	S mm	⚡	Price
117.1277	11	21,5	160	24		59,90 €
117.1288	11	21,5	180	24		62,90 €

117.1119

**VDE DIAGONAL SIDE CUTTER,  
160 MM**

- In accordance to DIN ISO 5749
- Wrap around insulation to IEC 60900
- For soft and medium wire
- Induction-hardened precision cutting

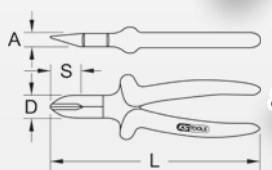
**27,90 EUR**

	A mm	D mm	L mm	S mm	⚡
117.1119	10	20	160	20	

117.1721 ... 1722

**INSULATED FOUR WAY SPANNER,  
160 MM**

- In accordance to DIN ISO 5232
- Immersion insulation handle to IEC 60900
- For soft and hard wire

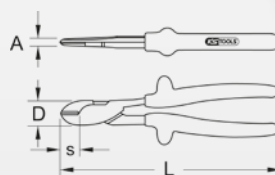
**start from 124,90 EUR**

	A mm	D mm	L mm	S mm	⚡	Price
117.1721	26	25,5	160	22		124,90 €
117.1722	27	27	180	25		129,90 €

117.1234

**1000 V HIGH LEVERAGE SIDE  
CUTTER, 200 MM**

- In accordance to DIN ISO 5749
- Immersion insulation handle to IEC 60900
- For all types of wire
- 40% power saving

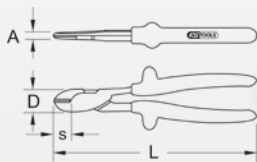
**59,90 EUR**

	A mm	D mm	L mm	S mm	⚡
117.1234	12	28,5	200	25	

**117.1283 ... 1284**

## 1000 V HIGH SIDE CUTTER

- In accordance to DIN ISO 5749
- Immersion insulation handle to IEC 60900
- For all types of wire



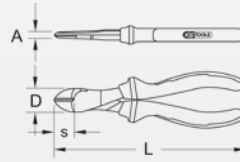
start from **104,90 EUR**

	A mm	D mm	L mm	S mm	⚡	Price
117.1283	12,5	29	205	24	1000V	104,90 €
117.1284	13,5	33	260	30	1000V	122,90 €

**117.1115 ... 1116**

## VDE DIAGONAL SIDE CUTTER

- In accordance to DIN ISO 5749
- Wrap around insulation to IEC 60900
- For all types of wire



start from **27,90 EUR**

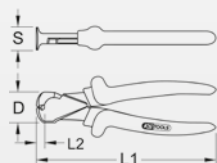
	A mm	D mm	L mm	S mm	⚡	Price
117.1115	12	30	190	22,5	1000V	27,90 €
117.1116	12,5	30	205	22,5	1000V	34,90 €

**117.1198**

## 1000 V CUTTING PLIERS

- In accordance to DIN ISO 8976
- Wrap around insulation to IEC 60900

1000V



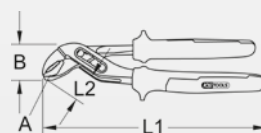
**52,90 EUR**

	D mm	L mm	L2 mm	S mm	⚡
117.1198	30	160	6,5	23	1000V

**117.2000**

## VDE WATER PUMP PLIERS

- In accordance to DIN ISO 8976
- Wrap around insulation to IEC 60900



**43,90 EUR**

	A mm	B mm	L1 mm	L2 mm	⚡
117.2000	33	42	240	32	1000V

**117.1207****1000 V WATER PUMP PLIERS**

- In accordance to DIN ISO 8976
- Immersion insulation handle to IEC 60900

**117.1273 ... 1274****1000 V WATER PUMP PLIERS**

- In accordance to DIN ISO 8976
- Immersion insulation handle to IEC 60900

**PLIER SETS WITH PROTECTIVE INSULATION****117.1100****VDE PLIERS SET, 4 PCS**

- Wrap around insulation to IEC 60900

**117.1700****1000 V PLIERS SET, 4 PCS**

- Immersion insulation handle to IEC 60900



117.1110

## VDE PLIERS SET, 3 PCS

- Wrap around insulation to IEC 60900


**68,90**  
**EUR**

1 x		175 mm
1 x		165 mm
1 x		150 mm



117.1710

## 1000 V PLIERS SET, 3 PCS

- Immersion insulation handle to IEC 60900


**169,90**  
**EUR**

1 x		185 mm
1 x		200 mm
1 x		160 mm



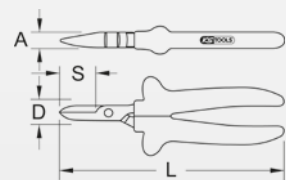


## CABLE SHEARS WITH PROTECTIVE INSULATION

117.1206

## 1000 V ELECTRICAL SHEAR, 180 MM

- Immersion insulation handle to IEC 60900
- Only suitable for copper and aluminium wire
- For the cutting of thin wires and sheet metals

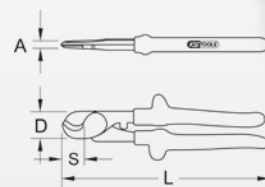
  
1000V

**44,90**  
**EUR**

	A mm	D mm	L mm	S mm	⚡
117.1206	9	14	180	38	

117.4277 ... 4279

## 1000 V CABLE SHEAR, 160 MM

- Immersion insulation handle to IEC 60900
- For and on multi strand copper and aluminium cable
- For lead cable up to max. Ø 50 mm<sup>2</sup>
- Not suited for steel wire and hard pulled copper cables

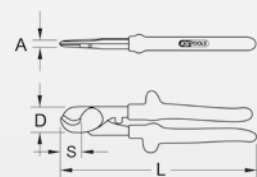
  
1000V

**start from 42,90**  
**EUR**

	Ø mm	Cutting value mm <sup>2</sup>	A mm	D mm	L mm	S mm	⚡	Price
117.4277	6	22	11	24	160	15		42,90 €
117.4278	10	38	13	29	210	18		48,90 €
117.4279	20	60	15	32	250	26		67,90 €

117.1269

## 1000 V CABLE SHEAR, 240 MM

- Immersion insulation handle to IEC 60900
- For and on multi strand copper and aluminium cable
- For lead cable up to max. Ø 50 mm<sup>2</sup>
- Not suited for steel wire and hard pulled copper cables

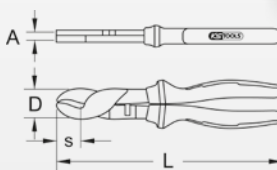
  
1000V

**119,90**  
**EUR**

	Ø mm	Cutting value mm <sup>2</sup>	A mm	D mm	L mm	S mm	⚡
117.1269	15	50	13,5	38	240	25	

117.1122 ... 1124

## VDE CABLE SHEAR

- Wrap around insulation to IEC 60900
- For lead cable up to max. Ø 50 mm<sup>2</sup>
- For squeeze free cutting of and on more wiry copper and aluminium cables
- Not suited for steel wire and hard pulled copper cables

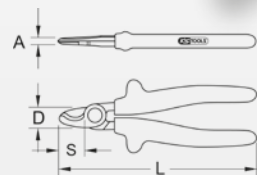

**start from 45,90**  
**EUR**

	Ø mm	A mm	D mm	L mm	S mm	⚡	Price
117.1122	10,0	10,8	24,5	165,0	15,0		45,90 €
117.1123	12,5	13,0	29,0	215,0	17,5		45,90 €
117.1124	15,0	13,5	45,0	245,0	31,0		64,90 €

117.1107 ... 1108

## 1000 V SINGLE HANDED CABLE SHEAR

- Immersion insulation handle to IEC 60900
- For and on multi strand copper and aluminium cable
- For lead cable up to max. Ø 50 mm<sup>2</sup>
- Not suited for steel wire and hard pulled copper cables

  
1000V


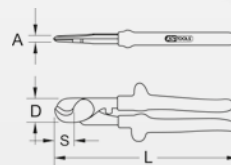
start from **37,90** EUR

	Ø mm	Cutting value mm <sup>2</sup>	A mm	D mm	L mm	S mm	⚡	Price
117.1107	15	50	10	23,5	165	24		37,90 €
117.1108	20	60	12	28,5	200	27		41,90 €

117.1286

## 1000 V SINGLE HANDED CABLE SHEAR, 160 MM

- Immersion insulation handle to IEC 60900
- For and on multi strand copper and aluminium cable
- Suitable for wire up to 16 mm<sup>2</sup>
- Suitable for multi strand wire up to 25 mm<sup>2</sup>
- Suitable for ultra wire up to 50 mm<sup>2</sup>
- Not suited for steel wire and hard pulled copper cables

  
1000V


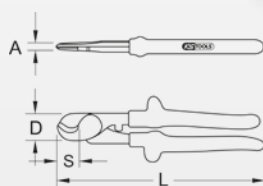
**43,90** EUR

	Ø mm	A mm	D mm	L mm	S mm	⚡
117.1286	15	12	25	160	20	

117.1287

## 1000 V SINGLE HANDED CABLE SHEAR, 165 MM

- Immersion insulation handle to IEC 60900
- For and on multi strand copper and aluminium cable
- Not suited for steel wire and hard pulled copper cables

  
1000V


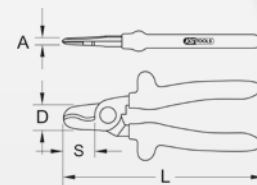
**91,90** EUR

	Ø mm	Cutting value mm <sup>2</sup>	A mm	D mm	L mm	S mm	⚡
117.1287	17	35	15	27	165	25	

117.1103 ... 1109

## 1000 V SINGLE HANDED CABLE SHEAR

- Immersion insulation handle to IEC 60900
- For and on multi strand copper and aluminium cable
- Not suited for steel wire and hard pulled copper cables

  
1000V


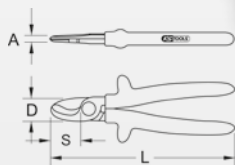
start from **149,90** EUR

	Ø mm	Cutting value mm <sup>2</sup>	A mm	D mm	L mm	S mm	⚡	Price
117.1103	17	35	13	31	165	20,5		149,90 €
117.1109	20	50	18	33,5	210	34		179,90 €

117.1259

## 1000 V SINGLE HANDED CABLE SHEAR, 215 MM

- Immersion insulation handle to IEC 60900
- For and on multi strand copper and aluminium cable
- Extremely versatile
- Suitable for wire up to 25 mm<sup>2</sup>
- Suitable for multi-strand wire up to 50 mm<sup>2</sup>
- Suitable for ultra-wire up to 70 mm<sup>2</sup>
- Not suited for steel wire and hard pulled copper cables



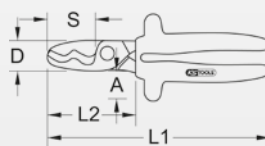
**119,90**  
**EUR**

	Ø mm	A mm	D mm	L mm	S mm	⚡
117.1259	22	18	31	215	32	

117.1270

## 1000 V TWO CUT CABLE SHEAR, 200 MM

- Immersion insulation handle to IEC 60900
- For and on multi strand copper and aluminium cable
- Not suited for steel wire and hard pulled copper cables



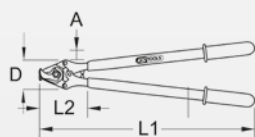
**119,90**  
**EUR**

	Ø mm	Cutting value mm <sup>2</sup>	A mm	D mm	L1 mm	L2 mm	S mm	⚡
117.1270	20	50	13,5	33	200	83	48	

117.1260 ... 1261

## CABLE SHEARS WITH PROTECTIVE INSULATION, 600 MM

- Immersion insulation handle to IEC 60900
- For bruise free cutting of copper and aluminium cables
- With interchangeable cutter head
- Not suited for steel wire and hard pulled copper cables



**start from 389,90**  
**EUR**

	Ø mm	Cutting value mm <sup>2</sup>	A mm	D mm	L1 mm	L2 mm	Replacement cutterhead	⚡	Price
117.1260	26	150	16	80	600	80	117.1258		389,90 €
117.1261	33	180	17	86	700	105	117.1263		449,90 €

117.1262

## STORAGE BAG FOR CABLE SHEARS WITH PROTECTIVE INSULATION

- From black synthetic leather
- For storage and protection of insulated cable shears



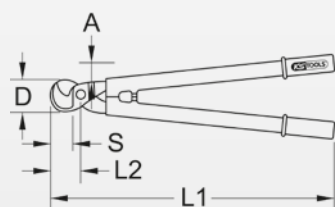
**60,90**  
**EUR**

	L mm	B mm	
117.1262	650	95 - 190	→ 117.1260 + 117.1261

117.1264

## CABLE SHEARS WITH PROTECTIVE INSULATION, 500 MM

- Immersion insulation handle to IEC 60900
- For bruise free cutting of copper and aluminium cables
- Not suited for steel wire and hard pulled copper cables

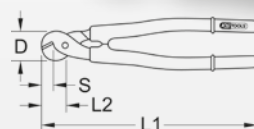
  
1000V

**249,90**  
**EUR**

	Ø mm	Cutting value mm <sup>2</sup>	A mm	D mm	L1 mm	L2 mm	S mm	⚡
117.1264	27	150	15	59	500	58	37	

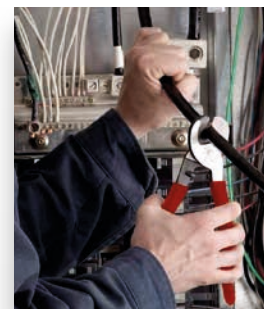
117.4281 ... 4284

## CABLE SHEARS WITH PROTECTIVE INSULATION

- Immersion insulation handle to IEC 60900
- For bruise free cutting of copper and aluminium cables
- Not suited for steel wire and hard pulled copper cables

  
1000V

**start from 177,90**  
**EUR**

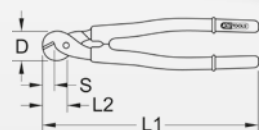
	Cutting value mm <sup>2</sup>	D mm	L1 mm	L2 mm	S mm	⚡	Price
117.4281	95	58	310	35	25		177,90 €
117.4282	150	66	460	41	30		180,90 €
117.4283	325	90	600	55	46		225,90 €
117.4284	500	90	800	75	54		305,90 €



117.4285 ... 4287

## WIRE ROPE CABLE SHEARS WITH PROTECTIVE INSULATION

- Immersion insulation handle to IEC 60900
- For bruise free cutting of copper and aluminium cables
- Not suited for steel wire and hard pulled copper cables

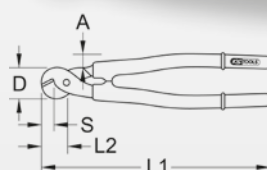
  
1000V

**197,90**  
**EUR**

	Cutting value Steel mm <sup>2</sup>	Cutting value Cable mm <sup>2</sup>	D mm	L1 mm	L2 mm	S mm	⚡	Price
117.4285	7	60	58	310	30	20		197,90 €
117.4286	10	100	66	450	34	21		253,90 €
117.4287	14	150	91	600	45	24		288,90 €

117.1266

## WIRE ROPE CABLE SHEARS WITH PROTECTIVE INSULATION, 600 MM

- Immersion insulation handle to IEC 60900
- Above average cutting edge achieved
- For bruise free cutting for steel and aluminium rope, copper and aluminium cable
- Angular cutting edge tip for cutting single rope cords

  
1000V

**669,90**  
**EUR**

	Ø mm	Cutting value mm <sup>2</sup>	A mm	D mm	L1 mm	L2 mm	S mm	Replacement cutterhead	⚡
117.1266	20	120	19	90	600	84	17	117.1267	



117.0134

## INSULATED CABLE CUTTER

- Immersion insulation according to IEC 60855-1
- Nominal insulation 36 kV
- for crush-free cutting of copper (Ø 14 mm), steel (Ø 7 mm) and aluminium cables (Ø 14 mm)



**799,90**  
**EUR**

	D mm	L mm	B mm	⚡
117.0134	60	520	130	 1000 V

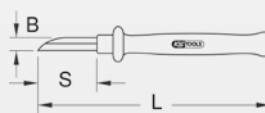
117.1304


## CABLE KNIFE WITH PROTECTIVE INSULATION, 205 MM

- Insulated to IEC 60900
- With durable, part insulated and straight blade
- Safety handle made out of tough elastic and impact resistant plastic



**25,90**  
**EUR**

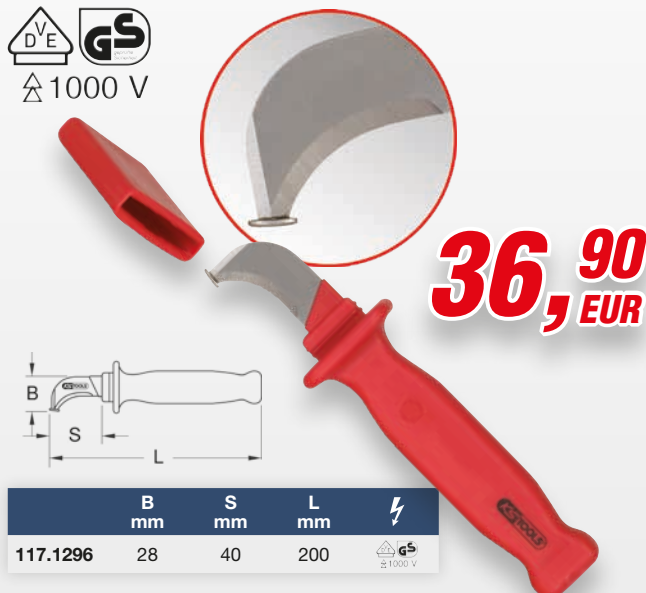


	B mm	S mm	L mm	⚡
117.1304	20,3	53	205	 1000 V

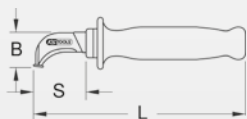
117.1296


## CABLE KNIFE WITH PROTECTIVE INSULATION AND HOOK BLADE, 200 MM

- Insulated to IEC 60900
- With durable blade
- For slitting and stripping cable
- Safety handle made out of tough elastic and impact resistant plastic



**36,90**  
**EUR**



	B mm	S mm	L mm	⚡
117.1296	28	40	200	 1000 V

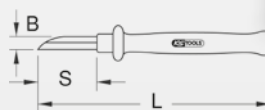
117.1390


## CABLE KNIFE WITH PROTECTIVE INSULATION, 200 MM

- Insulated to IEC 60900
- With durable, part insulated and straight blade
- Safety handle made out of tough elastic and impact resistant plastic



**27,90**  
**EUR**

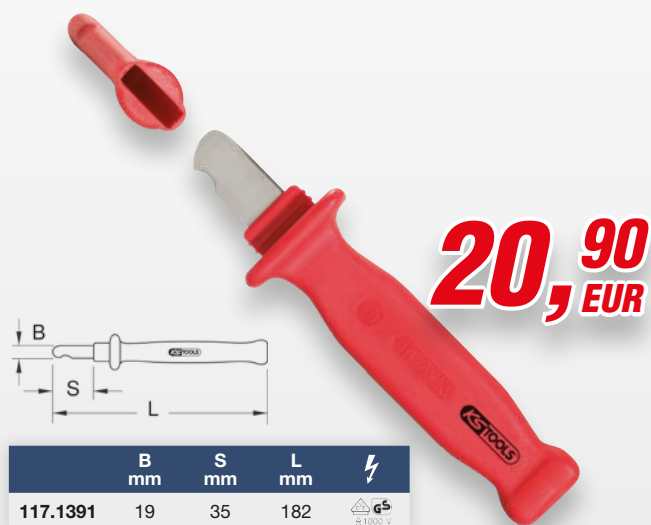



	B mm	S mm	L mm	⚡
117.1390	200	83	48	 1000 V

117.1391

## DISMANTLING KNIFE WITH PROTECTIVE INSULATION, 182 MM

- Insulated to IEC 60900
- With durable and straight blade
- Safety handle made out of tough elastic and impact resistant plastic

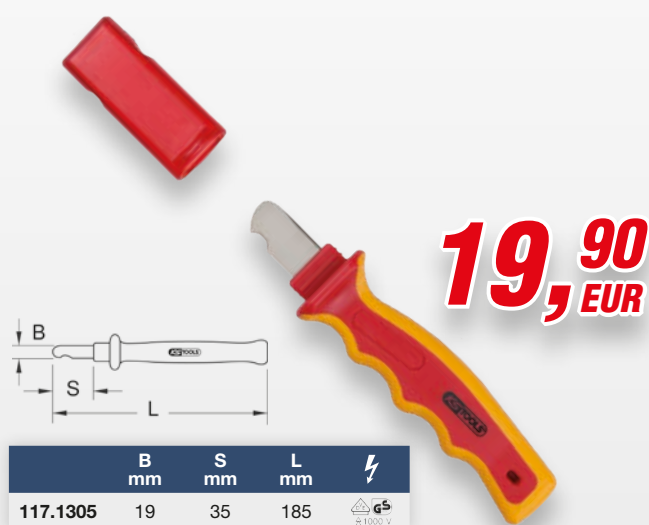



	B mm	S mm	L mm	⚡
117.1391	19	35	182	

117.1305

## DISMANTLING KNIFE WITH PROTECTIVE INSULATION, 185 MM

- Insulated to IEC 60900
- With durable and straight blade
- Safety handle made out of tough elastic and impact resistant plastic

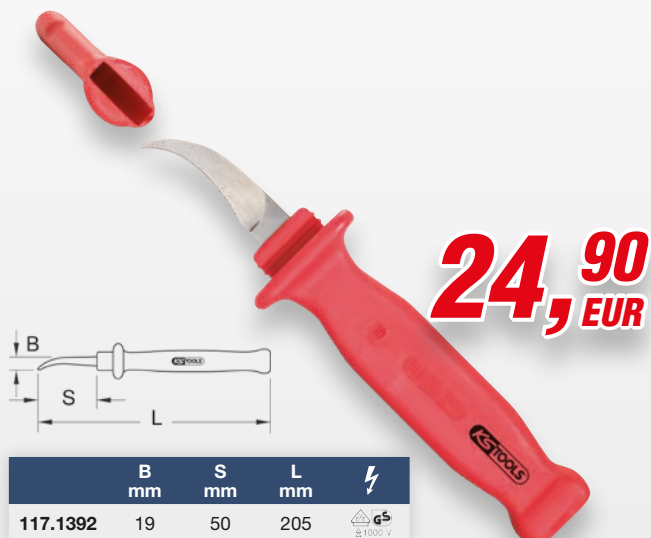



	B mm	S mm	L mm	⚡
117.1305	19	35	185	

117.1392

## PAPER SECTION KNIVES WITH PROTECTIVE INSULATION, 205 MM

- Insulated to IEC 60900
- With durable blade
- Safety handle made out of tough elastic and impact resistant plastic




	B mm	S mm	L mm	⚡
117.1392	19	50	205	

117.1331

## CABLE KNIFE WITH PROTECTIVE INSULATION AND HOOK BLADE, 200 MM

- Insulated to IEC 60900
- With durable blade
- For slitting and stripping cable
- Safety handle made out of tough elastic and impact resistant plastic



	B mm	S mm	L mm	⚡
117.1331	30	47	200	

**117.1393****GUTTA PERCHA KNIFE WITH PROTECTIVE INSULATION, 200 MM**

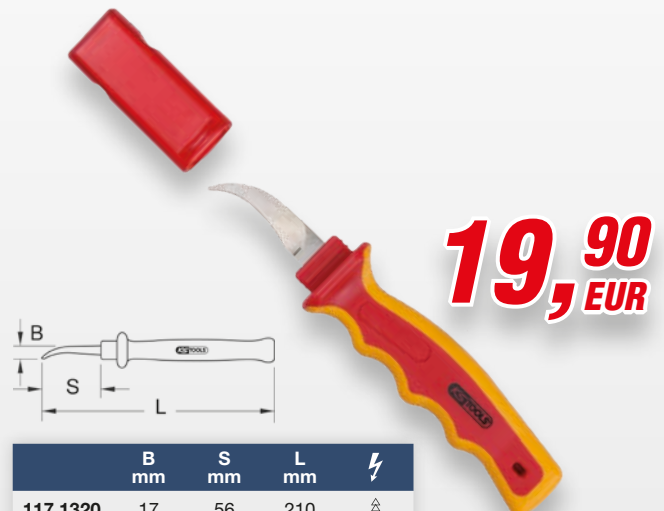
- Insulated to IEC 60900
- With durable blade
- Safety handle made out of tough elastic and impact resistant plastic

**24,90<sup>90</sup> EUR**

	B mm	S mm	L mm	⚡
117.1393	12	50	200	

**117.1320****PAPER SECTION KNIVES WITH PROTECTIVE INSULATION, 210 MM**

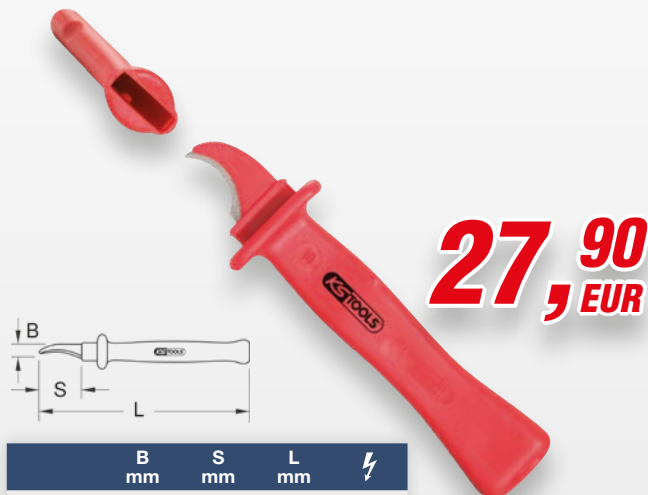
- Insulated to IEC 60900
- With durable blade
- Suitable for sector cable
- Safety handle made out of tough elastic and impact resistant plastic

**19,90<sup>90</sup> EUR**

	B mm	S mm	L mm	⚡
117.1320	17	56	210	

**117.1394****SETTLING KNIFE WITH PROTECTIVE INSULATION, 165 MM**

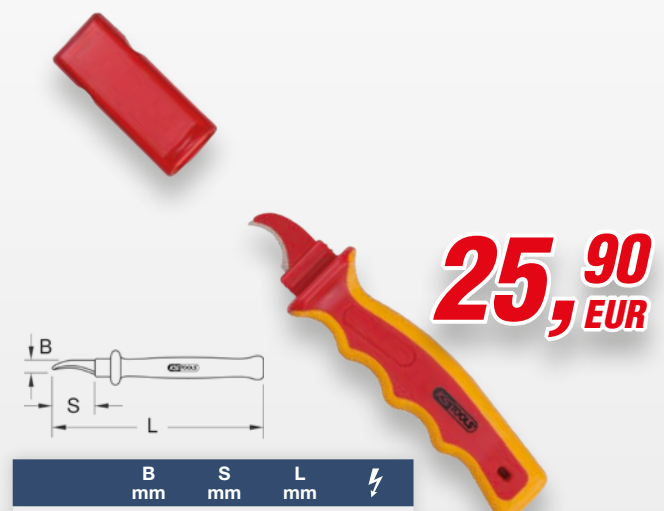
- Insulated to IEC 60900
- With durable blade
- Safety handle made out of tough elastic and impact resistant plastic

**27,90<sup>90</sup> EUR**

	B mm	S mm	L mm	⚡
117.1394	21	35	165	

**117.1328****SETTLING KNIFE WITH PROTECTIVE INSULATION, 180 MM**

- Insulated to IEC 60900
- With durable blade
- Safety handle made out of tough elastic and impact resistant plastic

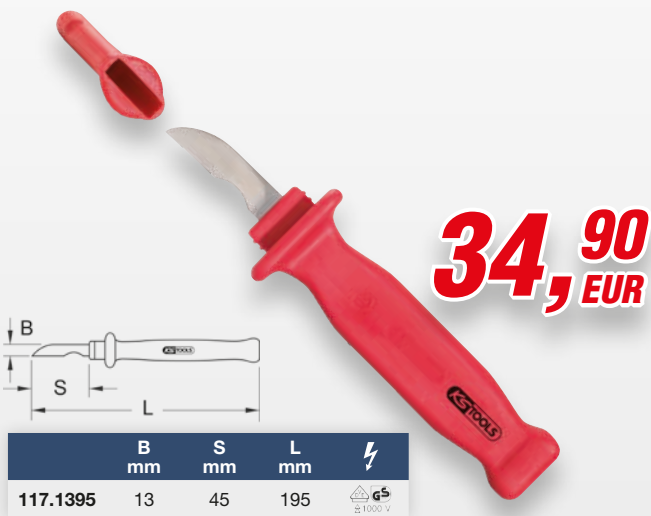
**25,90<sup>90</sup> EUR**

	B mm	S mm	L mm	⚡
117.1328	21,2	30	180	

117.1395

## CABLE STRIPPING BLADES WITH PROTECTIVE INSULATION, 195 MM

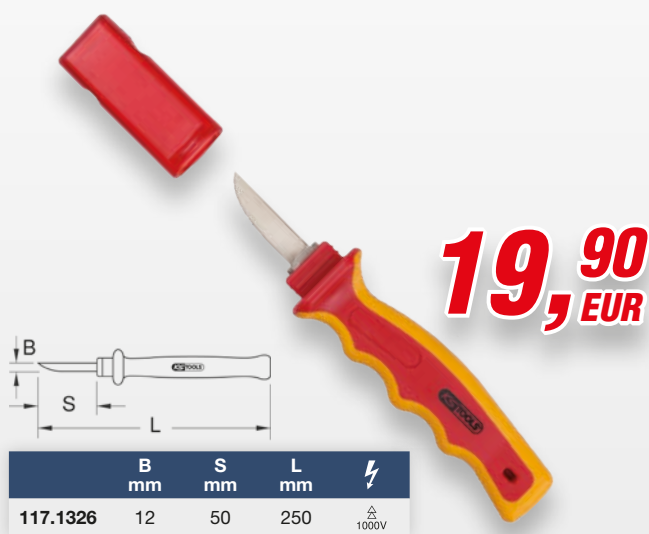
- Insulated to IEC 60900
- With durable blade
- Safety handle made out of tough elastic and impact resistant plastic



117.1326

## GUTTA PERCHA KNIFE WITH PROTECTIVE INSULATION, 250 MM

- Insulated to IEC 60900
- With durable blade
- Safety handle made out of tough elastic and impact resistant plastic



117.1396

## CABLE STRIPPING BLADES WITH PROTECTIVE INSULATION, 200 MM

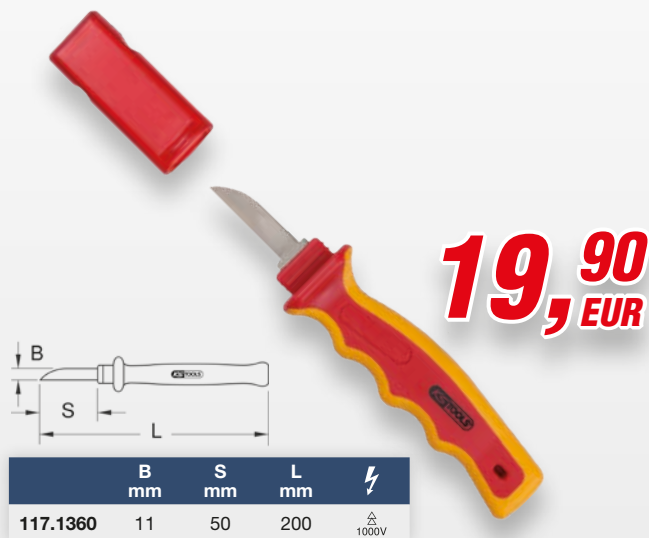
- Insulated to IEC 60900
- With durable blade
- Safety handle made out of tough elastic and impact resistant plastic



117.1360

## CABLE STRIPPING BLADES WITH PROTECTIVE INSULATION, 200 MM

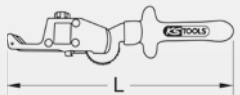
- Insulated to IEC 60900
- With durable blade
- Safety handle made out of tough elastic and impact resistant plastic





**117.3901****CABLE SHEATH CUTTER WITH PROTECTIVE INSULATION, 240 MM**

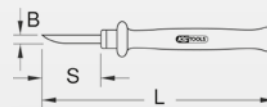
- Insulated to IEC 60900
- With durable and straight blade
- For stripping all insulation layers from cables
- Replaceable double knife
- Cutting depth adjustable
- Suitable for longitudinal and round cutting



  
1000V


	L mm	Ø Wire mm	Replacement blades	⚡
117.3901	240	> 25	117.3902	

**306,90**  
**EUR****117.1329****CABLE STRIPPING BLADES WITH PROTECTIVE INSULATION, 200 MM**

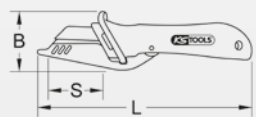
- Insulated to IEC 60900
- With durable blade
- Safety handle made out of tough elastic and impact resistant plastic



  
1000V


	B mm	S mm	L mm	⚡
117.1329	13	45	200	

**25,90**  
**EUR****117.1148****CABLE KNIFE WITH PROTECTIVE INSULATION AND REPLACEABLE BLADE, 200 MM**

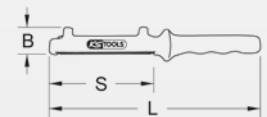
- Insulated to IEC 60900
- With durable, partially insulated and replaceable blade
- Safety handle made out of tough elastic and impact resistant plastic




  
1000V


	B mm	S mm	L mm	⚡	Replacement blades
117.1148	21,5	45	189		117.1149

**27,90**  
**EUR****117.4273****CABLE SHEATH SAW WITH PROTECTIVE INSULATION, 330 MM**

- Insulated handle to IEC 60900
- Adjustable and replaceable saw blade


  
1000V


	B mm	S mm	L mm		⚡
117.4273	40	330	175	117.4274	

**104,90**  
**EUR**

117.1370 ... 1366

## INSULATION STRIPPING PLIERS

- For cutting and stripping the cable sheath
- Limited cutting depth
- No damage to internal conductor



	Ø mm	D mm	L mm	Price
117.1370	25-52	140	300	1.549,90 €
117.1366	45-75	150	300	1.619,90 €

117.1365

## DISMANTLING PLIERS WITH PROTECTIVE INSULATION, 25-52 MM

- Insulated to IEC 60900
- For cutting and stripping the cable sheath
- Limited cutting depth
- No damage to internal conductor



	Ø mm	D mm	L mm	⚡ 1000V
117.1365	25-52	140	300	

## ELECTRICAL INSULATING TAPE

141.6010

## PVC INSULATION TAPE SET, 8 PCS

- Good resistance to abrasion and corrosion and/or moisture
- High di-electric strength and good mechanical protection
- Conforms to BS3924
- Temperature resistance of 0°C to +90°



	B mm	L m
141.6010	19	10

141.6000 ... 6001

## SELF WELDING REPAIR TAPE, 18 MM

- Excellent weather resistance
- Temperature resistance of -40°C to +90°C
- With a tape thickness of 0,5 mm
- Made from Polyisobutylene tape

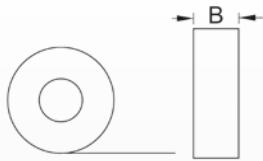


	Colorcode	B mm	L m	Price
141.6000	●	18	10	12,90 €
141.6001	●	38	10	34,90 €





117.4231 ... 4233

ADHESIVE TAPE WITH PROTECTIVE INSULATION

- For working enviroment of voltages AC 1000 V and DC 1500 V
- On a roll



start from **22,90** EUR

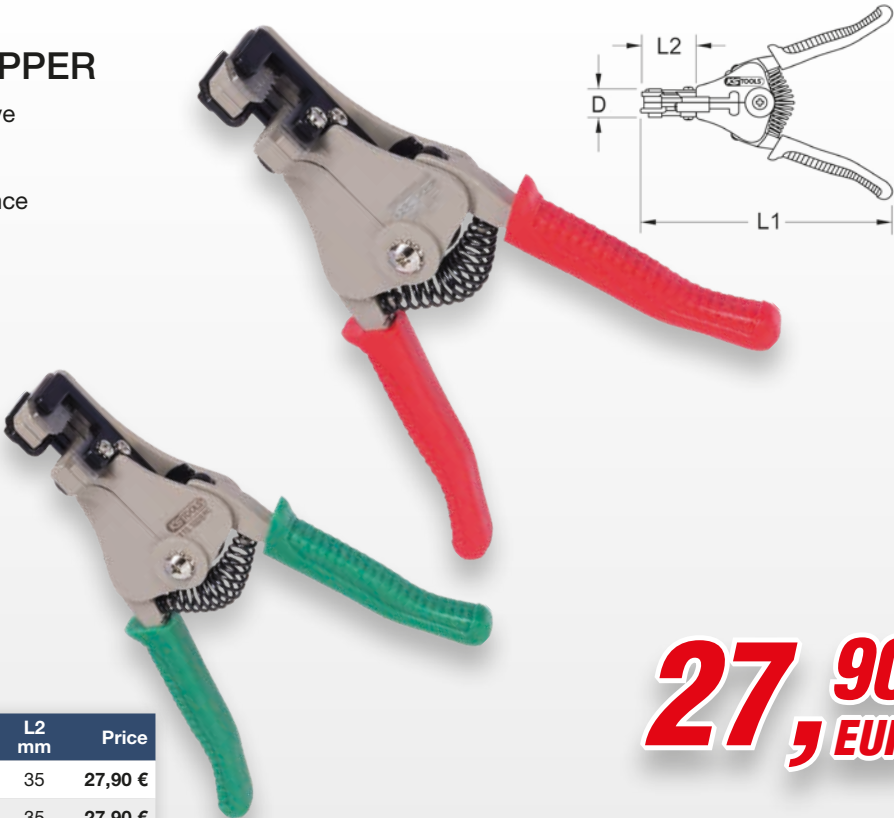
	Colorcode	B mm	L m		Price
117.4231	●	52	10	 $\geq 1000$ V	22,90 €
117.4232	●	102	10	 $\geq 1000$ V	34,90 €
117.4233	●	102	10	 $\geq 1000$ V	34,90 €

STRIPPING PLIERS

115.1028 ... 1029

AUTOMATIC WIRE STRIPPER

- Automatically adjusts to the respective diameters
- For copper and aluminium wires
- Durable clamping jaw for the adherence of the wire



**27,90** EUR

	Ø mm	AWG	D mm	L1 mm	L2 mm	Price
115.1028	0,5 - 2	20 - 14	20	170	35	27,90 €
115.1029	1 - 3,2	18 - 8	20	170	35	27,90 €

## CRIMP TOOLS

**115.1425****CRIMPING PLIERS FOR NON INSULATED TERMINALS, 220 MM**

- Safety lock
- Inserts lock and to they click to prevent possible misuse
- Ratchet function
- Adjustment of the crimping pressure
- Easy to change the crimp heads through quick locking device

**54,90**  
**EUR**

	mm <sup>2</sup>	AWG	L1 mm	L2 mm	L3 mm	
115.1425	0,5 - 1 / 1,5 - 2,5 / 4 - 6	22 - 18 / 16 - 14 / 12 - 10	220	50	34	115.1415

**115.1430****CRIMPING PLIERS FOR NON INSULATED TERMINALS, 220MM**

- Safety lock
- Inserts lock and to they click to prevent possible misuse
- Ratchet function
- Adjustment of the crimping pressure
- Easy to change the crimp heads through quick locking device

**72,90**  
**EUR**

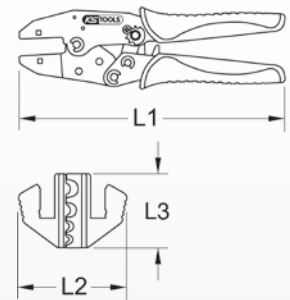
	mm <sup>2</sup>	AWG	L1 mm	L2 mm	L3 mm	
115.1430	1,5 / 2,5 / 6 / 10	20 - 18 / 16 - 14 / 12 - 10 / 8	220	50	34	115.1416



115.1440 ... 1450

## CRIMPING PLIERS FOR NON INSULATED TERMINALS, 220 MM

- Safety lock
- Inserts lock and to they click to prevent possible misuse
- Ratchet function
- Adjustment of the crimping pressure
- Easy to change the crimp heads through quick locking device



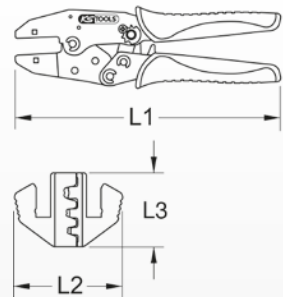
**71,90**  
**EUR**

	mm <sup>2</sup>	AWG	L1 mm	L2 mm	L3 mm		Price
115.1440	0,5 / 0,75 / 1 / 1,5 / 2,5 / 4	22 / 20 / 18 / 16 - 14 / 12 - 10	220	50	34	115.1418	72,90 €
115.1450	6 / 10 / 16	10 / 8 / 6	220	50	34	115.1420	71,90 €

115.1435 ... 115.1455

## CRIMPING PLIERS FOR SPADE TERMINALS

- Safety lock
- Inserts lock and to they click to prevent possible misuse
- Ratchet function
- Adjustment of the crimping pressure
- Easy to change the crimp heads through quick locking device



**71,90**  
**EUR**

	mm <sup>2</sup>	AWG	L1 mm	L2 mm	L3 mm		Price
115.1435	0,5 - 1,0 / 1,5 - 2,5 / 4,0 - 6,0	20 - 18 / 16 - 14 / 12 - 10	220	50	34	115.1417	73,90 €
115.1455	2,5 / 0,5 / 8 / 10	14 - 22 / 8 - 6	220	50	34	115.1421	71,90 €

**115.1445****CRIMPING PLIERS FOR COAXIAL TERMINALS**

- Safety lock
- Inserts lock and to they click to prevent possible misuse
- Ratchet function
- Adjustment of the crimping pressure
- Easy to change the crimp heads through quick locking device

**71,90**  
**EUR**

● mm <sup>2</sup>	AWG	L1 mm	L2 mm	L3 mm	👉
1,72 / 2,50 / 5,40 / 6,48 / 8,23	RG58 / RG59 / RG62	220	50	34	115.1419

**115.1460 ... 115.1470****CRIMPING PLIERS FOR WESTERN TERMINALS, RJ22**

- Safety lock
- Inserts lock and to they click to prevent possible misuse
- Ratchet function
- Adjustment of the crimping pressure
- Easy to change the crimp heads through quick locking device

**75,90**  
**EUR**

● mm <sup>2</sup>	AWG	L1 mm	L2 mm	L3 mm	👉	Price
115.1460	RJ22	22-24	220	50	34	115.1422 75,90 €
115.1465	RJ11 / RJ12	22-24	220	50	34	115.1423 75,90 €
115.1470	RJ45	22-24	220	50	34	115.1424 75,90 €






**115.1480****ELECTRICIANS CRIMPING PLIERS SET, 3 PCS**

- Safety lock
- Inserts lock and to they click to prevent possible misuse
- Ratchet function
- Adjustment of the crimping pressure
- Easy to change the crimp heads through quick locking device

1 x		220 mm
1 x		Ø 0,5 - 6,0 mm
1 x		Ø 0,5 - 10,0 mm

**84,90**  
**EUR****115.1490****NET WORKING CRIMPING PLIERS SET, 5 PCS**

- Safety lock
- Inserts lock and to they click to prevent possible misuse
- Ratchet function
- Adjustment of the crimping pressure
- Easy to change the crimp heads through quick locking device

1 x		220 mm
1 x		AWG: 22 - 14 - 6 - 8
1 x		AWG: 22 - 24
1 x		AWG: 22 - 24
1 x		AWG: 22 - 24

**129,90**  
**EUR**

**115.1520****CRIMPING PLIERS FOR SOLARLOK**

- Safety lock
- Inserts lock and to they click to prevent possible misuse
- Ratchet function
- Adjustment of the crimping pressure
- Easy to change the crimp heads through quick locking device


**129,90**  
**EUR**

	● mm <sup>2</sup>	AWG	L1 mm	L2 mm	L3 mm	
115.1520	6 / 4 / 2,5 / 1,5	10 - 15	220	50	34	115.1412

**115.1521****CRIMPING PLIERS FOR SOLAR COUPLER MC 3**

- Safety lock
- Inserts lock and to they click to prevent possible misuse
- Ratchet function
- Adjustment of the crimping pressure
- Easy to change the crimp heads through quick locking device

**134,90**  
**EUR**

	● mm <sup>2</sup>	AWG	L1 mm	L2 mm	L3 mm	
115.1521	4 / 6 / 2,5	12 / 10 / 14	220	50	34	115.1413



115.1522

CRIMPING PLIERS FOR  
SOLAR COUPLER MC 4

- Safety lock
- Inserts lock and to they click to prevent possible misuse
- Ratchet function
- Adjustment of the crimping pressure
- Easy to change the crimp heads through quick locking device



134,90  
EUR

	● mm <sup>2</sup>	AWG	L1 mm	L2 mm	L3 mm	🔒
115.1522	2,5 / 4 / 6	14 / 12 / 10	220	50	34	115.1414

115.1400

CRIMPING TOOL SET,  
283 PCS

- Safety lock
- Inserts lock and to they click to prevent possible misuse
- Ratchet function
- Adjustment of the crimping pressure



1 x		220 mm
1 x		Ø 0,5 - 4,0 mm
1 x		Ø 1,5 - 10,0 mm
1 x		Ø 0,5 - 6,0 mm
1 x		Ø 0,5 - 4,0 mm
1 x		RG 58 - RG 71
1 x		1,0 - 3,2 mm
1 x		

199,90  
EUR

150.1025

## CABLE ROUTING AID SET, 5 PCS

- prevents damage to cable insulation
- helps the user to thread or pull out cables or probes if there are obstacles or components with sharp edges
- different diameters and lengths provide various options for adaptation
- rounded opening at the handle end allows cables or probes to be handled easily without causing damage
- with 4 different attachments



1 x		115 mm
2 x		Länge 127mm: Ø 11,0 / 13,0 mm Länge 127 mm: Ø 6,0 / 8,0 mm
2 x		Länge 227 mm: Ø 6,0 / 8,0 mm Länge 227 mm: Ø 11,0 / 13,0 mm

**68,90**  
**EUR**

## LED LAMPS WITH PROTECTIVE INSULATION

117.1650

### LED LAMP WITH PROTECTIVE INSULATION, 90 MM

- Insulated handle to IEC 60900
- Includes AA-Lithium batteries

	D mm	L mm	Replacement battery	
117.1650	28	90	AA-Lithium	

1000V



**103,90**  
**EUR**

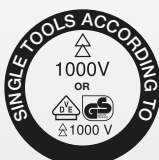
## TWEEZERS AND MIRRORS WITH PROTECTIVE INSULATION

117.1623 ... 1624

### TWEEZERS WITH PROTECTIVE INSULATION, CURVED

- Insulated handle to IEC 60900
- Wrap insulation

	B mm	L mm		Price
117.1623	11,5	145		38,90 €
117.1624	15,5	200		48,90 €



start  
from **38,90**  
**EUR**

117.1626 ... 1629

## TWEEZERS WITH PROTECTIVE INSULATION

- Ideal for removing cladding parts or covers

	B mm	L mm	⚡	Price
117.1626	11	130	1000V	31,90 €
117.1627	13,5	130	1000V	31,90 €
117.1628	15	145	1000V	31,90 €
117.1629	15,5	200	1000V	48,90 €



start from **31,90** EUR

117.1630

## SEARCH MIRROR WITH PROTECTIVE INSULATION, 21 MM, 175 MM

- Insulated handle to IEC 60900

1000V

	D mm	L mm	⚡
117.1630	21	175	1000V



**48,90** EUR

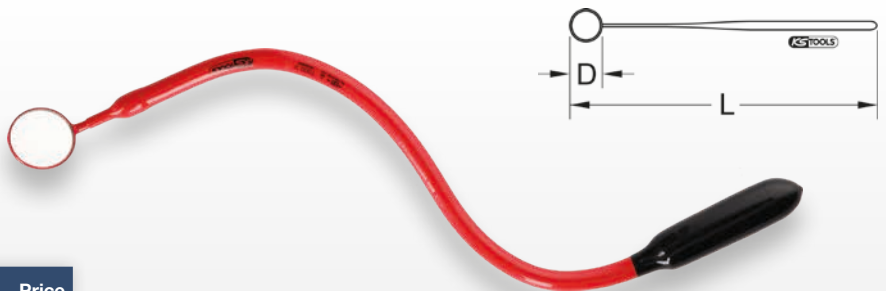
117.2408 ... 2411

## SEARCH MIRROR WITH PROTECTIVE INSULATION

- Insulated handle to IEC 60900
- Flexible
- Insulated

	Magnification	Ø mm	L mm	⚡	Price
117.2408	0 x	40	590	1000V	169,90 €
117.2409	0 x	58	590	1000V	180,90 €
117.2411	4 x	54	590	1000V	186,90 €

1000V



start from **169,90** EUR

117.2322 ... 2324

## FLEXIBLE MAGNETIC JACK WITH PROTECTIVE INSULATION

- Insulated handle to IEC 60900
- Flexible shaft
- Special tool steel

	Load capacity kg	Ø mm	L mm	⚡	Price
117.2322	0,25	14	420	1000V	36,90 €
117.2323	1	15	470	1000V	124,90 €
117.2324	1,8	16,5	520	1000V	124,90 €

1000V



start from **36,90** EUR

# TOOL RANGES WITH PROTECTIVE INSULATED TOOLS

Especially with special tools for e-mobility professional competence is crucial. We come from practice and work for the practice. Know with this know-how the wishes of our customers to suitable tools also as assortments offer.

With the workshop trolley E10 from our high-quality Performance Plus line, we even offer a complete electric/hybridworkplace. With the right tools, additionally equipped with the decisive equipment for surface and personal protective equipment.

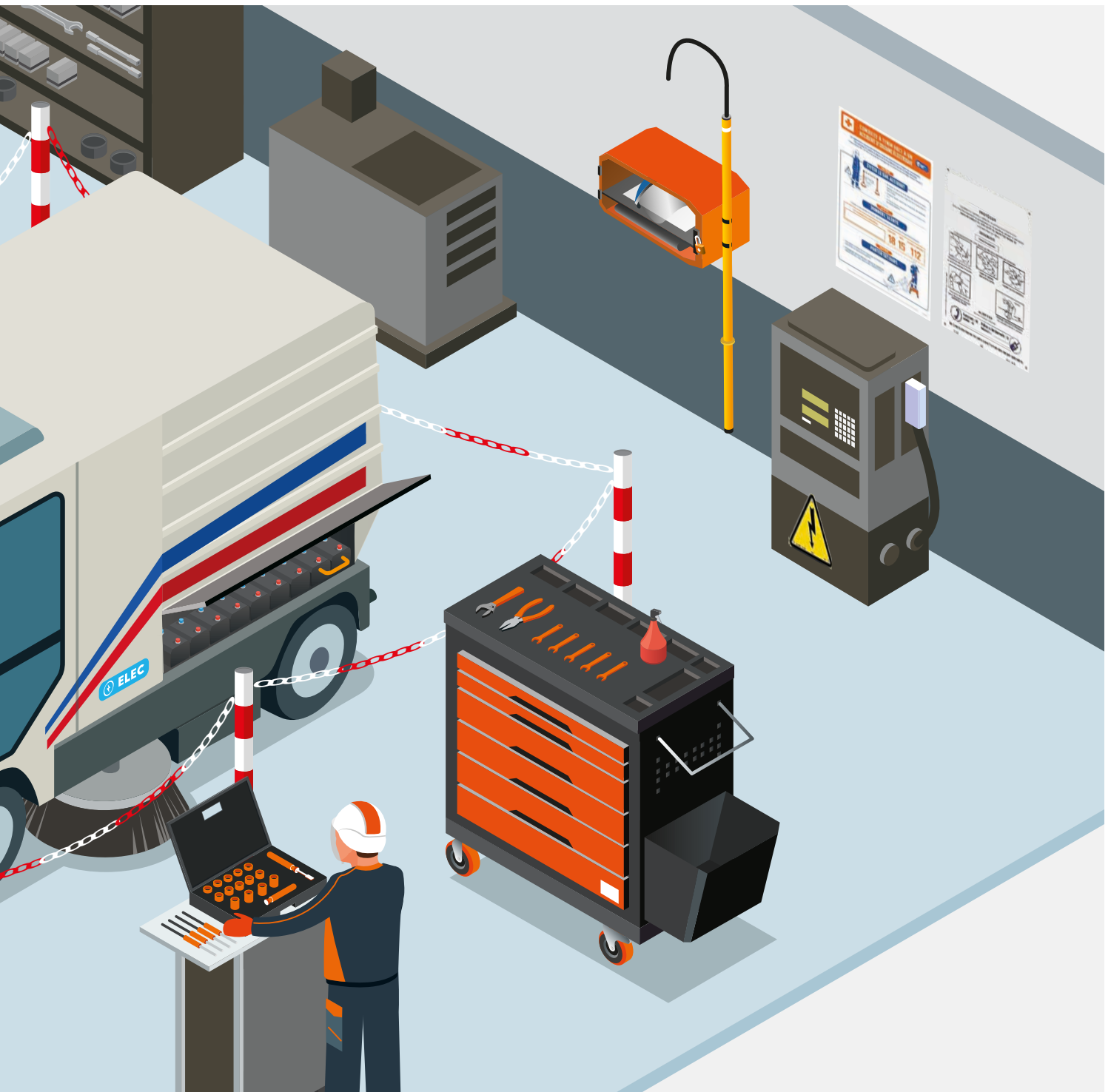
PRACTICE-ORIENTED

CLEVERLY PUT TOGETHER

MANY SMART COMBINATIONS







# TOOL CASE WITH PROTECTIVE INSULATED TOOLS

117.1877

## 1/4" INSULATED SOCKET WRENCH SET, 22 PCS

- Insulated handle to IEC 60900



**519,90**  
**EUR**

1 x		1/4"
4 x		1/4": 50 - 75 - 100 - 150 mm
1 x		1/4"
1 x		1/4"
10 x		1/4": 5 - 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 mm
5 x		1/4": 3 - 4 - 5 - 6 - 8 mm



117.1876

## 1/4" INSULATED SOCKET WRENCH SET, 21 PCS

- Insulated handle to IEC 60900



1 x		1/4": 5 - 25 Nm
3 x		1/4": 75 - 100 - 150 mm
2 x		1/4"
5 x		1/4": 6 - 8 - 10 - 13 - 14 mm
3 x		1/4": 5 - 6 - 8 mm
3 x		1/4": 4 - 5,5 - 6,5 mm
2 x		1/4": PH1 - PH2
2 x		1/4": PZ1 - PZ2

**699,90**  
**EUR**





117.1878

## 1/4" INSULATED SOCKET WRENCH SET, 21 PCS

- Insulated handle to IEC 60900



1 x		1/4": 5 - 25 Nm
4 x		1/4": 50 - 75 - 100 - 150 mm
1 x		1/4"
10 x		1/4": 5 - 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 mm
5 x		1/4": 3 - 4 - 5 - 6 - 8 mm

**859,<sup>90</sup> EUR**



117.1877

## 1/4" INSULATED SOCKET WRENCH SET, 22 PCS

- Insulated handle to IEC 60900



**537,<sup>90</sup> EUR**

1 x		1/4"
4 x		1/4": 50 - 75 - 100 - 150 mm
1 x		1/4"
1 x		1/4"
10 x		1/4": 5 - 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 mm
5 x		1/4": 3 - 4 - 5 - 6 - 8 mm



117.1882

## 3/8" INSULATED SOCKET WRENCH SET, 16 PCS

- Insulated handle to IEC 60900



# 786,90

EUR

1 x		3/8"
2 x		3/8": 125 - 250 mm
1 x		3/8"
8 x		3/8": 10 - 11 - 12 - 13 - 14 - 17 - 19 - 22 mm
3 x		3/8": 5 - 6 - 8 mm
1 x		25 Nm



117.1883

## 1/2" INSULATED SOCKET WRENCH SET, 15 PCS

- Insulated handle to IEC 60900



# 503,90

EUR

1 x		1/2"
2 x		1/2": 125 - 250 mm
1 x		1/2"
8 x		1/2": 10 - 12 - 13 - 14 - 17 - 19 - 22 - 24 mm
3 x		1/2": 5 - 6 - 8 mm

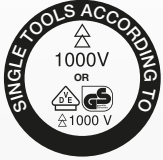




117.1850

## INSULATED SOCKET WRENCH SET, 16 PCS, 3/8"

- Insulated handle to IEC 60900



**710,90**  
**EUR**

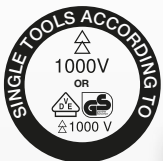
1 x		3/8"
2 x		3/8": 125 - 250 mm
1 x		3/8"
8 x		3/8": 10 - 11 - 12 - 13 - 14 - 17 - 19 - 22 mm
3 x		3/8": 5 - 6 - 8 mm
1 x		3,5 mm



117.1885

## 3/8" INSULATED SOCKET WRENCH SET, 16 PCS

- Insulated handle to IEC 60900



**844,90**  
**EUR**

1 x		3/8"
2 x		3/8": 125 - 250 mm
3 x		3/8": 13 - 17 - 19 mm
4 x		3/8": 5 - 6 - 8 - 10 mm
1 x		3/8": 5 mm
1 x		2,5 mm
2 x		5 - 6 mm
1 x		Ø 25mm
1 x		160 mm



**117.1881**

## 3/8" INSULATED SOCKET WRENCH SET, 14 PCS

- Insulated handle to IEC 60900



**1.359,<sup>90</sup> EUR**

1 x		3/8": 5 - 50 Nm
2 x		3/8": 125 - 250 mm
5 x		3/8": 10 - 13 - 14 - 17 - 19 mm
5 x		3/8": 4 - 5 - 6 - 8 - 10 mm
1 x		3/8": 95 - 150 mm

**117.1888**

## 3/8" INSULATED SOCKET WRENCH SET, 13 PCS

- Insulated handle to IEC 60900



**480,<sup>90</sup> EUR**



1 x		3/8"
2 x		3/8": 125 - 250 mm
1 x		3/8"
5 x		3/8": 8 - 10 - 13 - 17 - 19 mm
4 x		3/8": 4 - 5 - 6 - 8 mm



117.1886

## 3/8" INSULATED SOCKET WRENCH SET, 13 PCS

- Insulated handle to IEC 60900



**685,90**  
**EUR**

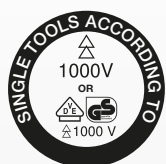
1 x		3/8"
2 x		3/8": 125 - 250 mm
1 x		3/8"
5 x		3/8": 8 - 10 - 13 - 17 - 19 mm
4 x		3/8": 4 - 5 - 6 - 8 mm



117.1887

## 3/8" INSULATED SOCKET WRENCH SET, 11 PCS

- Insulated handle to IEC 60900



**590,90**  
**EUR**

1 x		3/8"
1 x		3/8": 125 mm
5 x		3/8": 8 - 10 - 13 - 17 - 19 mm
4 x		3/8": 4 - 5 - 6 - 8 mm



117.1889

## 3/8" INSULATED SOCKET WRENCH SET, 11 PCS

- Insulated handle to IEC 60900



# 418,90

EUR

1 x		3/8"
1 x		3/8": 125 mm
5 x		3/8": 8 - 10 - 13 - 17 - 19 mm
4 x		3/8": 4 - 5 - 6 - 8 mm



117.0600

## INSULATED SOCKET SET, 9 PCS, 1/2"

- In accordance to DIN 7448 / 7434 / 7449
- Insulated handle to IEC 60900



# 499,90

EUR

1 x		270 mm
7 x		10 - 13 - 14 - 16 - 17 - 19 - 21 mm
1 x		125 mm





117.1860

## INSULATED SOCKET WRENCH SET, 16 PCS, 1/2"

- Insulated handle to IEC 60900



**577,90**  
**EUR**

1 x		1/2"
2 x		1/2": 125 - 250 mm
1 x		1/2"
8 x		1/2": 10 - 12 - 13 - 14 - 17 - 19 - 22 - 24 mm
3 x		1/2": 5 - 6 - 8 mm
1 x		3,5 mm



117.1870

## INSULATED TOOL KIT, 20 PCS

- Insulated handle to IEC 60900



1 x		205 mm
1 x		160 mm
1 x		200 mm
1 x		180 mm
1 x		160 mm
1 x		160 mm
1 x		6 - 400 V
3 x		8 - 10 - 13 mm
6 x		2,5 - 3,5 - 5,5 - 6,5 - 8,0 - 10,0 mm
2 x		PH1 - PH2
1 x		210 mm
1 x		182 mm

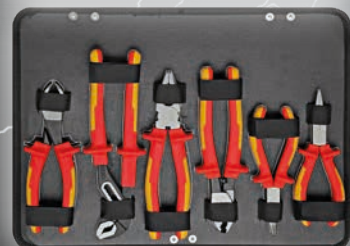
**549,90**  
**EUR**



117.1890

# TOOL SET WITH INSULATED TOOLS FOR HYBRID AND ELECTRIC VEHICLES, 43 PCS

Insulated to IEC 60900



## 564,90<sup>90</sup> EUR



500 m

240 mm

215 mm

210 mm

185 mm

165 mm

165 mm

180 mm

10

25

3/8"

3/8": 150 mm

3/8": 250 mm

T30

T25

T20

PH1

PH2

PH3

2,5 mm

3,0 mm

3,5 mm

4,0 mm

3/8": 6-7-8-9-10-

11-12-13-14-16-

17-18-19-20-22 mm

3/8": M8

3/8": M10

3/8": M12



117.1840

## INSULATED TOOL SET, 26 PCS

- Insulated handle to IEC 60900



1 x		205 mm
1 x		160 mm
1 x		200 mm
1 x		1/2"
1 x		250 mm
1 x		210 mm
1 x		182 mm
7 x		10 - 11 - 12 - 13 - 14 - 17 - 19 mm
7 x		10 - 11 - 12 - 13 - 14 - 17 - 19 mm
1 x		6 - 400 V
4 x		3,5 - 5,5 - 6,5 - 8,0 mm

**751,90**  
**EUR**



# RELAXED WORK UNDER HIGH TENSION

## TOOL TROLLEY WITH PROTECTIVE INSULATED TOOLS

117.6155

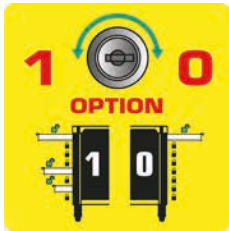
# PERFORMANCE PLUS WORKSHOP TROLLEY E10 WITH 164 INSULATED TOOLS FOR ELECTRIC AND HYBRID VEHICLES



**Delivery completely assembled and equipped. Including barrier post set, signs and personal protective equipment. Exact Equipment see next doublesite.**







**DUO Lock** ingenious locking system



**7 drawers** each of which can carry 50 kg



Stable **ball bearing**



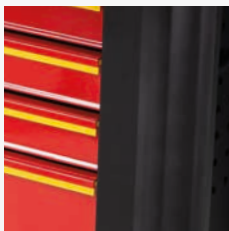
**Stainless steel** surface



Lockable **lock**



**Antistatic castors** with brake



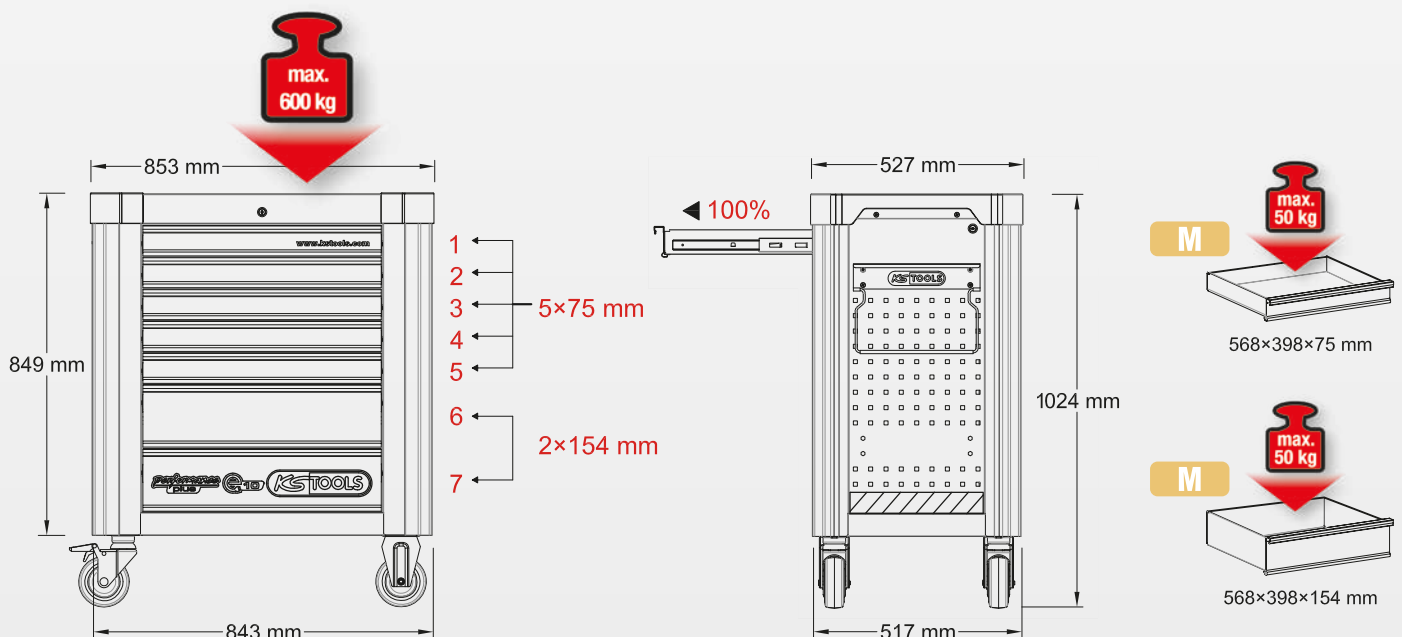
Integrated **edge protection**



**Paper roll holder** included



**Can holder** included



117.6155

# E10 VDE SPECIAL – A COMPLETE WORKPLACE FOR ELECTRICAL AND HYBRID VEHICLES

FULLY EQUIPPED WITH  
164 INSULATED TOOLS

INCLUDING BARRIER POST SET,  
SIGNS AND PERSONAL  
PROTECTIVE EQUIPMENT



**4.299,90**  
**EUR**

## Set of bollards with chain, 13 pcs

- Ideal for cordoning off areas with restricted access
- the base can be filled with sand for safe standing
- Barrier post height approx. 850 mm with 4 eyes for hanging the chain
- Including base, hook and 20 m chain
- Made from plastic



Under gloves



Electrician's face shield,  
classes 2

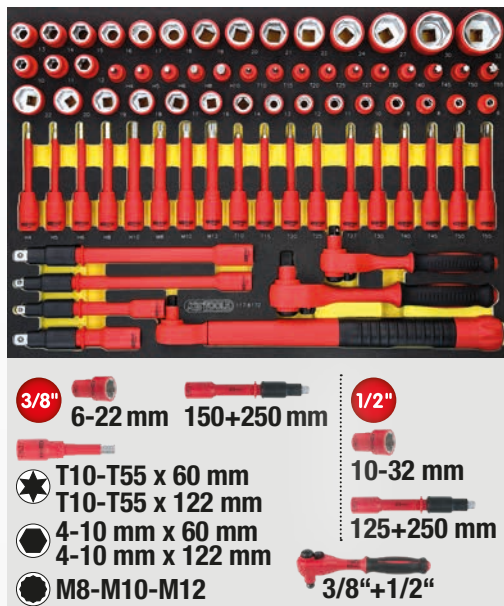


Glove for electricians with  
protective insulation, white

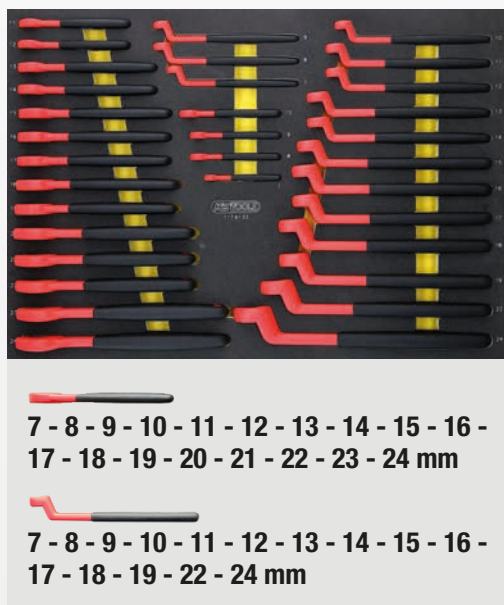
Size 10  
Clases 0



### 3/8" + 1/2" Isolated socket wrench set with torque wrench



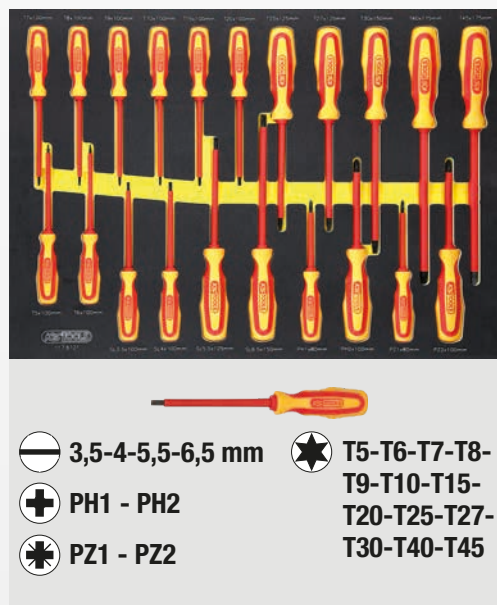
### Isolated key set



### ERGOTORQUE VDE Pliers Set



### ERGOTORQUE VDE Screwdriver Set



Warning sign hybrid switch,  
 Ø 200 mm



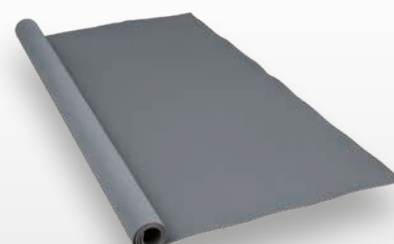
Ø 200 mm

Warning sign-hybrid flash



200 mm

Isostand mat, 1,000 mm





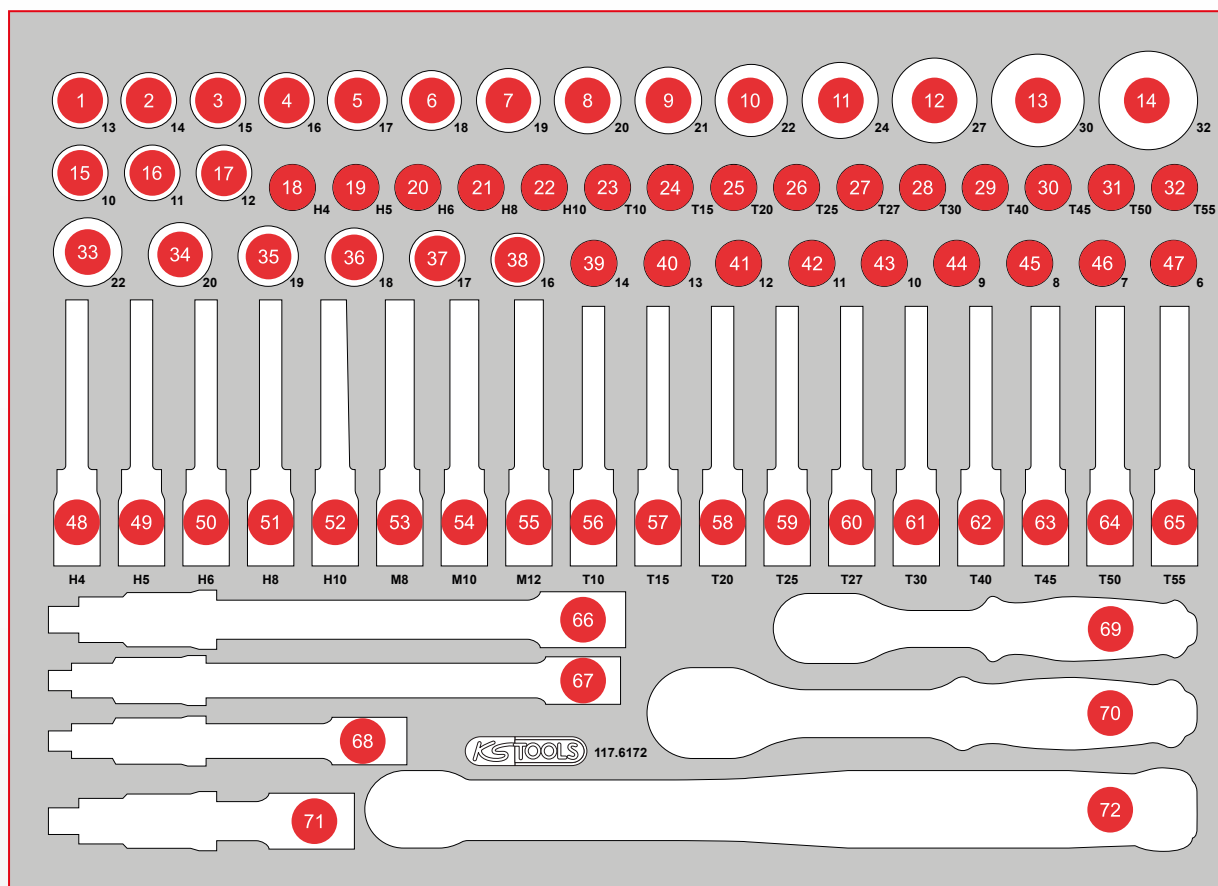
## 3/8"+1/2" INSULATED SOCKET SPANNER SET WITH TORQUE WRENCH IN FOAM INSERT



568 x 398

Pos.	Item No.	Description	Amount
1	118.1213	1/2" Insulated socket, 13 mm	1
2	118.1214	1/2" Insulated socket, 14 mm	1
3	118.1215	1/2" Insulated socket, 15 mm	1
4	118.1216	1/2" Insulated socket, 16 mm	1
5	118.1217	1/2" Insulated socket, 17 mm	1
6	118.1218	1/2" Insulated socket, 18 mm	1
7	118.1219	1/2" Insulated socket, 19 mm	1
8	118.1220	1/2" Insulated socket, 20 mm	1
9	118.1221	1/2" Insulated socket, 21 mm	1
10	118.1222	1/2" Insulated socket, 22 mm	1
11	118.1224	1/2" Insulated socket, 24 mm	1
12	118.1227	1/2" Insulated socket, 27 mm	1
13	118.1230	1/2" Insulated socket, 30 mm	1
14	118.1232	1/2" Insulated socket, 32 mm	1
15	118.1210	1/2" Insulated socket, 10 mm	1
16	118.1211	1/2" Insulated socket, 11 mm	1
17	118.1212	1/2" Insulated socket, 12 mm	1
18	118.3864	3/8" Insulated bit socket for hexagon socket, 4 mm, 60 mm long	1
19	118.3865	3/8" Insulated bit socket for hexagon socket, 5 mm, 60 mm long	1

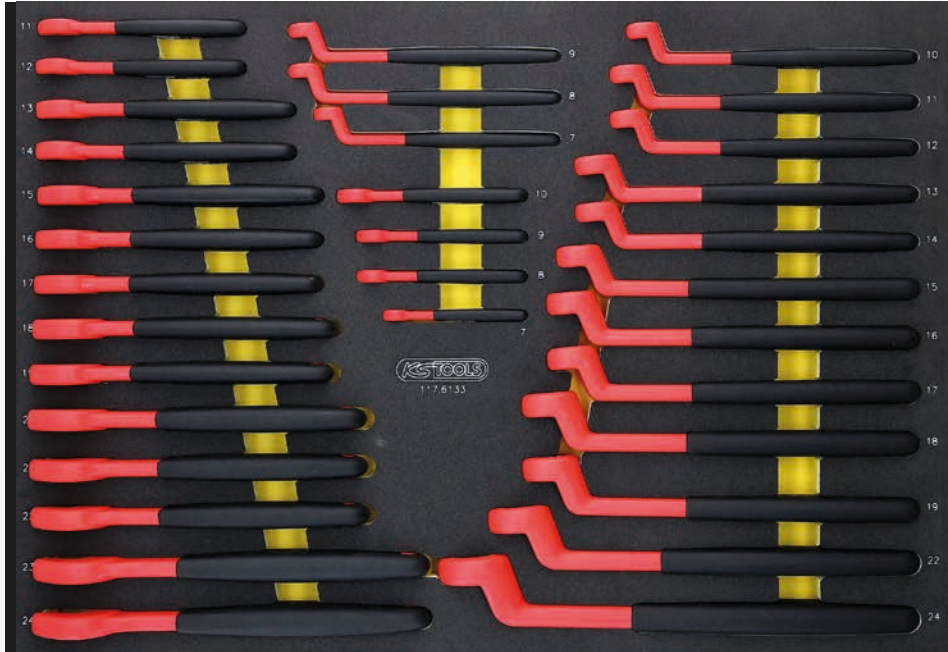
Pos.	Item No.	Description	Amount
20	118.3866	3/8" Insulated bit socket for hexagon socket, 6 mm, 60 mm long	1
21	118.3868	3/8" Insulated bit socket for hexagon socket, 8 mm, 60 mm long	1
22	118.3869	3/8" Insulated bit socket for hexagon socket, 10 mm, 60 mm long	1
23	118.3810	3/8" Insulated bit socket for Torx, T10, 60 mm	1
24	118.3811	3/8" Insulated bit socket for Torx, T15, 60 mm	1
25	118.3812	3/8" Insulated bit socket for Torx, T20, 60 mm	1
26	118.3813	3/8" Insulated bit socket for Torx, T25, 60 mm	1
27	118.3814	3/8" Insulated bit socket for Torx, T27, 60 mm	1
28	118.3815	3/8" Insulated bit socket for Torx, T30, 60 mm	1
29	118.3816	3/8" Insulated bit socket for Torx, T40, 60 mm	1
30	118.3817	3/8" Insulated bit socket for Torx, T45, 60 mm	1
31	118.3818	3/8" Insulated bit socket for Torx, T50, 60 mm	1
32	118.3819	3/8" Insulated bit socket for Torx, T55, 60 mm	1
33	118.3847	3/8" Insulated socket, 22 mm	1
34	118.3845	3/8" Insulated socket, 20 mm	1
35	118.3844	3/8" Insulated socket, 19 mm	1
36	118.3843	3/8" Insulated socket, 18 mm	1
37	118.3842	3/8" Insulated socket, 17 mm	1



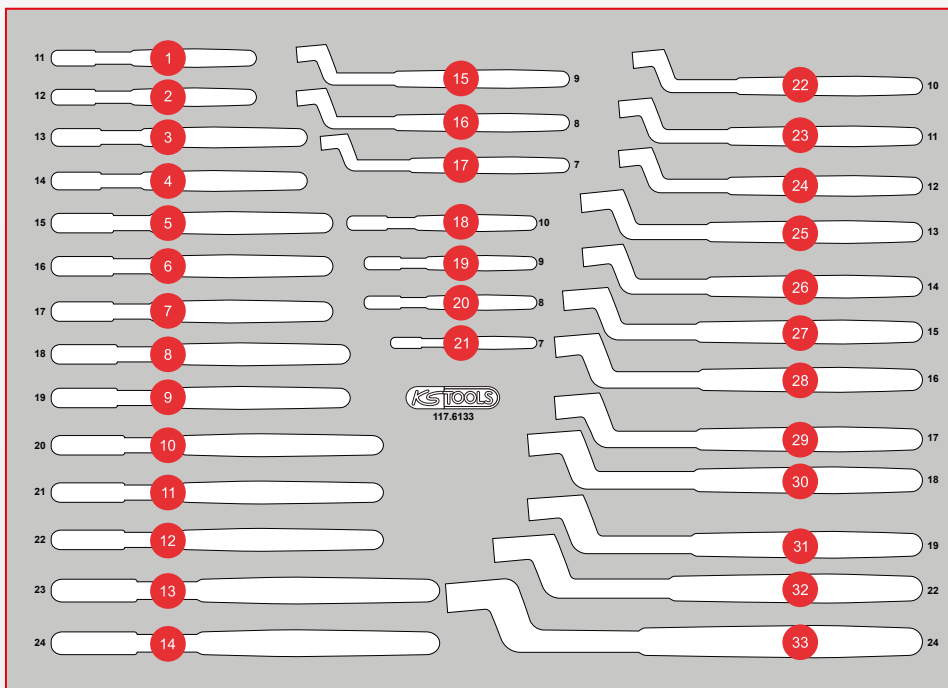
Pos.	Item No.	Description	Amount
38	118.3841	3/8" Insulated socket, 16 mm	1
39	118.3839	3/8" Insulated socket, 14 mm	1
40	118.3838	3/8" Insulated socket, 13 mm	1
41	118.3837	3/8" Insulated socket, 12 mm	1
42	118.3836	3/8" Insulated socket, 11 mm	1
43	118.3835	3/8" Insulated socket, 10 mm	1
44	118.3834	3/8" Insulated socket, 9 mm	1
45	118.3833	3/8" Insulated socket, 8 mm	1
46	118.3832	3/8" Insulated socket, 7 mm	1
47	118.3831	3/8" Insulated socket, 6 mm	1
48	118.3871	3/8" Insulated bit socket for hexagon socket, 4 mm, 122 mm long	1
49	118.3872	3/8" Insulated bit socket for hexagon socket, 5 mm, 122 mm long	1
50	118.3873	3/8" Insulated bit socket for hexagon socket, 6 mm, 122 mm long	1
51	118.3874	3/8" Insulated bit socket for hexagon socket, 8 mm, 122 mm long	1
52	118.3876	3/8" Insulated bit socket for hexagon socket, 10 mm, 122 mm long	1
53	118.3893	3/8" Insulated bit socket for spline, M8, insulated	1

Pos.	Item No.	Description	Amount
54	118.3894	3/8" Insulated bit socket for spline, M10, insulated	1
55	118.3895	3/8" Insulated bit socket for spline M12, insulated	1
56	118.3820	3/8" Insulated bit socket for Torx, T10, 122 mm	1
57	118.3821	3/8" Insulated bit socket for Torx, T15, 122 mm	1
58	118.3822	3/8" Insulated bit socket for Torx, T20, 122 mm	1
59	118.3823	3/8" Insulated bit socket for Torx, T25, 122 mm	1
60	118.3824	3/8" Insulated bit socket for Torx, T27, 122 mm	1
61	118.3825	3/8" Insulated bit socket for Torx, T30, 122 mm	1
62	118.3826	3/8" Insulated bit socket for Torx, T40, 122 mm	1
63	118.3827	3/8" Insulated bit socket for Torx, T45, 122 mm	1
64	118.3828	3/8" Insulated bit socket for Torx, T50, 122 mm	1
65	118.3829	3/8" Insulated bit socket for Torx, T55, 122 mm	1
66	118.1250	1/2" Insulated extension, 250 mm	1
67	118.3852	3/8" Insulated extension, 250 mm	1
68	118.3851	3/8" Insulated extension, 150 mm	1
69	118.3800	3/8" Insulated reversible ratchet, 72-teeth	1
70	118.1290	1/2" Insulated reversible ratchet, 32-teeth	1
71	118.1225	1/2" Insulated extension, 125 mm	1
72	118.3850	3/8" Insulated torque wrench, 5 - 50 Nm	1

## INSULATED SPANNER SET IN FOAM INSERT IN FOAM INSERT



Pos.	Item No.	Description	Amount
1	118.1511	Insulated open-ended spanner, 11 mm	1
2	118.1512	Insulated open-ended spanner, 12 mm	1
3	118.1513	Insulated open-ended spanner, 13 mm	1
4	118.1514	Insulated open-ended spanner, 14 mm	1
5	118.1515	Insulated open-ended spanner, 15 mm	1
6	118.1516	Insulated open-ended spanner, 16 mm	1
7	118.1517	Insulated open-ended spanner, 17 mm	1
8	118.1518	Insulated open-ended spanner, 18 mm	1
9	118.1519	Insulated open-ended spanner, 19 mm	1
10	118.1520	Insulated open-ended spanner, 20 mm	1
11	118.1521	Insulated open-ended spanner, 21 mm	1
12	118.1522	Insulated open-ended spanner, 22 mm	1
13	118.1523	Insulated open-ended spanner, 23 mm	1
14	118.1524	Insulated open-ended spanner, 24 mm	1
15	118.1309	Insulated ring spanner, offset, 9 mm	1
16	118.1308	Insulated ring spanner, offset, 8 mm	1
17	118.1307	Insulated ring spanner, offset, 7 mm	1
18	118.1510	Insulated open-ended spanner, 10 mm	1
19	118.1509	Insulated open-ended spanner, 9 mm	1
20	118.1508	Insulated open-ended spanner, 8 mm	1
21	118.1507	Insulated open-ended spanner, 7 mm	1
22	118.1310	Insulated ring spanner, offset, 10 mm	1
23	118.1311	Insulated ring spanner, offset, 11 mm	1
24	118.1312	Insulated ring spanner, offset, 12 mm	1
25	118.1313	Insulated ring spanner, offset, 13 mm	1
26	118.1314	Insulated ring spanner, offset, 14 mm	1
27	118.1315	Insulated ring spanner, offset, 15 mm	1
28	118.1316	Insulated ring spanner, offset, 16 mm	1
29	118.1317	Insulated ring spanner, offset, 17 mm	1
30	118.1318	Insulated ring spanner, offset, 18 mm	1
31	118.1319	Insulated ring spanner, offset, 19 mm	1
32	118.1322	Insulated ring spanner, offset, 22 mm	1
33	118.1324	Insulated ring spanner, offset, 24 mm	1

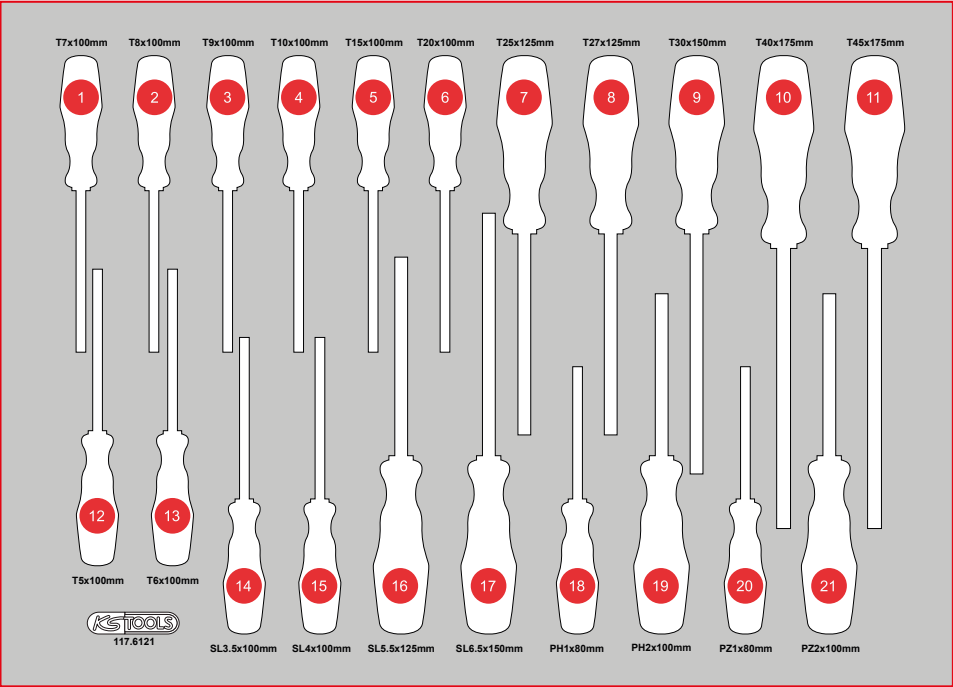
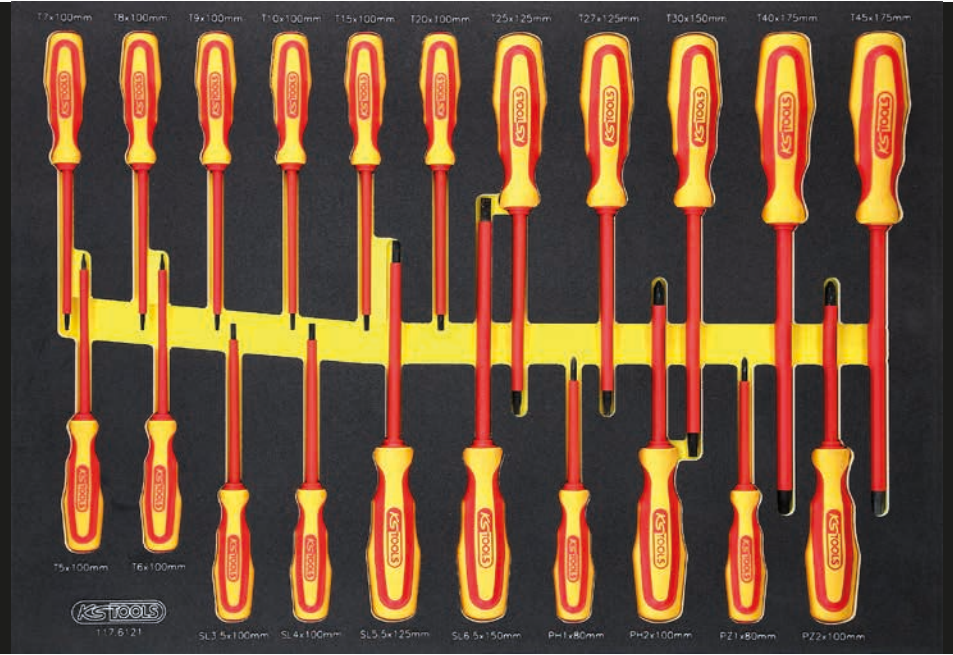




ERGOTORQUE VDE SCREWDRIVER SET IN FOAM INSERT



568 x 398



Pos.	Item No.	Description	Amount
1	117.2237	Insulated screwdriver for internal Torx screws, T7	1
2	117.2238	Insulated screwdriver for internal Torx screws, T8	1
3	117.2239	Insulated screwdriver for internal Torx screws, T9	1
4	117.0551	Insulated screwdriver for internal Torx screws, T10	1
5	117.0552	Insulated screwdriver for internal Torx screws, T15	1
6	117.0553	Insulated screwdriver for internal Torx screws, T20	1
7	117.0554	Insulated screwdriver for internal Torx screws, T25	1
8	117.0555	Insulated screwdriver for internal Torx screws, T27	1
9	117.0556	Insulated screwdriver for internal Torx screws, T30	1
10	117.0557	Insulated screwdriver for internal Torx screws, T40	1
11	117.0558	Insulated screwdriver for internal Torx screws, T45	1
12	117.2235	Insulated screwdriver for internal Torx screws, T5	1
13	117.2236	Insulated screwdriver for internal Torx screws, T6	1
14	117.0506	ERGOTORQUE VDE Slot screwdriver, 3,5 mm	1
15	117.0508	ERGOTORQUE VDE Slot screwdriver, 4 mm	1
16	117.0512	ERGOTORQUE VDE Slot screwdriver, 5,5 mm	1
17	117.0514	ERGOTORQUE VDE Slot screwdriver, 6,5 mm	1
18	117.0524	ERGOTORQUE VDE PHILLIPS screwdriver, PH1	1
19	117.0526	ERGOTORQUE VDE PHILLIPS screwdriver, PH2	1
20	117.0534	ERGOTORQUE VDE POZIDRIVE screwdriver, PZ1	1
21	117.0536	ERGOTORQUE VDE POZIDRIVE screwdriver, PZ2	1

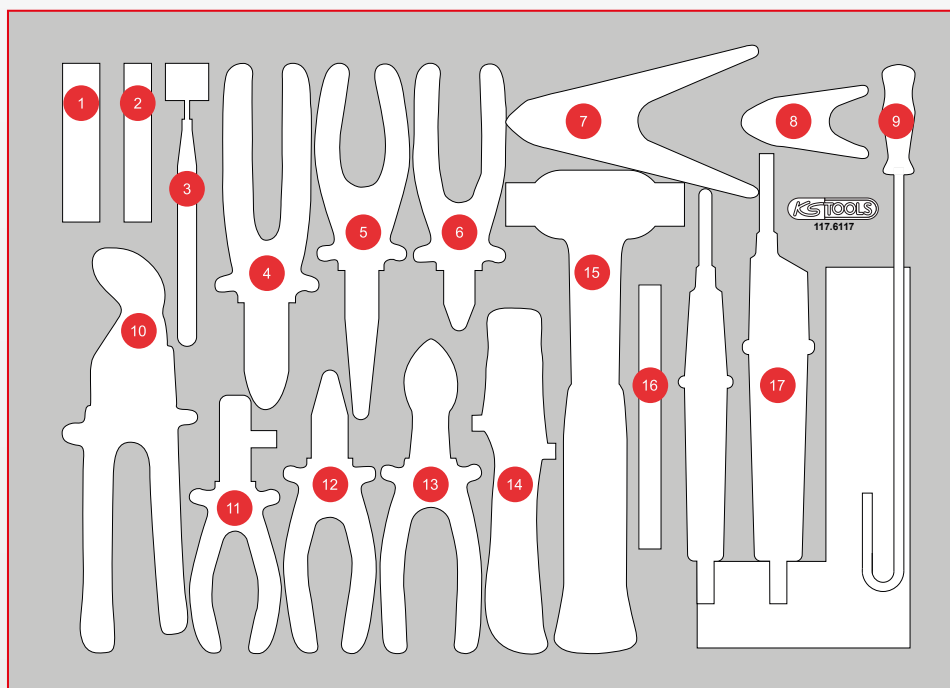
## ERGOTORQUE VDE PLIERS SET IN FOAM INSERT



568 x 398



Pos.	Item No.	Description	Amount
1	118.4235	Insulated protective sleeve with clamp cap, 10 mm, L=100 mm	1
2	118.4237	Insulated protective sleeve with clamp cap, 25 mm, L=100 mm	1
3	117.1630	Inspection mirror with protective insulation, 22 mm, 175 mm	1
4	117.1123	ERGOTORQUE VDE cable cutter, 215 mm	1
5	117.1118	ERGOTORQUE VDE long nose pliers, straight, 215 mm	1
6	117.1119	ERGOTORQUE VDE diagonal side cutter, 160 mm	1
7	117.1644	Plastic flat nose pliers with protective insulation, large, 160 mm	1
8	117.1643	Plastic flat nose pliers with protective insulation, small, 80 mm	1
9	117.2322	Flexible solenoid lifter with protective insulation, 250 g	1
10	117.2000	ERGOTORQUE VDE water pump pliers, 240 mm	1
11	117.1114	ERGOTORQUE VDE wire stripper, 160 mm	1
12	117.1111	ERGOTORQUE VDE combination pliers, 170 mm	1
13	117.1115	ERGOTORQUE VDE diagonal side cutter, 190 mm	1
14	118.1394	Insulated cutting knife, 180 mm	1
15	117.1126	Soft-head hammer with protective insulation, head Ø 25 mm	1
16	117.4267	Plastic expansion wedge, 160 mm	1
17	117.1503	Tension tester with protection insulation two-pole 12-1000 V	1

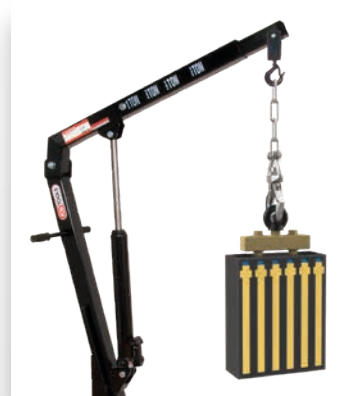


## LIFTING TECHNOLOGY

**117.0207**

### LIFTING DEVICE FOR BATTERIES

- Insulation voltage AC 1000 V and DC 1500 V
- adjustable center distance from 45 – 120 mm
- with 3 pairs of insulating screws (M8, M10 and M12)
- loadable with max. 200 Kg with M8 screws
- loadable with max. 400 Kg with M10 screws
- loadable with max. 500 Kg with M12 screws



**799,90**  
**EUR**

	L mm	B mm	H mm
117.0207	150	136	30

**460.5525**

### HYDRAULIC DEPOSIT TABLE, MOBILE, 450 KG

- Ergonomic and back-friendly work due to lifting of the platform by hydraulic foot pump
- Stepless drain valve with sensitive manual lowering



**819,90**  
**EUR**

#### Technical data:

Loading area: 850 x 500 mm

	max. Load capacity Kg	min. Lifting height mm	max. Lifting height mm	Length mm	max Height mm
460.5525	450,0	280,0	860,0	880,0	945,0





We simply  
electrify  
your car.



- **So that you can enjoy driving it on the road.**

# Electricity to go, please.

We looked at what the vast majority of people with electric cars or plug-in hybrids really need when it comes to charging and what they don't. efuturo concentrates on the important things and does it outstandingly well.

## Simply let rip

For most people, the switch to an e-mobility vehicle has a sense of change. We don't want this pleasant feeling to turn into a headache thinking about the best charging solution. Instead, we guide you right to the perfect product for you and do everything to ensure it is up and running for you in no time.

## Simply complete

Wallbox, mobile charging station and charging cables: efuturo has everything you need. For charging at home, at your business or at public charging points. Including accessories and all the support you'll ever need during installation.

## Simply reliable

E-mobility is developing dynamically. In order to underline their importance, we at KS Tools created our own product brand: efuturo. Their team combines the mentality of a start-up with the solid basis of our company: almost 30 years of experience, 350 employees and over 45,000 products from the world of mobility.

The illustration shows special equipment: design frame and column



....  
Simply  
simple



## New here?

**Charging expert in 120 seconds**

### E-mobile or plug-in hybrid?

efuturo has the solution for both. This also makes efuturo a good choice for the future, if you're driving a hybrid today and a fully-electric vehicle later down the line.

### Type 1 or type 2?

This refers to the type of plug. Type 2 is generally widely used at charging stations. Both types are used in vehicles.

#### Type 1 charging plug

This is most commonly used in vehicles from the Far East, but it is becoming less common. Always single phase, with a maximum charging capacity 7.4 kW.

#### Type 2 charging plug

Now the common standard in Europe which is becoming more widely used. Single or three phase, with a maximum charging capacity 22 kW. The type 2 plug is likely to be the right type for your vehicle too. If in doubt, consult your dealer.

### Mode 2 or 3?

This refers to the standard by which the vehicle and charging station communicate via the charging cable. Mode 2 is typical for mobile charging solutions and mode 3 is for stationary solutions. This is the case at efuturo too. So, when you're making a decision, you don't need to pay special attention to this criteria.

### Charging times compared:

This is how long it takes to fully charge a VW ID.3 (5.8 kWh)

Wallbox with 22 kW

22 kW 2.6 h

Wallbox with 7.4 kW

7.4 kW 7.8 h

Mobile charging station with 3.7 kW

3.7 kW 15.7 h

## Wallbox or mobile charger?

Both have their benefits for at-home charging. Our advice? If your electricity connection supports it, go for the powerful wallbox. Even if your current vehicle cannot take advantage of the wallbox's full charging capacity, the situation is likely to be different with your next vehicle or the one after that.

### Pro wallbox

- + Power up to 22 kW for faster charging
- + Convenient, neat, with no unnecessary risk of tripping over cables

### Pro mobile charger

- + Connects to a normal 230 V earthed socket without the need for installation by an electrician
- + Can be stored in the boot – a reassuring backup for fully-electric vehicles in particular

### And Tesla?

Tesla operates its own public charging network called Supercharger and uses its own type of plug. It is not usually possible to implement this type of fast charging station using a private domestic connection. This is why Tesla vehicles are also equipped with a charging socket for the common type 2 plug, and why Tesla and efuturo complement each other so perfectly.

## Voltage, wattage and phases?

Buildings have cables with a single-phase 230 V alternating current – the exact capacity of a normal (earthed) socket. There are also cables with a three-phase alternating current and 400 V, often referred to as power current or three-phase current. Single-phase cables have a capacity of up to 7.4 kW, and three-phase cables up to 22 kW. It goes without saying that the greater the kW, the quicker the battery reaches full charge. Your electrician can tell you which cables and power capacities are available in your garage or carport.


## Private or public?

Regardless of whether your car requires a type 1 or type 2 plug, all efuturo charging cables come fitted with a type 2 power plug. And it works with all efuturo wallboxes with a socket and with the vast majority of public charging stations throughout Europe.

You can find more background information at [efuturo.de](https://efuturo.de)







With efuturo  
anything is  
possible

**efuturo® station one**  
with 3.7 and 7.4 kW  
for 230 V

**efuturo® station tripower**  
with 11 and 22 kW  
for 400 V

**efuturo® universal**  
Mobile charging stations  
with 3.7 kW for 230 V

**efuturo® link**  
Charging cables for private  
and public charging stations

**Type 1** charging plug

With charging socket,  
also compatible with  
type 1 charging cable

**Type 2** charging plug

Built-in type 2  
charging cable



With charging socket,  
also compatible with  
type 2 charging cable

**Pages 162–165**



Built-in type 2  
charging cable



With charging socket,  
also compatible with  
type 2 charging cable

**Pages 166–169**



**Pages 176–179**



**Pages 180–185**



That's efuturo ...  
What's so special about efuturo wallboxes ...  
**Vertical columns and other accessories ...**

Wallboxes compared ...  
Installation and service ...  
Warranty ...

**Page 152**

**Page 158**

**Page 170**

**Page 172**

**Page 174**

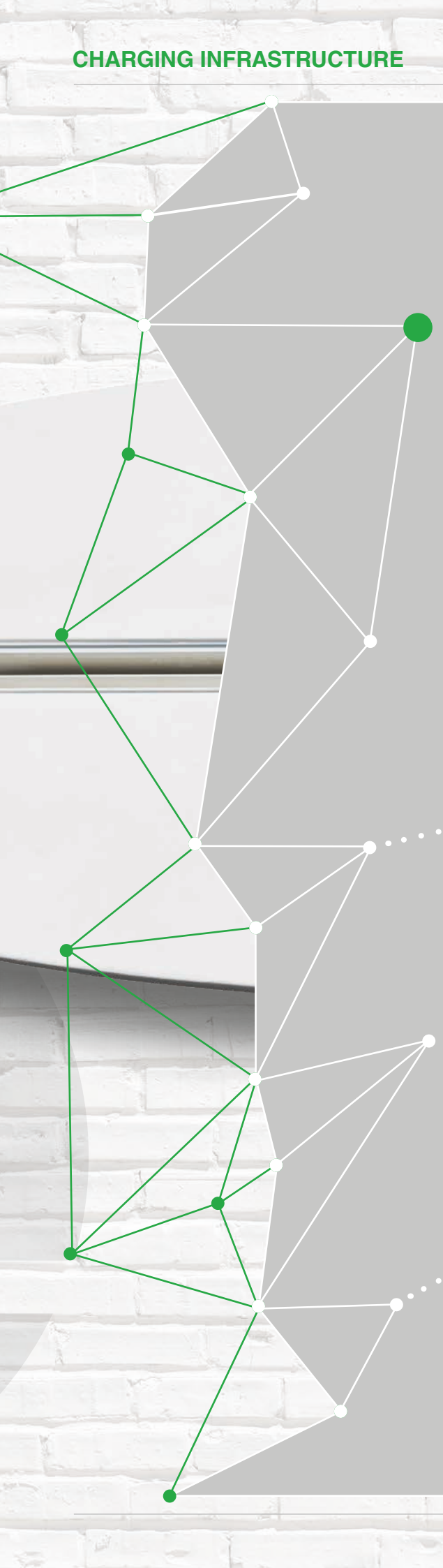
**Page 186**



Simply  
inexpensive







# For all those who have interests other than the wallbox

Do you want to spend time with your wallbox or just get out on the road and start living? If that's the case, you probably don't want an unnecessary amount of your budget to be screwed to the wall. This reflects well on you. And on efuturo.

## Favourable conditions

At KS Tools the developers are used to harmonizing ergonomics, cost efficiency and suitability for everyday use. Nobody could show us better than regular customers in over 130 countries around the world: Practice alone counts. This maxim of our company also characterizes the efuturo wall boxes.

## Cost-effective assembly

Until now, a compact structure has meant an awkward assembly. The efuturo wallboxes are different. They are constructed in such a way that your electrician can have everything ready easily, quickly and therefore cost-effectively. Giving you more chance to enjoy the elegant light appearance of your efuturo.

## Cost-effective prerequisites

As part of the KS Tools family, our developers are accustomed to harmonising ergonomics, cost-effectiveness and ease of everyday use. Nobody could demonstrate this to us better than our regular customers in over 130 countries around the world: experience is the only thing that matters. The motto of our company group is also reflected in efuturo wallboxes.

# ● Everything inside. Except for hidden costs.

A low price is only low if it passes the test of a second pair of eyes. Like with efuturo.

## Fair safety

People need to be protected wherever electricity flows. Especially where there is a lot of electricity, like with a wallbox. The fuse that you know from your fuse box at home is not enough. The so-called type B ground fault circuit interrupter provides optimum protection. efuturo wallboxes already come with this high-quality protection as standard, meaning there are no nasty surprises when you receive your electrician's invoice: no additional costs for an expensive external ground fault circuit interrupter, no additional effort for installation in a switch cabinet.

## Fair operating life

Although efuturo does forego some special functions for special users, it never foregoes maximum quality and exceptional robustness.

## Fair ease of repair

If a component ever fails, only this component needs to be replaced – not the whole board.



Simply fair





## WALLBOXES

# Single-phase, simply good

Even if only a single-phase electricity connection with 230 V is available, a built-in station on the wall or column is worthwhile. Because, unlike a mobile charging station, you can use various convenient and performance features.

These include an access control with a chip card or an integrated electricity meter, both of which are optional extras. The efuturo wallbox always includes a high-quality type B ground fault circuit interrupter as standard.

The built-in type 2 cable with a length of 5 meters is also of the highest quality. Particularly practical: after charging, you can hang the plug in the integrated holder on the front. Or you can opt for the supplied, separate wall holder, which you can attach at the most convenient location for you.

## efuturo® station one 3,7

Input	Output
230 V single-phase 16 A	3.7 kW

Wallbox

117.7534

**879,90 EUR**

access control  
included

117.7533

**899,90 EUR**

electricity meter  
included

117.7532

**949,90 EUR**

access control and  
electricity meter included

117.7531

**969,90 EUR**

Charge after 1 h	100 % charged
------------------	---------------

VW ID.3 [58 kWh]

6.4 %

15.7 h

Tesla 3 [58 kWh]

6.4 %

15.7 h

Renault ZOE [52 kWh]

7.1 %

14.0 h

## efuturo® station one 7,4

Input	Output
230 V single-phase 32 A	7.4 kW

117.7574

**859,90 EUR**

117.7573

**889,90 EUR**

117.7572

**949,90 EUR**

117.7571

**969,90 EUR**

Charge after 1 h	100 % charged
------------------	---------------

12.8 %

7.4 h

12.8 %

7.4 h

14.2 %

7.0 h

## The efuturo<sup>®</sup> station one

### Optional electricity meter:

Ideal for example if a tenant and land-lord want to separate costs clearly. To read the meter, switch off the electricity supply and open the housing in a few easy steps. The LCD display then shows you the consumption in kWh. Calibrated according to the European MID norm.



### Optional access control:

Even though the efuturo has lots of fans, only those with a chip card can charge up.



**START FROM 859,90<sup>90</sup> EUR**

### Fact check

- charging station for wall or column mounting
- integrated, high-quality five-metre cable, type 2 plug, mode 3
- can be installed by an electrician on a single-phase domestic connection with 230 V
- integrated type B ground fault circuit interrupter
- overheating protection
- compact construction but still easy to assemble
- robust plastic housing, also suitable for use outdoors

### Integrated holder

Let the charging plug dangle loosely or hang it in? You have the choice.



Vertical columns and other accessories from page **170**

Further technical data on page **172**

## The efuturo<sup>®</sup> station one with a charging socket

### Optional access control

You can only charge up when you hold your contactless card to the efuturo.

### Optional electricity meter

Whether you're watching your own finances or billing on behalf of the community, the integrated meter with LCD display helps you along your way. To read the meter, switch off the electricity supply and open the housing in a few easy steps. Consumption displayed in kWh, calibrated according to the European MID norm.



### Fact check

- charging station for wall or column mounting
- charging socket for cable with type 2 plug, mode 3
- can be installed by an electrician on a single-phase domestic connection with 230 V
- integrated type B ground fault circuit interrupter
- overheating protection
- compact construction but still easy to assemble
- robust plastic housing, also suitable for use outdoors

**START FROM 879,90 EUR**



# With a socket. And a large dose of freedom.

With this efuturo wallbox, (almost) anything is possible. All you need is a single-phase electricity connection with 230 V, and your personal cable with type 2 connection also fits into the socket. This can, for example, be a cable for a type 1 plug on a vehicle.

You have free rein when it comes to choosing the optional extras: Possible options include access control via chip card and an integrated electricity meter.

And without being asked, we have included optimum value for money, the best possible ease of assembly, quality and longevity at the lowest price.



## efuturo® station one 3,7 with charging socket type 2

Input	Output
230 V single-phase 16 A	3.7 kW

Wallbox

117.7539  
**879,90 EUR**

access control  
included

117.7538  
**899,90 EUR**

electricity meter  
included

117.7537  
**949,90 EUR**

access control and  
electricity meter included

117.7536  
**979,90 EUR**

VW ID.3 [58 kWh]

6.4 % 15.7 h

Tesla 3 [58 kWh]

6.4 % 15.7 h

Renault ZOE [52 kWh]

7.1 % 14.0 h

## efuturo® station one 7,4 with charging socket type 2

Input	Output
230 V single-phase 32 A	7.4 kW

117.7579  
**879,90 EUR**

117.7578  
**899,90 EUR**

117.7577  
**949,90 EUR**

117.7576  
**979,90 EUR**

Charge after 1 h 100 % charged

12.8 % 7.4 h

12.8 % 7.4 h

14.2 % 7.0 h

# This powerhouse delivers electricity by express

If your garage or carport can support a three-phase electricity connection (400 V and 16 or 32 A), efuturo is the perfect choice. The up to 22kW charging capacity charges your battery in no time.

The permanently installed cable, with its 5 meters length, gives you enough space for almost any installation situation. And after charging, the plug does not hang in the air, but waits in the holder on the front of the housing or on the wall for its next use.

The norm of the type 2 plug also prevents this. Since it is so universal, your efuturo will be charging many more generations of vehicles.

## efuturo® station tripower 11

Input	Output
400 V three-phase 16 A	11 kW

Wallbox

117.7512  
**969,90 EUR**

access control  
included

117.7511  
**999,90 EUR**

VW ID.3 (58 kWh)

18.9 %

5.3 h

Tesla 3 (58 kWh)

18.9 %

5.3 h

Renault ZOE (52 kWh)

21.1 %

4.7 h

## efuturo® station tripower 22

Input	Output
400 V three-phase 32 A	22 kW

117.7522  
**969,90 EUR**

117.7521  
**999,90 EUR**

Charge after 1 h

100 % charged

38.5 %

2.6 h

38.5 %

2.6 h

42.3 %

2.4 h

## The efuturo<sup>®</sup> station tripower for three-phase connections

### Optional access control

You can only charge up when you hold your contactless card to the efuturo.

### Fact check

- charging station for wall or column mounting
- integrated, high-quality five-metre cable, type 2 plug, mode 3
- can be installed by an electrician on a three-phase domestic connection with 400 V
- integrated type B ground fault circuit interrupter
- overheating protection
- compact construction but still easy to assemble
- robust plastic housing, also suitable for use outdoors



Vertical columns and other accessories from page

170

Further technical data on page

172

START FROM **969,90** EUR



## The efuturo<sup>®</sup> station tripower with a charging socket

### Optional access control

This is ideal, for example, at semi-public company car parks where only authorised employees are intended to charge up: the contactless access control via chip card. Available as an optional extra for every efuturo.

### Order included

If you don't unplug your charging cable and take it with you, you can wrap it around the case to save space.

### Fact check

- charging station for wall or column mounting
- integrated, high-quality five-metre cable, type 2 plug, mode 3
- can be installed by an electrician on a three-phase domestic connection with 400 V
- integrated type B ground fault circuit interrupter
- overheating protection
- compact construction but still easy to assemble
- robust plastic housing, also suitable for use outdoors



**START FROM 979,90 EUR**

# Maximum power, maximum flexibility

Want a single cable for charging at home and at public stations? Or perhaps you want to charge up at a customer car park? Then you've come to the right place.

Because, the efuturo Wallbox tripower with charging socket does away with the integrated cable, but that's the only thing. Depending on the version, this provides 11 or 22 kW power when connected to a three-phase 400 V domestic connection.

All original efuturo charging cables from this catalogue with lengths up to 8 m, straight or coiled, with type 1 or type 2 vehicle charging plugs fit the type 2 sockets of this efuturo. Already own a type 2 cable? This fits too.



Vertical columns and other accessories from page

170

Further technical data on page

172

Wallbox

access control included

VW ID.3 [58 kWh]

Tesla 3 [58 kWh]

Renault ZOE [52 kWh]

## efuturo® station tripower 11 with charging socket type 2

Input Output  
400 V three-phase 16 A 11 kW

117.7514  
**979,90 EUR**

117.7513  
**999,- EUR**

Charge after 1 h	100 % charged
18.9 %	5.3 h
18.9 %	5.3 h
21.1 %	4.7 h

## efuturo® station tripower 22 with charging socket type 2

Input Output  
400 V three-phase 32 A 22 kW

117.7524  
**979,90 EUR**

117.7523  
**1.099,90 EUR**

Charge after 1 h	100 % charged
38.5 %	2.6 h
38.5 %	2.6 h
42.3 %	2.4 h

## ACCESSORIES FOR WALLBOXES



### Design frame

Owning an efuturo wallbox documents a new mobility culture. Use the green design frame to make a visual statement. Or display it on your customer car park to invite people to charge up.

Compatible with all efuturo wallboxes, weather-resistant plastic, simple click assembly with no need for tools.

117.7912

**34,90 EUR**



### Vertical column mono

Simple, elegant, designed specifically for efuturo: Using this column, you can position your efuturo exactly where it is needed. The steel column and base plate are powder-coated to a high quality, which protects them against corrosion and makes them suitable for use outdoors.

Compatible with all efuturo wallboxes, cable routing inside the column, all holes for assembly pre-drilled, colour anthracite grey RAL 7016, column dimensions H 1,200 mm x W 180 mm x D 85 mm (without wallbox), base plate W 300 x D 160 mm.

117.7921

**329,90 EUR**



### Vertical column duo

Like the mono model, but for two wallboxes.

117.7922

**329,90 EUR**





### Cable bracket

With efuturo you have the choice: Instead of winding the cable around the housing after charging, you can also store it on the separate wall holder. Once the charging cable has been tidied up, nobody will trip over it or drive over the plug.

Steel, painted black, including screws and wall plugs.

117.7904

**28,90 EUR**



45° angled version for type 2 plug

### Plug bracket

Protected and within easy reach: This is how the charging plug feels most at home. Treat it to a wall bracket, leaving no risk of tripping over the cable. Plastic, black, including screws and wall plugs.



Straight version for type 1 plug

117.7901

**28,90 EUR**



Straight version for type 2 plug

117.7902

**28,90 EUR**



### Electricity meter installation for efuturo® station one

Everything under control: This meter with LCD display is retrofitted into the wallbox by an electrician. To read the meter, switch off the electricity supply and open the housing in a few easy steps.

Connection 230 V single-phase up to 32 A, frequency 50 Hz, accuracy class B, MID-calibrated, pulse output 1,000 imp/kWh, temperature range -25°C to + 55°C.

117.7931

**46,90 EUR**



### External electricity meter for efuturo® station tripower

This meter is specifically for three-phase wallboxes. It is installed by an electrician externally in the switch cabinet on the profile rail. Electricity consumption in kWh shown on the LCD display.

Connection 400 V three-phase up to 32 A, frequency 50 Hz, accuracy class B, MID-calibrated, pulse output 1,000 imp/kWh, temperature range -25°C to + 55°C.

117.7933

**129,90 EUR**



### RFID card

Do you own an efuturo wallbox with access control but the three supplied RFID chip cards aren't enough for the many fans? The why not get some extras here? When ordering, we need your efuturo wallbox's serial number so that we can validate the card for you.

Cards to activate the charging process, credit card format, integrated RFID chip.

117.7911

**28,90 EUR**

## WALLBOXES IN COMPARISON

- As standard
- Available as accessories, see the previous page

efuturo® station  
one 3,7

117.7534	117.7532	117.7533	117.7531	117.7539	117.7537	117.7538	117.7536
----------	----------	----------	----------	----------	----------	----------	----------

## Electricity connection and power

Voltage [V]	230
Alternating current phases	1
Amperage [A]	16
Maximum charging capacity [kW]	3,7

## Charging connection

Communication mode 3	●	●	●	●	●	●	●
Integrated charging cable, black, type 2 plug	3 G 6.0 mm <sup>2</sup> + 1 x 0,5 mm <sup>2</sup>						
Type 2 socket according to IEC 61851 norm					●	●	●

## Features

Operation display via LED	●	●	●	●	●	●	●
RFID access control (including three chip cards)		●		●		●	●
Electricity meter, MID-calibrated			●	●		●	●

## Safety

IP55 protection class	●	●	●	●	●	●	●
RCD type B (ground fault circuit interrupter)	●	●	●	●	●	●	●
Overheating protection	●	●	●	●	●	●	●
TÜV, CE and RoHS certification	●	●	●	●	●	●	●

## Operating conditions

Suitable for use outdoors	●	●	●	●	●	●	●
Temperature range	-40°C to +45°C						
Pairing cycles	Up to 10,000						

## Design

The option of wall or column mounting	●	●	●	●	●	●	●
Black plastic housing	●	●	●	●	●	●	●
Green accent frame	○	○	○	○	○	○	○
Dimensions (without cable)	W 199 x H 326 x D 132 mm						

## Contents and assembly

Assembly and operation manual	●	●	●	●	●	●	●
Set for wall mounting and drilling template	●	●	●	●	●	●	●
Vertical column	○	○	○	○	○	○	○
Separate wall bracket for charging plug	●	●	●	●	○	○	○

## Price

All prices exclude VAT	879,90	949,90	899,90	969,90	879,90	949,90	899,90	979,90
------------------------	--------	--------	--------	--------	--------	--------	--------	--------

efuturo® station  
one 7,4

117.7574	117.7572	117.7573	117.7571	117.7579	117.7577	117.7578	117.7576
----------	----------	----------	----------	----------	----------	----------	----------

230
1
32
7,4

•	•	•	•	•	•	•	•
3 G 6.0 mm² + 1 x 0,5 mm²				•	•	•	•

•	•	•	•	•	•	•	•
	•		•		•		•
		•	•			•	•

•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•

•	•	•	•	•	•	•	•
-40°C to +45°C				Up to 10,000			

•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•
○	○	○	○	○	○	○	○
W 199 x H 326 x D 132 mm							

•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•
○	○	○	○	○	○	○	○
•	•	•	•	○	○	○	○

859,90	949,90	889,90	969,90	879,90	949,90	899,90	979,90
--------	--------	--------	--------	--------	--------	--------	--------

efuturo® station  
tripower 11

117.7512	117.7511	117.7514	117.7513
----------	----------	----------	----------

400
3
16
11

•	•	•	•
5 G 2.5 mm² + 1 x 0.5 mm²		•	•

•	•	•	•
	•		•
○	○	○	○

•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•

•	•	•	•
-40°C to +45°C		Up to 10,000	

•	•	•	•
•	•	•	•
○	○	○	○
W 199 x H 326 x D 132 mm			

•	•	•	•
•	•	•	•
○	○	○	○
•	•	○	○

969,90	999,90	979,90	999,90
--------	--------	--------	--------

efuturo® station  
tripower 22

117.7522	117.7521	117.7524	117.7523
----------	----------	----------	----------

400
3
32
22

•	•	•	•
5 G 6.0 mm² + 1 x 0.5 mm²		•	•

•	•	•	•
	•		•
○	○	○	○

•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•

•	•	•	•
-40°C to +45°C		Up to 10,000	

•	•	•	•
•	•	•	•
○	○	○	○
W 199 x H 326 x D 132 mm			

•	•	•	•
•	•	•	•
○	○	○	○
•	•	○	○

969,90	999,90	979,90	1.099,90
--------	--------	--------	----------



## Installation and service

# efuturo and the electrician: like two peas in a pod.

### Done already? That was quick.

Some electricians think that compactly constructed wallboxes are inconvenient to install. efuturo is different. We listened closely to the people doing the practical work and designed efuturo to be easy to install. This reduces the work required and thus the costs for the installation.

### Everything the professional needs

Instructions, drilling templates, forms for the mandatory registration of the wallbox with the energy supplier: all within easy reach.

### Digital support

Do you have any questions? Or perhaps your electrician does? We offer support digitally, quickly and in person:

[info@efuturo.de](mailto:info@efuturo.de)

The illustration shows special equipment: design frame and column







## MOBILE CHARGER

# Plug and Play. And Drive.

Have you got a normal earthed socket within reach and want to get started without an electrician? Or perhaps you would like a charging solution that you can simply take with you, e.g. to friends or your holiday home?

You can still benefit from the quality and electrifying value for money that efuturo can offer. Mobile with efuturo. It can be used straight away with a type 2 charging cable. The 5.5-metre cable offers you a generous range between the earthed socket and vehicle.

Since mobile charging solutions take longer by their very nature, usually overnight, we recommend our mobile efuturo with integrated timer. You can use it to program the charging process so that you use the cheaper off-peak electricity, for example.

Nice destination  
but no wallbox?  
Then simply take  
your own charging  
power with you.







Plug into the  
socket and  
away you go!



### Fact check

- mobile charging station to connect to earthed socket, 230 V, single phase
- charging cable with type 2 plug, mode 2
- power adjustable in two stages: 2.3 kW (at 10 A) or 3.7 kW (at 16 A)
- operation display via LED
- 1.5-metre earthed supply cable
- 4-metre charging cable
- overheating protection
- compact construction, takes up little space in the boot
- robust plastic housing, also suitable for use outdoors

efuturo® universal

Input

230 V  
single-phase 16 A

Output max

3.7 kW

117.7605

**329,90**  
EUR

Further technical  
data on page

184

## The mobile efuturo® with extra LCD comfort



The LCD display allows you to keep an eye on the charging time elapsed so far.



### Fact check

- mobile charging station to connect to earthed socket, 230 V, single phase
- charging cable with type 2 plug, mode 2
- power adjustable in two stages: 2.3 kW (at 10 A) or 3.7 kW (at 16 A)
- see the elapsed charging time on the LCD display
- operation display via LED
- 1.5-metre earthed supply cable
- 4-metre charging cable
- overheating protection
- compact construction, takes up little space in the boot
- robust plastic housing, also suitable for use outdoors

**efuturo®  
universal max**

Input **230 V**  
single-phase 16 A **Output max 3.7 kW**

117.7610  
**419,90**  
EUR

Further technical  
data on page

**184**

## The mobile efuturo® with timer

Constellation of a large e-car: Charge when electricity costs the least.

Want to charge up immediately?  
Or charge up at a specific time?  
It's your choice – and you can  
keep an overview of everything  
via the LCD display.

All mobile efuturos can  
be used with a standard  
domestic 230 V earthed  
socket.



### Fact check

- mobile charging station to connect to earthed socket, 230 V, single phase
- charging cable with type 2 plug, mode 2
- five power settings to choose between 1.4 kW (at 6 A) and 3.7 kW (at 16 A)
- start time and duration of the charging process can be selected
- LCD display plus operation display via LED
- 1.5-metre earthed supply cable
- 4-metre charging cable
- overheating protection
- compact construction, takes up little space in the boot
- robust plastic housing, also suitable for use outdoors

**efuturo®  
universal pro**

Input **230 V**  
single-phase 16 A **Output max 3.7 kW**

117.7615  
**539,90**  
**EUR**

Further technical  
data on page

**184**



## CHARGING CABLE

# Good combination. Of price and performance too.

The power station of your energy supplier on the one hand, your e-mobility vehicle on the other. The finest high-tech times two. Their combination should ensure excellent performance. Especially on the "last metre", i.e. on the charging cable.

That is why all efuturo cables are created using the best components. This begins with the cable: Its high quality prevents unwanted drop in performance or even overheating.

And with that in mind, the plugs are robust, weather-resistant and safe. And with efuturo, the benefits are not only obvious, they are palpable, allowing you to appreciate the good ergonomics in day-to-day use.

## Type 1 charging plug

This is most commonly used in vehicles from the Far East, but it is becoming less common. Always single phase, with a maximum charging capacity 7.4 kW.

## Private or public? efuturo is always a good fit.

Regardless of whether your car requires a type 1 or type 2 plug, all efuturo charging cables come fitted with a type 2 power plug. And it works with all efuturo wallboxes with a socket and with the vast majority of public charging stations throughout Europe. And another thing you can count on with efuturo: When you lock your vehicle, the charging cable is also locked in place and cannot be removed.

## In a nutshell

## Type 2 charging plug

Now the common standard in Europe which is becoming more widely used. Single or three phase, with a maximum charging capacity 22 kW. The type 2 plug is likely to be the right type for your vehicle too. If in doubt, consult your dealer.

## Mode 3

This refers to the standard by which the vehicle and charging station communicate via the charging cable. With efuturo charging cables and mode 3, you are also up to date and on the safe side in this respect.

## The efuturo® link type 1 and type 2 charging cable

### Straight cable with an open end

One end with a charging plug, one end to retrofit a fixed connection to a wallbox.

START FROM **159,90** EUR



5 m

### Straight cable

The classic, with plugs on both ends. Offers you the most metre for your money.

Find the right cable for you



8 m

5 m

3 m

START FROM **199,90** EUR

### Coiled cable

Particularly easy to use. Once you have finished charging, the cable retracts easily and takes up little space in the boot without rolling up. When charging outdoors, the coiled cable also has little to no contact with dirt on the road or slushy snow.



5 m

8 m

START FROM **229,90** EUR

### Cable bag included

Typical efuturo: surprisingly cheap – and an extra with a sense of practicality to boot. Each efuturo charging cable (except those with open ends) comes with a specially designed, robust bag with two carry handles. It keeps the boot tidy and protects it in the event the charging cable gets dirty or wet. Can also be used with our mobile charging stations. Ø 400 mm.



**0,-** EUR \*

\* also available individually 117.7941

**34,90** EUR

# The efuturo<sup>®</sup> cable finder

Which charging  
plug does your  
car require?

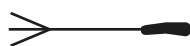
## • Type 1 charging plug



Straight cable with type 1 charging  
plug and type 2 power plug



Coiled cable with type 1 charging  
plug and type 2 power plug



Straight cable with type 1 charging  
plug and open end

	3.7 kW 230 V single-phase 16 A	7.4 kW 230 V single-phase 32 A
3 metres		 117.7125 <b>199,90 EUR</b>
5 metres	 117.7310 <b>229,90 EUR</b>	 117.7130 <b>229,90 EUR</b>  117.7330 <b>239,90 EUR</b>  117.7225 <b>159,90 EUR</b>
8 metres		 117.7135 <b>279,90 EUR</b>



## Type 2 charging plug



Straight cable with charging plug and type 2 power plug



Coiled cable with charging plug and type 2 power plug



Straight cable with type 2 charging plug and open end

	7.4 kW 230 V single-phase 32 A	11 kW 400 V three-phase 16 A	22 kW 400 V three-phase 32 A
3 metres	117.7145 <b>199,90 EUR</b>	117.7165 <b>209,90 EUR</b>	117.7185 <b>239,90 EUR</b>
5 metres	117.7150 <b>229,90 EUR</b> 117.7345 <b>239,90 EUR</b> 117.7255 <b>159,90 EUR</b>	117.7170 <b>239,90 EUR</b> 117.7365 <b>239,90 EUR</b> 117.7235 <b>159,90 EUR</b>	117.7190 <b>279,90 EUR</b> 117.7385 <b>339,90 EUR</b> 117.7245 <b>299,90 EUR</b>
8 metres	117.7155 <b>279,90 EUR</b> 117.7350 <b>309,90 EUR</b>	117.7175 <b>279,90 EUR</b>	117.7195 <b>349,90 EUR</b>

### Type 1 or type 2 – always on the safe side

#### Fact check

- charging cable for electric and hybrid vehicles according to the IEC 62196-2 norm for private and public charging stations
- high-performance cable with a cross-section of up to 5 x 6.0 mm<sup>2</sup> and 1 x 0.5 mm<sup>2</sup>
- ergonomically shaped, robust plug with protective cover
- communication mode 3
- overheating protection
- black cable and plug
- supplied with cable bag (except cables with open end)

Further technical data  
on the next page

# All mobile charging stations compared

● As standard

○ Available as accessories, see the previous page

	efuturo® universal	efuturo® universal max	efuturo® universal pro
	117.7605	117.7610	117.7615
<b>Electricity connection and power</b>			
Earthed socket	●	●	●
Voltage [V]	230	230	230
Alternating current phases	1	1	1
Adjustable amperage [A]	10 / 16	10 / 16	6 - 16
Maximum charging capacity [kW]	3.7	3.7	3.7
<b>Charging connection</b>			
Communication mode 2	●	●	●
Integrated charging cable*, black, type 2 plug**	●	●	●
<b>Features</b>			
LCD display to show charging time		●	●
Operation display via LED	●	●	●
Adjust the amperage [A] in stages	10 / 16	10 / 16	6 / 8 / 10 / 13 / 16
Charging start time can be preselected			●
Charging time can be selected			●
<b>Safety</b>			
Protection class	IP66	IP67	IP65
Overheating protection	●	●	●
TÜV, CE and RoHS certification	●	●	●
<b>Operating conditions</b>			
Suitable for use outdoors	●	●	●
Temperature range	-40°C to +75°C	-40°C to +75°C	-30°C to +75°C
Pairing cycles	Up to 10,000	Up to 10,000	Up to 10,000
<b>Design</b>			
Black plastic housing	●	●	●
Dimensions of housing [mm]	W 105 x H 245	W 105 x H 245	W 105 x H 235
Cable length [earthed] in front of housing [m]	1,500	1,500	1,500
Cable length [type 2] behind housing [mm]	4,000	4,000	4,000
<b>Contents and accessories</b>			
Instruction manual	●	●	●
Separate wall bracket for charging plug	○	○	○
Bag	○	○	○
<b>Price</b>			
All prices exclude VAT	329,90	419,90	539,90


\* straight high-performance cable with profile 3 G 2.5 mm<sup>2</sup> and 1 x 0.5 mm<sup>2</sup>

\*\* according to IEC 61851 norm

# All cables compared

Connection and power		Safety							Operating conditions		Design and contents		Price
		Charging plug	Maximum charging capacity (kW)	Length (m)	Type 2 power plug and mode 3 communication	high-performance cable with a cross-section: see table + 1 x 0.5 mm²	IP 44 protection class (with protective cap)	Overheating protection	TÜV, CE and RoHS certification	-25°C to +50°C temperature range	Up to 10,000 pairing cycles	Black cable and plug	
efuturo® link													
Straight cable													
117.7125	Type 1	7.4 kW at 230 V single-phase 32 A	3	●	3 G 6.0 mm²	●	●	●	●	●	●	●	199,90
117.7130	Type 1	7.4 kW at 230 V single-phase 32 A	5	●	3 G 6.0 mm²	●	●	●	●	●	●	●	229,90
117.7135	Type 1	7.4 kW at 230 V single-phase 32 A	8	●	3 G 6.0 mm²	●	●	●	●	●	●	●	279,90
117.7145	Type 2	7.4 kW at 230 V single-phase 32 A	3	●	3 G 6.0 mm²	●	●	●	●	●	●	●	199,90
117.7150	Type 2	7.4 kW at 230 V single-phase 32 A	5	●	3 G 6.0 mm²	●	●	●	●	●	●	●	229,90
117.7155	Type 2	7.4 kW at 230 V single-phase 32 A	8	●	3 G 6.0 mm²	●	●	●	●	●	●	●	279,90
117.7165	Type 2	11 kW at 400 V three-phase 16 A	3	●	5 G 2.5 mm²	●	●	●	●	●	●	●	209,90
117.7170	Type 2	11 kW at 400 V three-phase 16 A	5	●	5 G 2.5 mm²	●	●	●	●	●	●	●	239,90
117.7175	Type 2	11 kW at 400 V three-phase 16 A	8	●	5 G 2.5 mm²	●	●	●	●	●	●	●	279,90
117.7185	Type 2	22 kW at 400 V three-phase 32 A	3	●	5 G 6.0 mm²	●	●	●	●	●	●	●	239,90
117.7190	Type 2	22 kW at 400 V three-phase 32 A	5	●	5 G 6.0 mm²	●	●	●	●	●	●	●	279,90
117.7195	Type 2	22 kW at 400 V three-phase 32 A	8	●	5 G 6.0 mm²	●	●	●	●	●	●	●	349,90
efuturo® flexible link													
Coiled cable													
117.7310	Type 1	3.7 kW at 230 V single-phase 16 A	5 (idle 3)	●	3 G 2.5 mm²	●	●	●	●	●	●	●	229,90
117.7330	Type 1	7.4 kW at 230 V single-phase 32 A	5 (idle 3)	●	3 G 6.0 mm²	●	●	●	●	●	●	●	239,90
117.7345	Type 2	7.4 kW at 230 V single-phase 32 A	5 (idle 3)	●	3 G 6.0 mm²	●	●	●	●	●	●	●	239,90
117.7350	Type 2	7.4 kW at 230 V single-phase 32 A	8 (idle 5)	●	3 G 6.0 mm²	●	●	●	●	●	●	●	309,90
117.7365	Type 2	11 kW at 400 V three-phase 16 A	5 (idle 3)	●	5 G 2.5 mm²	●	●	●	●	●	●	●	239,90
117.7385	Type 2	22 kW at 400 V three-phase 32 A	5 (idle 3)	●	5 G 6.0 mm²	●	●	●	●	●	●	●	339,90
efuturo® link													
Straight cable with open end													
117.7225	Type 1	7.4 kW at 230 V single-phase 32 A	5	●	3 G 6.0 mm²	●	●	●	●	●	●		159,90
117.7255	Type 2	7.4 kW at 230 V single-phase 32 A	5	●	3 G 6.0 mm²	●	●	●	●	●	●		159,90
117.7235	Type 2	11 kW at 400 V three-phase 16 A	5	●	5 G 2.5 mm²	●	●	●	●	●	●		159,90
117.7245	Type 2	22 kW at 400 V three-phase 32 A	5	●	5 G 6.0 mm²	●	●	●	●	●	●		299,90





● Thanks to you,  
e-mobility  
is on an upward  
trend.

**Even more future –  
with 5 years warranty!**

Electromobility is happening in the near future loads of. Therefore, your decision for the charging infrastructure will last for a long time. Therefore we give you on all products in the catalogue chapter „Charging infrastructure“ 5 instead of only 2 years warranty.



# HOW CAN WE DO IT? SUPPORT?

The mobility of tomorrow: An exciting world. To the step in  
We would like to make our contribution towards the future. To  
one with products that allow you to work under high voltage  
as simple as possible, but also as safe as necessary  
make. On the other hand, with advice and help whenever you like.

Do you have a question? Are you unsure about a decision?  
Are you looking for an individual solution? We stand by you  
to the side at any time. You can reach our experts at:

[info@efuturo.de](mailto:info@efuturo.de)



KS Tools Werkzeuge - Maschinen GmbH  
Seligenstädter Grund 10-12  
63150 Heusenstamm  
Deutschland  
Tel.: +49 (0)6104 4974-0  
Fax: +49 (0)6104 4974-11  
E-Mail: [info@kstools.com](mailto:info@kstools.com)  
[www.kstools.com](http://www.kstools.com)

