



**BERNSTEIN**  
TOOLS FOR ELECTRONICS



**CATALOGUE**  
2020/2021





## BERNSTEIN

TOOLS FOR ELECTRONICS

In the near future, many tool catalogues will only be available digitally. For this reason, the classic paper catalogue has a particularly high value.

Allow yourself be inspired by our designers' passion: They have once again put our enthusiasm for hand tools „on paper“, showcasing it in analogue form.

Sit back and flick through our catalogue to find numerous, exciting new products and discover the special features of our hand tools that solve the problems day-to-day work presents.

This edition focusses on our ESD tools, where the safety and reliability provided by a traditional manufacturer are of particular importance when producing such tools.

We have succeeded in developing the unique and versatile **SPANNFIX Maxi 4.0** in our range of clamping devices. The Spannfix Maxi 4.0 is the largest ball-joint vice on the market and will win you over with its clamping pins, interchangeable jaws, centering lug and fantastic ball clamping force.

In view of the fact that components are getting ever smaller, we have added an ultra-fine design to our successful range of tweezers. Featuring superfine tips, these high-tech tweezers are ideal for working under a microscope. We have developed a completely new range in response to the growing demands in quality assurance for controlled screwing: the Bernstein Torque Tools. The work areas have been designed to meet the specific needs of the electronics sector.

We are particularly proud of our new „Protection“ series of cases, featuring a futuristic look in a shell design with the Bernstein logo made of XABS plastic.

Take your time and discover other new products in our range of special tools for the electronics sector. Come and share our passion for hand tools with ultimate precision and quality!



**BERNSTEIN**  
TOOLS FOR ELECTRONICS

## QUALITY FROM EXPERIENCE

BERNSTEIN has specialised in the manufacture of ESD and precision tools since 1953. The BERNSTEIN company name first officially appeared in 1953 at the German exposition for radio and television in Düsseldorf. At that time, BERNSTEIN was the technology department of the company **Bernhard Steinrücke**, an ironware wholesaler in Lennep.

It wasn't until three years later that BERNSTEIN developed into an independent tool factory. During this periods, Bernstein manufactured a range of highly specialised hand tools for the

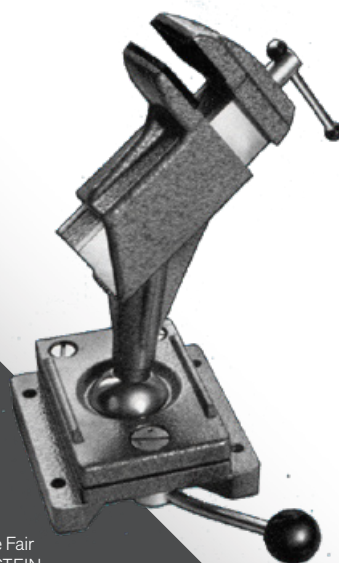
production, maintenance and repair of radios, television sets and other Hi-Fi equipment. The radio and television industry experienced a boom in the following years. BERNSTEIN products were represented and known in almost all the European fairs up until 1970.

Today, BERNSTEIN is one of the most famous manufacturers of hand tools for electronics and precision mechanics, and, together with its partners, supplies industry in Germany, Europe and the world.

BERNSTEIN draws on knowledge gained over many years to process Bernstein raw materials into high-quality tools with the highest standards in terms of quality and origin. Our product portfolio ranges from tweezers, pliers and screw drivers to custom, specialised tools to various clamping devices.

BERNSTEIN's area of specialisation is the manufacture of the Spannfix ball-joint vices and dissipative ESD tools.

**BERNSTEIN**  
*Werkzeugfabrik*  
STEINRÜCKE KG.



**1956**

Foundation  
BERNSTEIN  
Werkzeugfabrik  
Steinrücke KG.

**1959**

With the handy pocket  
„assistant“, BERNSTEIN  
launches a portable  
workshop for the first  
time, which is unveiled  
to the public at the Hanover  
industrial fair in the same  
year.

**1961**

The company is relocated  
to its current location at  
Industriehof Trecknase 1 in  
Remscheid-Lennep.

**1964**

At the Munich Trade Fair  
Electronica, BERNSTEIN  
presents the multifunc-  
tional vice „SPANNFIX“  
and „SPANNFIX VARIO“,  
which remains a popular  
product to this day.

**2016**

True to the motto „GO DIGITAL“, our new website went online in 2016, and since then has provided our customers with up-to-date information about our products.

**2019**

After one year in development, we are able to present the new generation of our large vice, the Spannfix 4.0.



## FACTS AND FIGURES

### GERMAN QUALITY

To guarantee high quality, 75 % of our products are made in Germany. Bought-in items are also inspected according to Bernstein's stringent quality criteria. Some of our products are pre-manufactured outside of Germany and further processed by BERNSTEIN.

production



VERTRIEB



CUSTOMER



### OUR CUSTOMERS ARE AS VERSATILE AS OUR PRODUCTS!

We reach customers in Germany, Europe and across the world via our partners. We don't just supply the electronics industry. Our tools also find use in laboratories, test facilities, model making, the optical industry and dental sector.

**2012**

The company takeover in 2012 meant that it was time for a complete redesign of the corporate image. Since then, the orange diamond has stood for high quality.

**2014**

Our products have also been continuously adapted to the new course. In 2015, we created the BERNSTEIN case PROTECTION in an unmistakable design.





## ESD – THE INVISIBLE DANGER

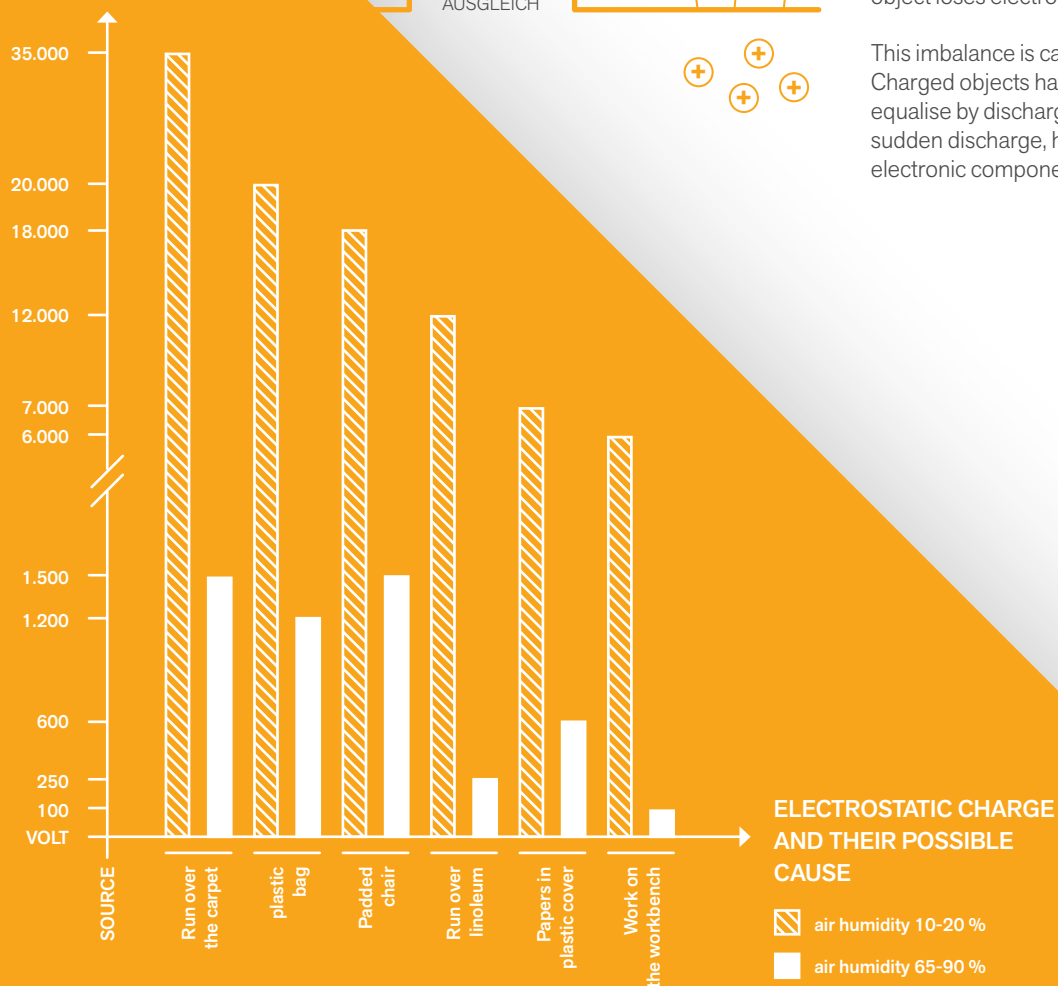
### WHAT DOES ESD MEAN?

ESD stands for electrostatic discharge. It is caused by the sudden equalisation of charge between objects with a different charge potential. This discharge can generate a large amount of electrical current.

### HOW IS ELECTROSTATIC CHARGE GENERATED?

Every object has positive and negative elementary particles. Positive and negative charges normally neutralise each other. Objects are electrically neutral. However, if an object loses electrons, an imbalance arises.

This imbalance is called the charge potential. Charged objects have a tendency to equalise by discharging. In the event of a sudden discharge, high currents flow in a small electronic component.



POTENTIAL-  
AUSGLEICH

## ELECTROSTATIC DISCHARGE IN EVERYDAY LIFE

The most visible form of electrostatic discharge is lighting during a storm, when clouds with different potentials abruptly discharge. All of us have at one point experienced a sudden discharge, such as after walking across a carpeted floor and then touching the handle of a door.

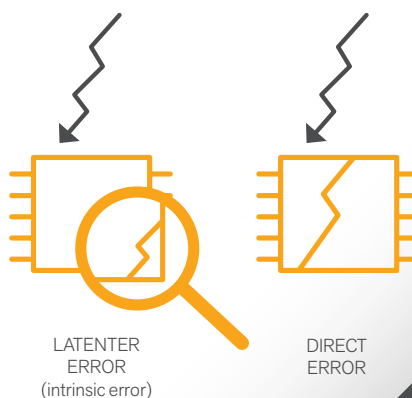


## FOLLOWS ELECTROSTATIC UNLOADING OF COMPONENTS

Date of damage detection	value	efforts
component level	1x	part costs production stop
assembled circuit board	10x	part costs production stop error search repair costs
finished, tested product	100x	part costs production stop error search repair costs inspection costs delivery delays
delivered product	1000x	Replacement/repair costs Field service / delivery costs compensation loss of reputation

## COMPONENT SENSITIVITY

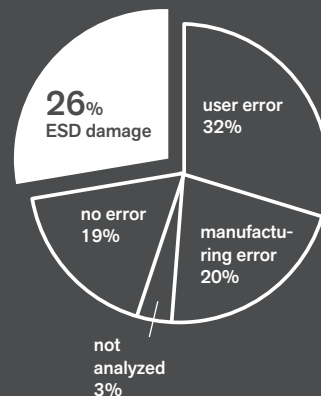
The ESD sensitivity of electronic components is rising as component parts are increasingly miniaturised. Moreover, ever smaller components offer less and less space for protective circuits on microchips. In order to save energy, components need to get by on less power. A discharge of just 50 volts is enough to cause damage to a blue LED, for example. SMDs are already at risk of damage at voltages higher than 100 V. In contrast to this, the human ability to perceive ESD is very limited. Discharges are first noticeable from 3500 volts, audible from 4500 volts and visible from 10000 volts.



## DETECTING AND ELIMINATING FAULTS

Components damaged by ESD cannot normally be seen with the naked eye. Even tiny discharges can lead to complete failure. These direct failures can usually be identified during quality control. So-called latent failures are especially critical, as they only become apparent when products are in operation. The time and effort needed to eliminate these intrinsic failures cause the greatest costs. ESD damage generally concerns latent damage. It is therefore absolutely essential that the appropriate precautions are taken.

## FAILURE CAUSE ELECTRONICAL COMPONENTS





## ESD – HOW TO PROTECT YOURSELF AND YOUR COMPONENTS

### HOW CAN YOU PROTECT COMPONENTS?

You can protect ESD-sensitive components by storing, handling and packing them in a completely ESD protected environment. Precautionary measures are taken in these areas to eliminate electrostatic build-up. The difference in potential is neutralised by slowly dissipating the charge, thereby preventing a sudden discharge. This abrupt release constitutes the real danger. A very short and rapid discharge generates a very high discharge current.

### MARKINGS AND SYMBOLS

It is important to identify ESD-sensitive components, ESD-safe working areas and ESD-safe objects. Safe objects are identified by a black triangle on a yellow background with a stylised hand surrounded by a circular arc. In addition, the acronym EPA (ESD protected area) is added for ESD protected areas. For ESD-sensitive components, there is no black circular arc and there is a line running through the hand to indicate ESD-sensitive products. It also makes sense to use ESD inspection tags which display the date when the object was last inspected for protective effectiveness.



#### ESD GROUNDING POINT

marked  
grounding point for  
all ESD  
components

### SYMBOLS AND YOUR MEANING



#### ESD SAFED

marked  
ESD safe  
tools and objects



#### ESD DANGERED

marked  
endangered  
components and  
domains

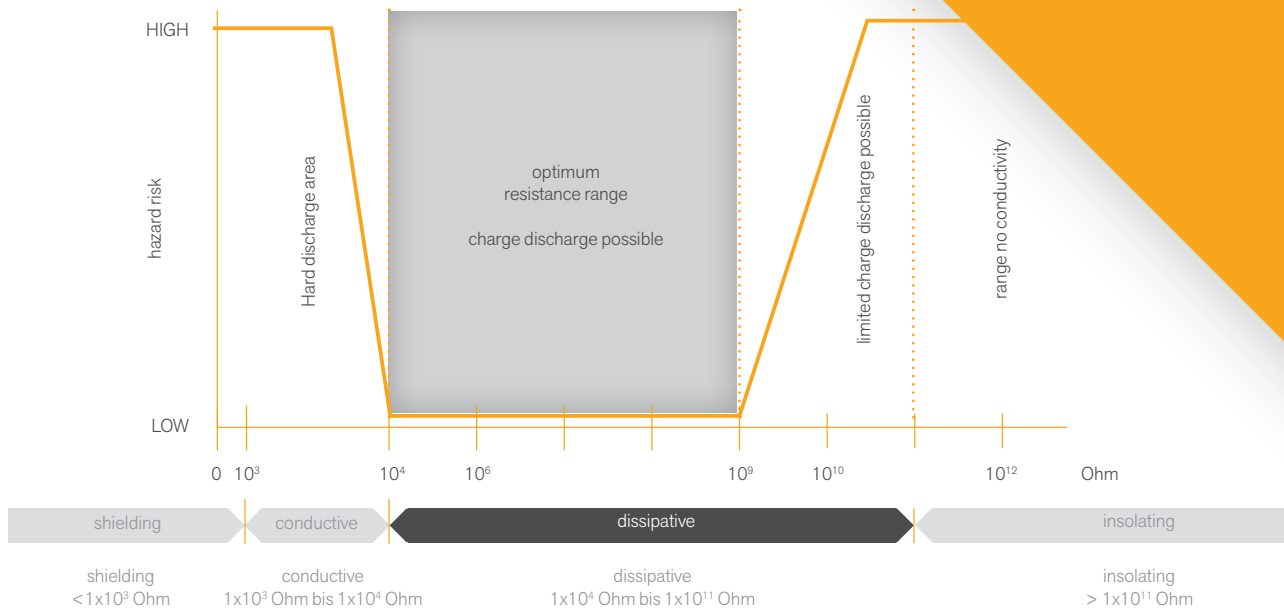


#### ESD protected area

marked  
ESD protected  
area

### WHAT DOES THE NORM SAY?

DIN - EN 61340-5-1/VDE 0300, Part 5-1 „Protection of electronic devices from electrostatic phenomena“ General requirements; DIN - EN 61340-5-2 / VDE 0300, Part 5-2 „Protection of electronic devices from electrostatic phenomena“, User guide; DIN - EN 61340-2-1 / VDE 0300, Part 2-1 „Measurement methods – Ability of materials and products to dissipate static electric charge“; DIN - EN 61340-4-1 / VDE 0300, Part 4-1 „Standard test methods for specific applications – Electrical resistance of floor coverings and installed floors“; DIN - EN 61340-4-3/VDE 0300, Part 4-3 „Standard test methods for specific applications – Footwear“; DIN - EN 61340-4-5/VDE 0300, Part 4-5 „Standard test methods for specific applications – Methods for characterizing the electrostatic protection of footwear and flooring in combination with a person“.



## SURFACE RESISTANCES

The effectiveness of materials is classified according to their resistance properties. Here, surface resistance plays a particularly important role: it is the electrical resistance of a conductive layer on the surface. Depending on the resistance properties, a distinction is made between shielding materials, electrically conductive materials, electrically dissipative materials and insulating materials.

## MEASUREMENT OF RESISTANCES IN THE ESD AREA

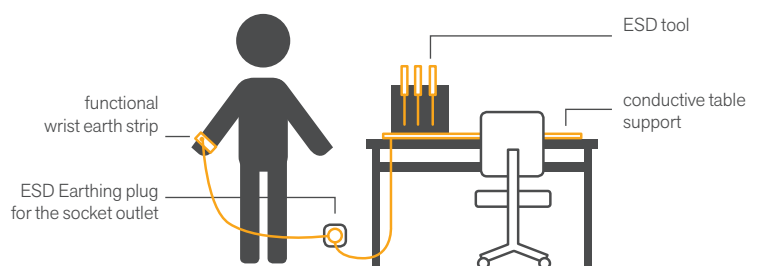
In addition to surface resistance, the following resistances are also important: the bleeder resistance (resistance against earth/protective conductor), volume resistance (resistance measured at opposite points of a material) and point-to-point resistance (resistance between two electrodes).

## PERSONS AND WORKPLACES EQUIPMENT

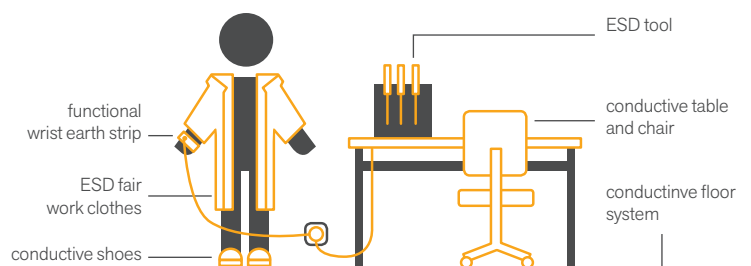
If ESD-sensitive components are being handled, people and workplace equipment need to be ESD compliant. The primary focus for people is ESD-compliant clothing (shoes, coats, antistatic wrist straps), for workplace equipment, conductive flooring is just as important as ESD-compliant workbenches and chairs. The most important measure is the proper grounding of personnel.

## ESD COMPLIANT TOOL

ESD-compliant tools are also just as important. In the Bernstein catalogue, you will find a comprehensive range of ESD-compliant tools for use in ESD protected areas. Often work needs to be performed outside of these protected areas, in which ESD-sensitive components need to be installed. We offer solutions here too, which are suitable for mobile use, such as table covers, grounding plugs for power sockets, clamping equipment and hand tools.



Simple design of an ESD-safe workstation for mobile use



ESD-safe execution of a work schedule in the EPA area

## OUR NEW PRODUCTS AT A GLANCE

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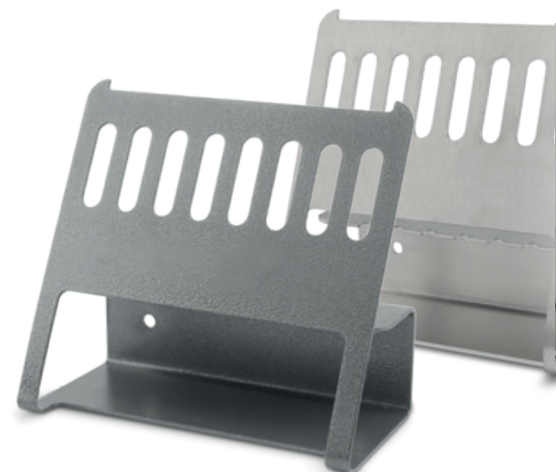
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### GET IN CONTACT WITH US!

#### BERNSTEIN

##### **Werkzeugfabrik Steinrücke GmbH**

Industriehof Trecknase 1  
42897 Remscheid

Tel. + 49 (0) 2191 - 9650 - 0  
Fax + 49 (0) 2191 - 9650 - 30

[sales@bernstein-werkzeuge.de](mailto:sales@bernstein-werkzeuge.de)

### VISIT US ON THE WEB!

We update our product information on a regular basis and automatically using the Bernstein Product Information System. This enables the quick and up-to-date compilation of customer-specific data feeds for your own digital sale activities. Take advantage of this service and always keep Bernstein product information up to date!

**[www.bernstein-werkzeuge.de](http://www.bernstein-werkzeuge.de)**

Product videos and blog posts round off our online offering. Furthermore, we also respect the traditional sales channel via specialist retailers and offer the option to present your webshop as an online sales platform for products by BERNSTEIN.

### SYMBOL LEGEND

NEW

NEW products

p. 120

Cross reference



Made in Germany



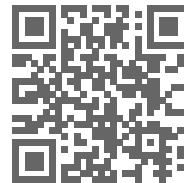
Number of tools in sets



Weight



Dimensions



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## OUR ASSORTMENT IS VERSATILE

Every day, industry and trade put their trust in the reliability, safety and precision of hand tools manufactured by BERNSTEIN. Our range of special tools for electronics, electrical engineering and precision mechanics is characterised by high quality and assortment optimisation.

### WE CANNOT ONLY OFFER STANDARD

The Bernstein product portfolio includes over 1000 standard products. Furthermore, we make every effort to fulfil individual customer requests. There are currently around 200 different items that are custom manufactured to our customers' specifications.

### ESD tools

BERNSTEIN offers an almost complete assortment of high-quality ESD tools for working on electrostatically sensitive components. ESD pliers and ESD screwdrivers are equipped with grips that are electrostatically dissipative. ESD tweezers and ESD clamping equipment have a high-quality, dissipative powder coating which is burned in at 200 degrees Celsius.





## CLAMPING TOOLS WITH BALL JOINT - OPTIMAL GRIP IN EVERY POSITION

Due to their complex geometry, workpieces, components or assemblies need to be able to be turned and held in different orientations during processing, servicing or repair.

BERNSTEIN offers various retaining tools to overcome such challenges. Our Spannfix product series ranges from classic screw heads to special attachments for the electronics industry to variable and versatile bases.

In all of our Spannfix products, we manufacture our high-grade, precise ball joint from steel, the ball joint can be moved in many different positions and fixed steplessly with a simple press of the lever.

The different heads and bases in our Spannfix product line make flexible working possible in any location or situation. Depending on the application, they can be combined with each other.

This is how, for example, many of our various bases are used to hold cameras, monitors or other components.

The possibilities are endless. Get in touch with us if you can't find what you're looking for in our product range.  
Together we will find a solution!

[sales@bernstein-werkzeuge.de](mailto:sales@bernstein-werkzeuge.de)

9-290

NEW

## SPANNFIX 4.0 THE NEXT GENERATION



### OUR EVOLUTION OF THE SPANNFIX MAXI

Featuring a jaw width of 100 mm, the SPANNFIX 4.0 is the largest ball-joint vice on the market and will win you over with its clamp pins, interchangeable jaws, centering lug and fantastic ball clamping force.

The ball joint allows the head of the Spannfix to be turned 360° and tilted up to 90°. Work can be performed at every angle imaginable. Different shapes no longer present a problem. It doesn't matter if the workpiece is round or angular, the user can clamp anything.

The four tensioning studs suit the product in shape and size. They can be rotated about their axes and firmly grip any object. The centering lug allows for vertical work. The workpiece can be held level and worked on.

In addition to the clamping studs, the Spannfix features a profiled steel jaw that was designed as a reversible jaw and can be replaced. It has a smooth side as well as a side with a stepped edge and two vertical notches that prevent rods and bolts from sliding.

An integrated ruler offers the possibility to read the clamping depth directly on the vice. That way you can get the most out of the 105 mm clamping width.

The innovative base including table clamp enables the SPANNFIX to be mounted to straight table edges of up to 80 mm, and even to the table corner itself – the optimal position to use the Spannfix 4.0's entire working radius of 330 mm.

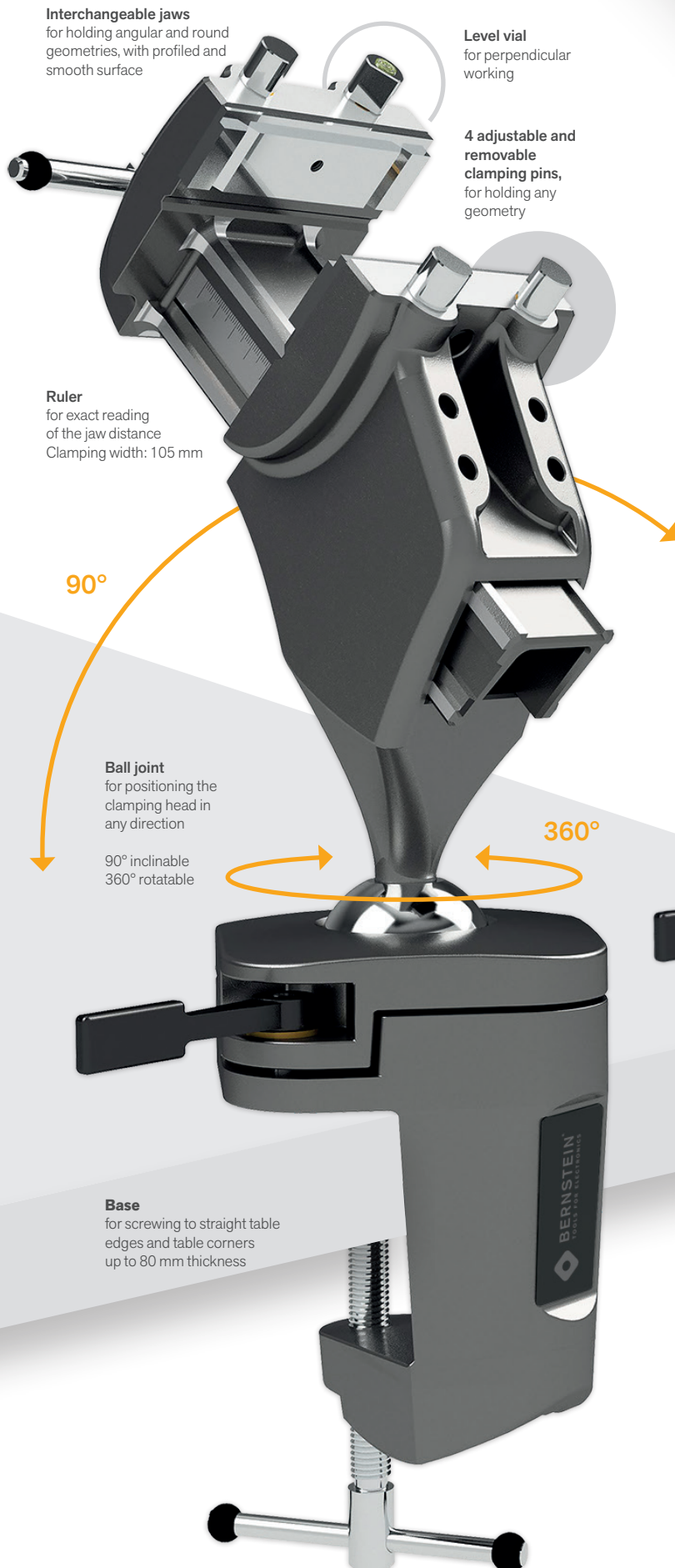
### TECHNICAL FACTS:

Material:	Aluminium casting with chromed steel parts
Colour:	structured powder coating in dark grey metallic
Dimensions:	450 x 220 x 200 mm (dimensions for orientation)
Weight:	5500 g
Clamping pressure:	2940 N
Clamping width:	105 mm
Clamping depth:	50 mm
Jaw width:	100 mm
Table thickness:	up to max. 80 mm
Working radius:	330 mm (from ball centre)





Click here for the product film!



The following types are available:

**9-290** Ball joint vice  
SPANNFIX 4.0 for clamping on

**9-291** Ball joint vice  
SPANNFIX 4.0 base with  
clamping screws (M12x1.5)



Suitable for straight table edges and table corners

## SPANNFIX – CLAMPING TOOLS WITH BALL JOINT

### WHAT OUR CLAMPING TOOLS DISTINGUISHES

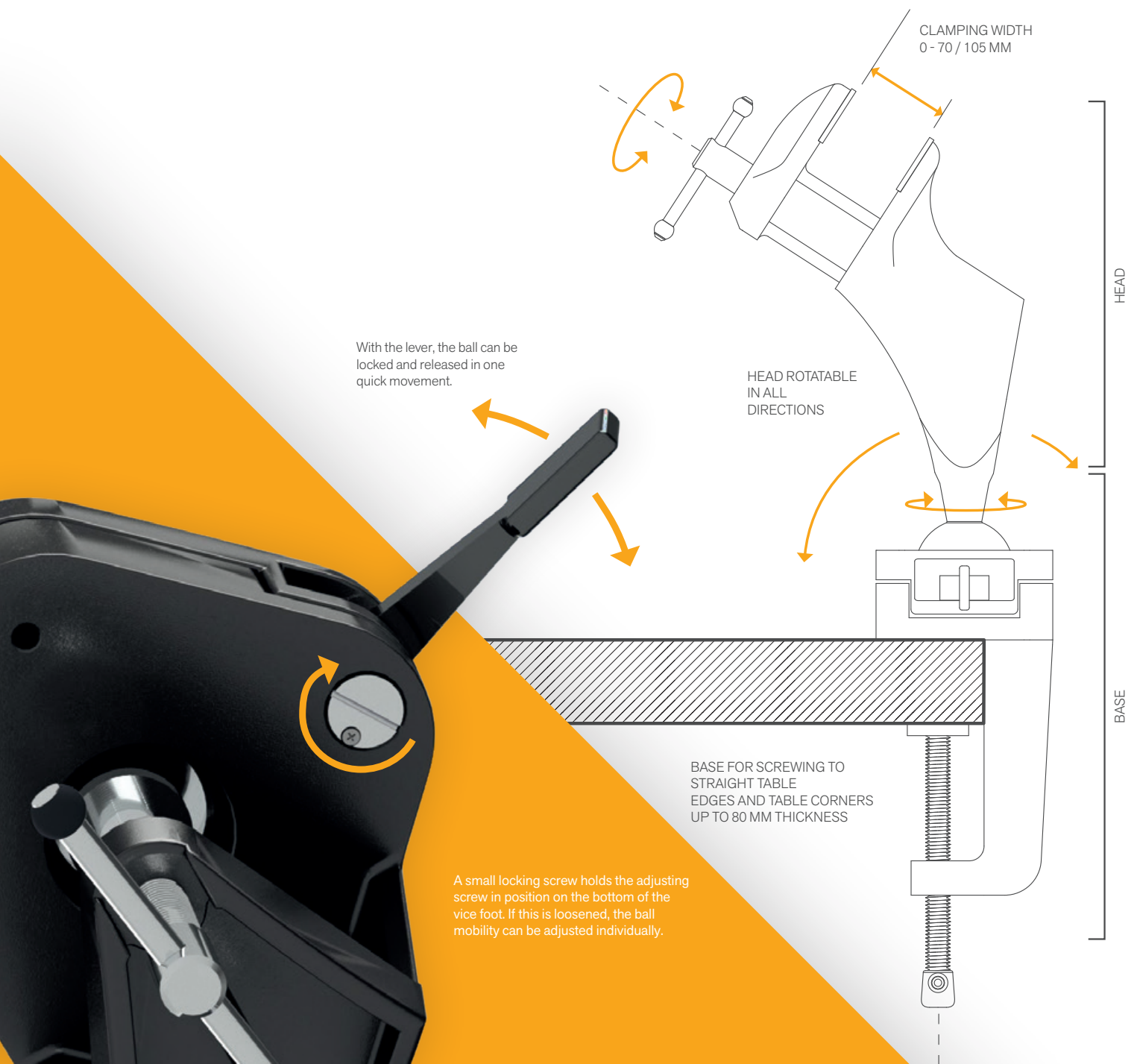
The SPANNFIX is a multifunctional vice with a flexible head and many possible applications.

By using the high-quality ball joint, the SPANNFIX head can be tilted and fixed in any direction and offers optimum hold in any position.

The ball mobility can be individually adjusted with the help of an adjusting screw on the lower seat of the ball.

The ball is fixed and released with a simple movement of the lever.

Long service life is guaranteed by the high-quality, powder-coated cast aluminium and surface-coated steel parts.



## MODELS AND TYPES

The Spannfix is available in the models STANDARD, VARIO, MAXI and 4.0. The STANDARD and VARIO models are also manufactured in different colours. The Spannfix VARIO offers the possibility to combine bases with different heads for various applications.

Bases by BERNSTEIN are frequently used for mounting customers' own constructions.

The item numbers shown in the table are described in the following pages.



NEW

Model	STANDARD		VARIO			SPANNFIX MAXI	SPANNFIX 4.0
Construction	solid		modular			solid	solid
Jaw width/,aterial	50 mm / plastic		50 mm / plastic			100 mm / steel	100 mm / steel
Features	Components are firmly connected to each other		Head and base can be individually combined with one another (except Art.-No. 9-262)			Large design, components are firmly connected to each other	Large design, components are firmly connected to each other
Colour variations	dark grey	ESD black	dark grey	ESD black	black	dark grey	dark grey
Surfaces	structured	smooth, silky gloss	structured	smooth, silky gloss	fine structured, dull	structured	structured
Product variants Art.-No.	9-205	9-205 ESD	9-240			9-225	9-290
	9-215	9-215 ESD	9-250			9-226	
			9-270				
Bases Art.-No.			9-251	9-251ESD	9-251 SW	9-227	9-291
			9-261	9-261ESD	9-261 SW	9-228	
			9-262		9-262 SW	9-229	
			9-281	9-281ESD	9-281 SW		With many new features!
			9-284 SW				
Heads Art.-No.			9-252	9-252 ESD			Find out more on the following page!
			9-253 ESD				
			9-255 ESD				
			9-254				
			9-257 ESD				
Spare jaws Art.-No.	9-900-0181 ESD (single) 9-900-E50-ESD (pair)		9-900-0181 ESD (single) 9-900-E50-ESD (pair)			9-900-0766-1	9-900-0773-1
Protective jaws	Available in different versions see following page						

With many new features!

Find out more on the following page!

## SPANNFIX MAXI - PRODUCT VARIANTS

### ► 9-226

#### Ball joint vice SPANNFIX MAXI for CLAMPING ON



The SPANNFIX MAXI 9-226 is suitable for all workbenches and surfaces due to its screw-on base. With the help of the four through holes (Ø 10 mm), the vice can be attached to any table top. One press of the lever is all it takes to fix the clamped workpiece in any position.

Clamping pressure: 2940 N  
 Clamping width: 100 mm  
 Clamping depth: 50 mm  
 Jaw width : 100 mm  
 Jaws: Steel, smooth and corrugated, reversible and replaceable



Position as shown:  
 approx. 380 x 230 x 150 mm  
 (dimensions for orientation)



Weight: 3600 g



## SPANNFIX MAXI - BASES

### ► 9-227

#### Ball joint base SPANNFIX MAXI for CLAMPING ON

Colour dark grey metallic, surface structured  
 inclination angle:  $\pm 45^\circ$   
 Threaded pin: M 12 x 1.5  
 Threaded pin length: 12 mm  
 Weight: 2220 g



9-227

### ► 9-228

#### Ball joint base SPANNFIX MAXI for SCREWING ON

Colour dark grey metallic, surface structured  
 inclination angle:  $\pm 45^\circ$   
 Base plate size: 190 x 155 mm (holes Ø 10 mm)  
 Threaded pin: M 12 x 1.5  
 Threaded pin length: 12 mm  
 Weight: 1850 g



9-228

### ► 9-229

#### Ball joint base SPANNFIX MAXI for SCREWING ON

Colour dark grey metallic, surface structured  
 inclination angle:  $\pm 45^\circ$   
 Base plate size: 190 x 155 mm (holes Ø 10 mm)  
 Threaded pin: M 12 x 1.5  
 Threaded pin length: 25 mm  
 Intake area: Ø 40 mm  
 Weight: 1900 g



9-229

## EQUIPMENT - PROTECTIVE JAWS

As an addition, we offer various types of protective jaws which can be fixed to the steel jaws by magnets.

### Plastic protective jaws with felt

One-sided felt covering/grooves, mit magnetic stripes

100 mm	125 mm	150 mm
9-900-S6100	9-900-S6125	9-900-S6150

### Plastic protective jaws

Smooth on one side/grooves, mit magnetic stripes

100 mm	125 mm	150 mm
9-900-S7100	9-900-S7125	9-900-S7150

### Aluminum protective jaws with rubber

One-sided rubber covering/smooth, with 2 magnets

100 mm	125 mm	150 mm
9-900-S8100	9-900-S8125	9-900-S8150

### Aluminum protective jaws

with tread grooves/smooth, mit 2 magnets

100 mm	125 mm	150 mm
9-900-S9100	9-900-S9125	9-900-S9150



## SPANNFIX STANDARD – PRODUCT VARIANTS

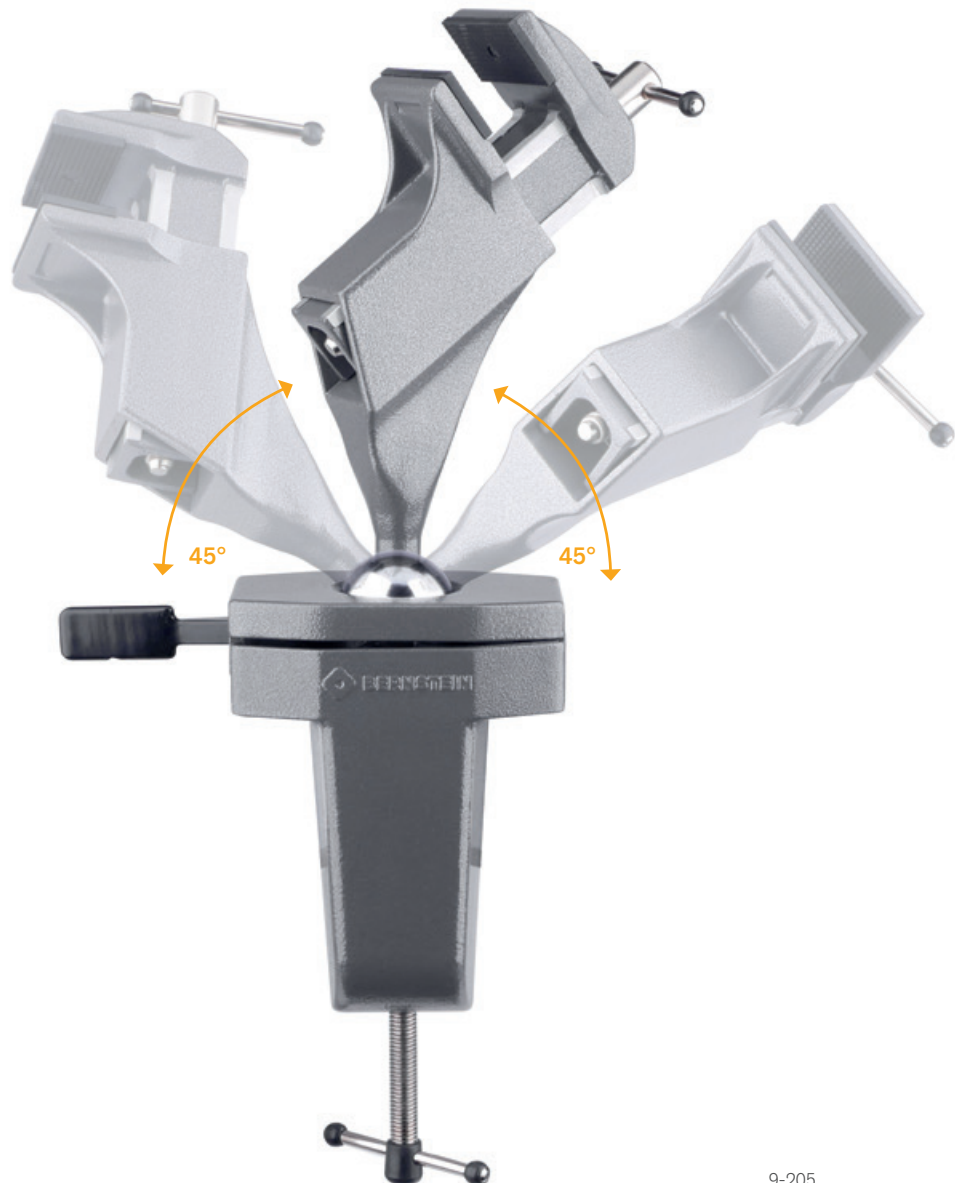
### ► 9-205

#### Ball joint vice SPANNFIX for CLAMPING ON



The SPANNFIX 9-205 is suitable for workbenches or work areas with a maximum table top thickness of up to 80 mm. The small vice with a ball joint can be attached quickly and easily to any workbench or worktop due to its table clamp. A small pressure of the lever is sufficient and the clamped workpiece can be fixed steplessly and in any practical working position.

Clamping pressure:	1470 N
Clamping width:	70 mm
Clamping depth:	38 mm
Jaw width:	50 mm



Position as shown:  
ca. 310 x 160 x 75 mm  
(dimensions for orientation)



Total weight: 1450 g

9-205

## SPANNFIX STANDARD – PRODUCT VARIANTS

### ► 9-215

#### Ball joint vice SPANNFIX for SCREWING ON



The SPANNFIX 9-215 is suitable for all workbenches and surfaces due to its screw-on base. The vice can be attached to any table top using the four through holes (Ø 9 mm). A small pressure of the lever is sufficient and the clamped workpiece can be fixed steplessly and in any practical working position.

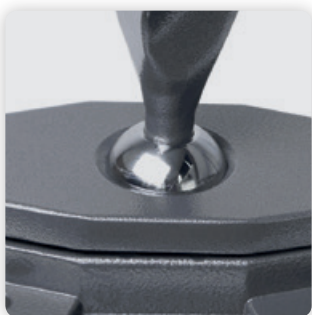
Clamping pressure: 1470 N  
Clamping width: 70 mm  
Clamping depth: 38 mm  
Jaw width: 50 mm



Position as shown:  
ca. 220 x 160 x 115 mm  
(dimensions for orientation)



Total weight: 1310 g



Also available in ESD:  
9-215 ESD



9-215

### ► 9-205 ESD

#### ESD ball joint vice SPANNFIX for CLAMPING ON, dissipative



The SPANNFIX 9-205 ESD with dissipative powder coating is suitable for workbenches or work areas with a maximum table top thickness of up to 80 mm. The small vice with ball joint is quick and easy to attach to any workbench or table top due to its table clamp. A small pressure of the lever is sufficient and the clamped workpiece can be fixed steplessly and in any practical working position.

Clamping pressure: 1470 N  
Clamping width: 70 mm  
Clamping depth: 38 mm  
Jaw width: 50 mm  
Bleeder resistor:  $10^6 - 10^9$  Ohm



Position as shown:  
ca. 310 x 160 x 75 mm  
(dimensions for orientation)



Total weight: 1450 g



with grounding point

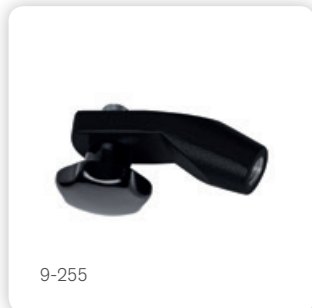
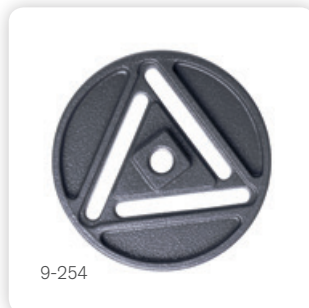
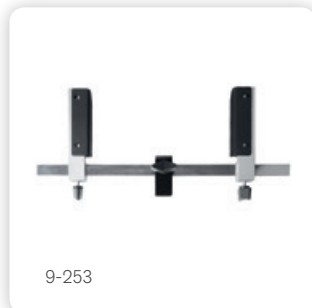


9-205 ESD

## SPANNFIX VARIO – PRODUCT VARIANTS

### ► 9-250

Ball joint combination SPANNFIX VARIO 5 pcs



The three VARIO sets differ in the number of their replaceable SPANNFIX heads. The basic equipment includes the base with a table clamp as well as an adapter for holding the circuit board holder. The sets 9-250 and 9-240 include the simple angular adapter, while the 9-270 includes the practical quick turning device. The SPANNFIX 9-250 VARIO is additionally supplied with the SPANNFIX clamping head and a universal clamping plate. Due to their table clamping, all sets are can be attached quickly and easily to any workbench or plate. A small pressure of the lever is all it takes to fix the head in any position.



### ► Description of the individual parts (for 9-250, 9-240, 9-270)

Art.-No.	Description
9-251	Ball joint base SPANNFIX for clamping on (threaded pin 12 mm)
9-252	Screw head SPANNFIX for screwing on (M12 x 1,5)
9-253	Circuit board holder for screwing on (M12 x 1,5)
9-254	Universal clamping plate SPANNFIX for screwing on (M12 x 1,5)
9-255	Angular adapter SPANNFIX for screwing on (M12 x 1,5)
9-256	Clamping lid SPANNFIX equipment for Art.-No. 9-253
9-257	Quick turning device SPANNFIX equipment for Art.-No. 9-253



Position as shown:  
ca. 310 x 160 x 75 mm  
(dimensions for orientation)

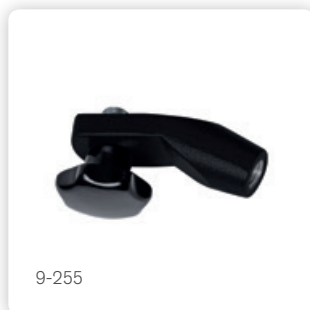
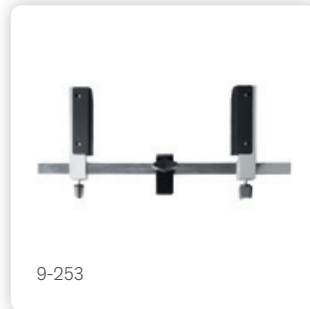


Total weight: 2100 g

## SPANNFIX VARIO – PRODUCT VARIANTS

### ► 9-240

Ball joint combination SPANNFIX VARIO 3 pcs



9-240



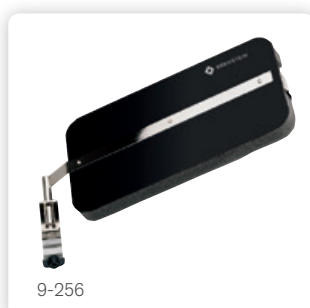
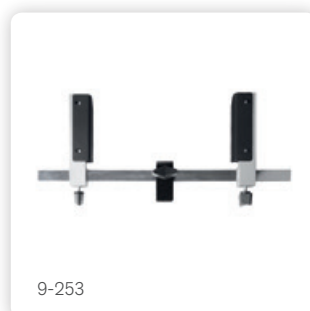
Position as shown:  
ca. 360 x 280 x 180 mm  
(dimensions for orientation)



Total weight: 1330 g

### ► 9-270

Ball joint combination SPANNFIX VARO-PLUS 4 pcs



9-270



Position as shown:  
ca. 410 x 300 x 240 mm  
(dimensions for orientation)



Total weight: 1560 g

## SPANNFIX – BASES

The variable SPANNFIX bases enable exact and safe positioning in all directions, e.g. of sensors, measuring devices, monitors and surveillance cameras. **The angle of inclination is  $\pm 45^\circ$ .**  
The ESD versions have a conductive black surface with a **bleeder resistor between  $10^7$  and  $10^8$  Ohm**.



### ► SPANNFIX base with ball joint and threaded pin M12 x 1.5 for CLAMPING ON

<b>9-251</b>	Colour: dark grey metallic, surface structured
<b>9-251 ESD</b>	Colour: ESD black, smoot surface, silky-gloss
<b>9-251 SW</b>	Colour: black, surface fine structured, matt
	Threading pin with self-locking nut: M 12 x 1.5
	Threading pin length: 12 mm
	Weight: 940 g



9-251

9-251 ESD

### ► SPANNFIX base with ball joint and threaded pin for SCREWING ON

<b>9-261</b>	Colour: dark grey metallic, surface structured
<b>9-261 SW</b>	Colour: black, surface fine structured, matt
<b>9-261 ESD</b>	Colour: ESD black, smoot surface, silky-gloss
	Base plate size: 150 x 105 mm
	Threading pin with self-locking nut: M 12 x 1.5
	Threading pin length: 12 mm
	Through holes: $\varnothing$ 9 mm
	Weight: 800 g



9-261

9-261SW

<b>9-262</b>	Colour: dark grey metallic, surface structured
<b>9-262 SW</b>	Colour: black, surface fine structured, matt
	Base plate size: 150 x 105 mm
	Threading pin with self-locking nut: M 12 x 1.5
	Threading pin length: <b>extra long 25 mm</b>
	Intake area: $\varnothing$ 40 mm
	Through holes: $\varnothing$ 9 mm
	Weight: 850 g



9-262

9-262 SW

<b>9-281</b>	Colour: dark grey metallic, surface structured
<b>9-281 SW</b>	Colour: black, surface fine structured, matt
<b>9-281 ESD</b>	Colour: ESD black, smoot surface, silky-gloss
	Base plate size: 110 x 72 mm
	Bore size: $\varnothing$ 6 mm
	Threading pin with self-locking nut: M12 x 1,5
	Threading pin length: 12 mm
	Weight: 650 g



9-281

9-281SW

### ► SPANNFIX base with ball joint and threaded pin with magnetic feet

NEW

<b>9-284 SW</b>	Colour: black, surface fine structured, matt
	Base plate size: 110 x 72 mm
	Magnet size: $\varnothing$ 20 mm
	Threading pin with self-locking nut: M12 x 1.5
	Threading pin length: 12 mm
	Holding force with plastic caps (without caps): 15 kg (32 kg)
	Shearing force with plastic caps (without caps): 7 kg (15 kg)
	Weight: 750 g



9-284 SW

## SPANNFIX – HEADS

Different SPANNFIX head parts can be combined and connected with the base parts via a M12 x 1.5 screw connection.

### ► SPANNFIX head for SCREWING ON

<b>9-252</b>	Colour: dark grey metallic, surface structured
<b>9-252 ESD</b>	Colour: ESD black, smoot surface, silky-gloss
	Clamping pressure: 1470 N
	Clamping width: 70 mm
	Clamping depth: 38 mm
	Jaw width: 50 mm
	Weight: 560 g



9-252



9-252 ESD



### ► 9-253 ESD

#### ESD circuit board holder for SCREWING ON (M12 x 1.5) dissipative

Plastic parts ESD, steel parts nickel-plated
Mounting: fixed clamping fit due to built-in spring
Clamping width: up to 270 mm
Height of support rods: 70 mm
Weight: 280 g



9-253 ESD



### ► 9-254

#### Universal clamping plate SPANNFIX for SCREW ON (M12 x 1.5)

Colour: dark grey metallic, surface structured
Slots worked out for common standard screws for the assembly of prototypes or for holding e.g. tuners, line transformers, etc.
Weight: 95 g



9-254

### ► 9-255 ESD

#### ESD angular adapter SPANNFIX for SCREWING ON (M12 x 1.5), dissipative

Colour: ESD black, smoot surface, silky-gloss
For extending the turning radius when using Art.-No. 9-253
Weight: 95 g



9-255 ESD



### ► 9-256

#### Clamping lid SPANNFIX equipment for 9-253 ESD, dissipative

Surface chrome-plated, plastic and ESD foam
Clamping lid size: 240 x 130 mm
Components of different sizes are pressed on by the conductive foam of 20 mm in such a way that soldering is even possible after turning the circuit board holder.
Weight: 260 g



9-256

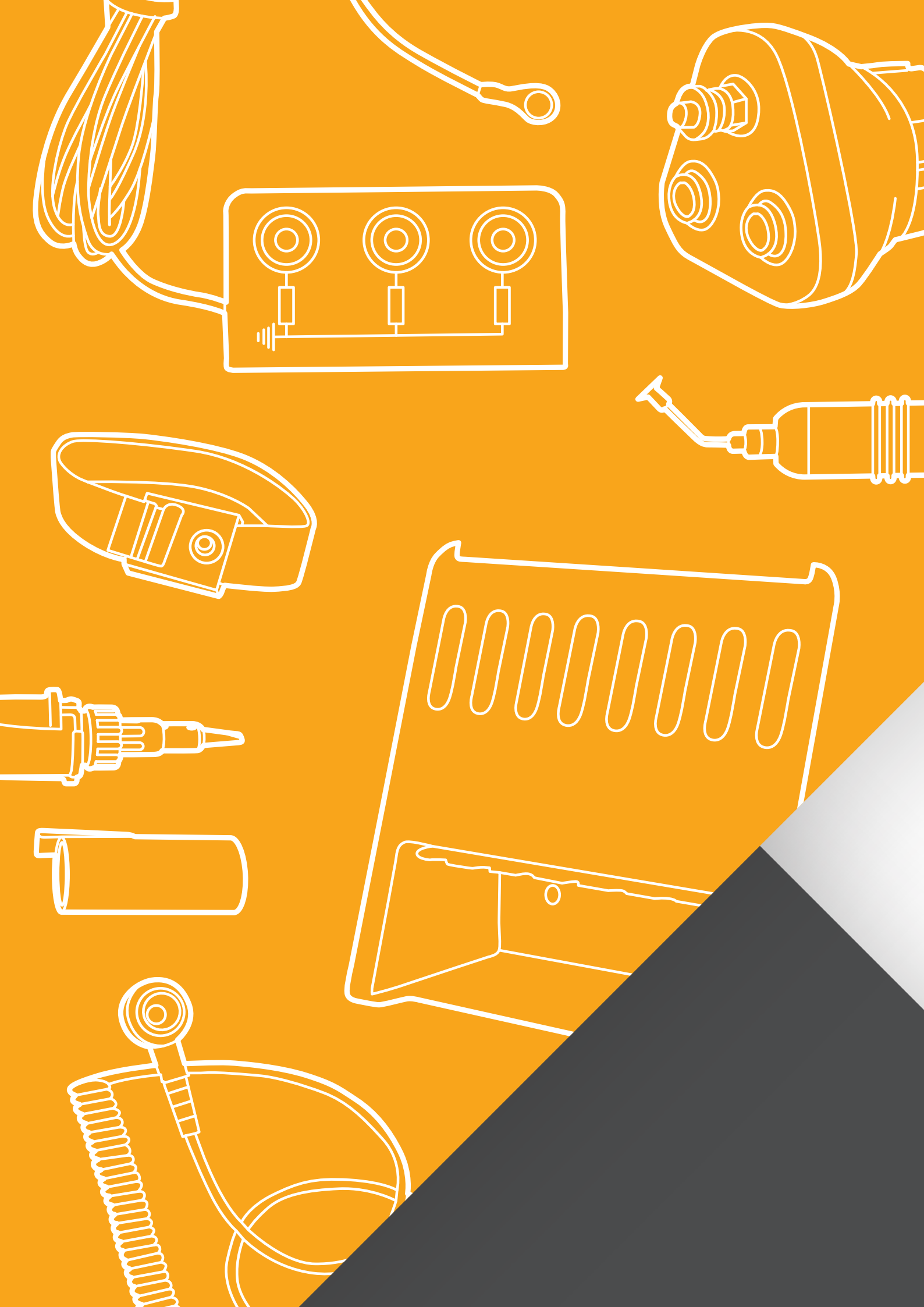


9-257 ESD

### ► 9-257 ESD

#### ESD quick turning device SPANNFIX equipment for 9-253, dissipative

Colour: ESD black, smoot surface, silky-gloss
With fixed angular adapter, enables fast rotation of board holder with board and cover plate by 180°.
Weight: 270 g



## WORKPLACE EQUIPMENT – FOR GOOD AND SAFE WORKING

On the following pages we offer various products to equip a well-assorted and safe workplace.

For further information on the topic ESD and safety at the workplace, please also read the chapter „ESD - the Invisible danger“ in the front part of the catalogue. Here you will find an overview of leakage resistors, symbol explanations and other important information.



## HOW YOU SET UP YOUR WORKPLACE IN A ESD-SECURE WAY

### STATIONARY WORKPLACE - WORK IN THE EPA AREA

An ESD-safe workplace is indispensable in order to safely and properly carry out work and measurements on electrostatically sensitive components.

In fixed installations, such as in EPAs (electrostatic discharge protected areas), all elements that come into contact with people and components should be electrostatically conductive.

Foot mats, workplace pads, large assemblies and personnel grounding are earthed by so-called earth bonding plugs, while it is important to pay attention to ESD logos for clothing and tools.

### MOBILE WORKPLACE - WORK ON THE ROAD

It doesn't happen often that fully assembled components or assemblies can be handled, repaired or serviced in ESD protected areas. This is where so-called ESD workplaces are needed.

The traditional mobile workplace (also called a handling set) consists of a workplace pad, a wrist band for grounding of personnel and an earthing cable with a earthing plug.

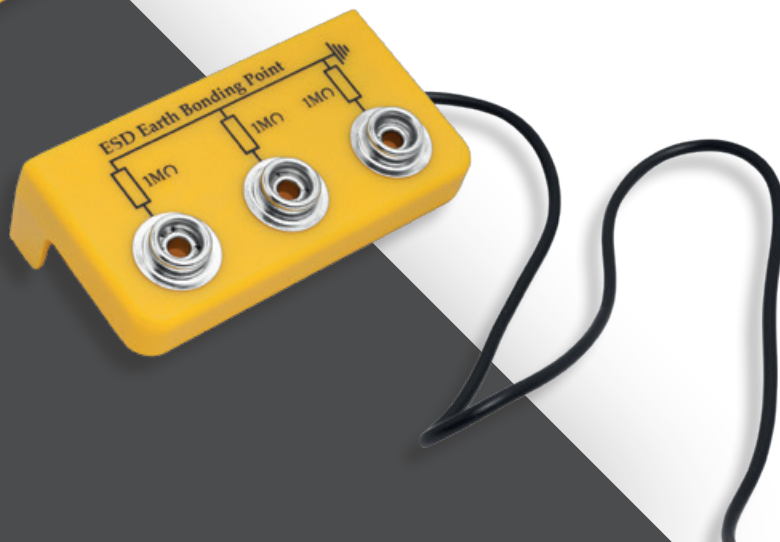
If there are no plug sockets available, the earthing cable can also be attached to grounded metal surfaces using a crocodile clip.

When properly set up, static electricity is discharged via the mat. But when using this method, it is important to make sure that the hand-to-earth resistance is less than  $3.5 \times 10^7$  ohms.

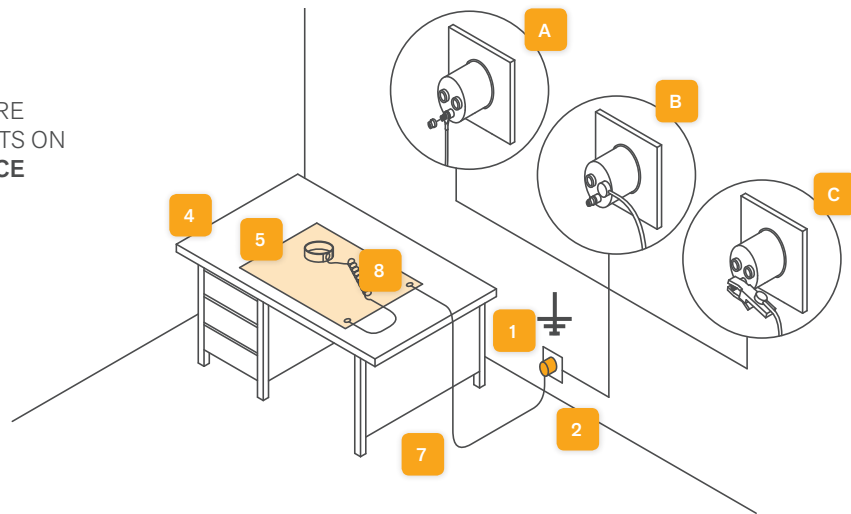
### MAINTENANCE AND CLEANING

Grounding connections, mats and earthing plugs should be inspected on a weekly basis and wrist bands every day.

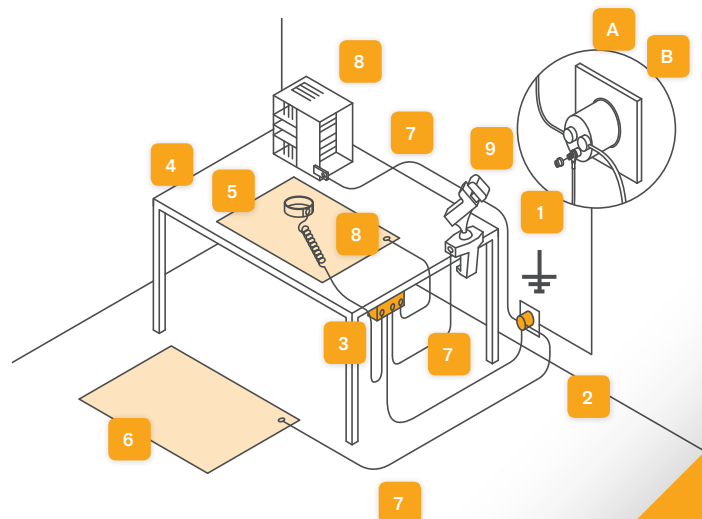
Special cleaning agent must be used when cleaning them as conventional household products may leave behind an insulating coating.



### CORRECT STRUCTURE OF THE COMPONENTS ON MOBILE WORKPLACE



### CORRECT STRUCTURE OF THE COMPONENTS ON STATIONARY WORKPLACE



Explanations to the graphics:

COMPONENTS	SUITABLE ARTICLES FROM BERNSTEIN
1 grounding point	—
2 earthing plugs	9-359, 9-359-2 (für EU-Steckdosen)
3 earthing module	9-359-1
4 workplace	—
5 working mat	9-354, 9-360, 9-361, 9-367, 2291, 2301
6 floor mat	9-361, 9-367
7 earthing cables	9-343-1, 9-344-1, 9-359
8 personal grounding/bracelet	9-341, 9-342
9 Components and devices	z. B. 9-205 ESD (page 36)

Our workplace requirements  
can also be used as  
shelf supports

### EARTH VARIANTS AT THE EARTH PLUG

- A by thread
- B by button
- C by clip

On the following pages you  
will find an overview and  
more detailed information on  
suitable products.

## GROUNDING-, EARTH BONDING POINT



EPA suitable. For working in electrostatically protected areas (ESD workplace / ESD protection zone).

### ► 9-359-1

NEW

#### ESD earth bonding plug 3 x 10 mm with cable and eyelet

- EPB earth bonding point
- for table screw connection, angled (incl. 2 screws)
- as a ground connection point for personal grounding
- cable length 2 m with 4 mm loop
- 3 x 1 MOhm safety resistance, 10 mm press buttons

Weight: 45 g



9-359-1

### ► 9-359-2

NEW

#### ESD earth bonding plug 2 x 1 MOhm and M5 connection

- EPB earth bonding point
- Earthing plug with cable for EU sockets
- as a ground connection point for personal grounding
- ESD earth bonding plug 2 x 1 MOhm and M5 connection, 10 mm press buttons
- 1 x screw connection M5 for 4 mm eyelet
- suitable cable: 9-343-1, 9-344-1

Weight: 33 g



9-359-2

### ► 9-359

#### ESD Erdungsstecker 1 x 10 mm und Blindstecker

- Earthing plug with cable for EU sockets
- schuko socket
- 1 Mohm safety resistance
- press buttons 10 mm
- spiral cable 2.4 m long

Weight: 5 g



9-359

### ► 9-353

#### ESD crocodile clip 1 x 10 mm

- with banana plug socket, 10mm press button
- press buttons 10 mm

Weight: 18 g



9-353

### ► 9-343-1

#### ESD grounding cable 2 x 10 mm connection

- for connection between table and floor coverings and for connection to an earth potential.
- with 1 megaohm safety resistance
- 2 press buttons 10 mm for mats or floor connection
- cable length 1.8 m

Weight: 40 g



9-343-1

### ► 9-344-1

NEW

#### ESD grounding cable 1 x 10 mm with eyelet 4 mm

- for connection between table and floor coverings and for connection to an earth potential
- with 1 megaohm safety resistance
- 1 flat press button 10 mm for mats or floor connection
- 1 eyelet for M5 thread at the socket ground
- cable length 1.8 m

Weight: 40 g



9-344-1

## CONTACT BRACELET, CABLE AND SETS



Wrist grounding, as a safe method to derive electrostatic charge from people, consists of an adjustable wrist strap with woven silver-plated synthetic fibers (close skin contact necessary) and a spiral cable which connects the wristband with the earthing point via press buttons, electrically dissipative.

The coiled cable has a safety resistance of 1 MOhm on each connection side and is approved for workplaces with a rated voltage up to 250 VAC. To ensure adequate insulation, the bracelet may only be stored in a dry place.

### ► 9-341-1 **NEW** 9-342-1

#### ESD contact bracelet

- EPA suitable. For working in electrostatically protected areas (ESD workplace / ESD protection zone)
- meets the safety requirements for wrist grounding standard
- fit for 3-4 mm press button
- adjustable, anti-allergic, washable
- belt length 220 mm

Weight: 9 g

Art.-No.	Colour
9-341-1	yellow
9-342-2	blue, LGA tested according to BG / 818



9-341-1



9-341-2

### ► 9-341-2 **NEW** 9-342-2

#### ESD highly elastic spiral cord for bracelet 2.4 m

- EPA suitable. For working in electrostatically protected areas
- 2 x 1 megaohm safety resistance
- 3 mm press button for wrist strap
- 10 mm press button for ground connection
- length 2.4 m

Weight: 25 g



9-341-2



9-342-2

### ► 9-342 / 9-341 **NEW**

#### ESD contact bracelet with spiral cord and crocodile clip

- EPA suitable. For working in electrostatically protected areas (ESD workplace / ESD protection zone)
- bracelet adjustable, anti-allergic, washable
- belt length 220 mm
- press buttons 3-4 mm for wrist strap and 10 mm for ground contact connection
- highly elastic 2.4 m long spiral cable
- 2 x 1 megohm safety resistor
- insulated crocodile clip for grounding with clamp connection

Weight: 60 g



9-342



9-341

Art.-No. set	9-341	9-342	9-343
bracelet	9-341-1 (yellow)	9-342-1 (blue)	—
cable	9-341-2	9-342-2	9-343-1
crocodile clip	—	9-353	9-353

## ESD GROUNDING MATS AND HANDLING SETS



NEW

EPA suitable. For working in electrostatically protected areas (ESD workplace / ESD protection zone).

### ► 9-354-100

#### ESD table mat 500 x 400 x 0.5 mm with 2 press buttons

Dissipative  $10^8$  Ohm, surface resistance according to DIN IEC 61340-4-1  
with 2 x 10 mm press buttons, for connection to an earthing plug,  
ideal for service work and mobile use  
Weight: 130 g



9-354-100

### ► 9-360-0

#### ESD table mat black 900 x 610 x 1.5 mm

technical data: Abrasion (load: 5N)  $130 \text{ mm}^3$ , hardness 80 Shore A, impression test 0.1 mm, temperature range of application - up to + 60°C, ESD mat suitable for table, shelf or floor  
resistance  $10^6$  to  $10^7$  ohm (back side  $10^3$  to  $10^4$  ohm), top and back side black electrostatically synthetic rubber, with 2 press buttons 10 mm for ground connection, extremely wear-resistant, permanently elastic, halogen free  
Weight: 1000 g



9-360-0

### ► 9-367-0

#### ESD table mat grey 610 x 450 x 2 mm

technical data: Abrasion (load: 5N)  $130 \text{ mm}^3$ , hardness 78 Shore A, impression test 0.1 mm, light reflectance 19 % - 29 %, temperature range of application - up to + 60°C,  
resistance  $10^6$  to  $10^7$  ohm (back side  $10^3$  to  $10^4$  ohm), Platinum gray on top, black back of electrostatically dissipative synthetic rubber, with 2 press buttons 10 mm for ground connection, solder-resistant workplace support, heat resistant, abrasion resistant, scratch proof, extremely wear-resistant, permanently elastic, halogen free  
Weight: 700 g

9-367  
9-361-0

### ► 9-361-0

#### ESD table mat grey 900 x 610 x 2 mm

technical data: Abrasion (load: 5N)  $130 \text{ mm}^3$ , hardness 78 Shore A, impression test 0.1 mm, light reflectance 19 % - 29 %, temperature range of application - up to + 60°C,  
resistance  $10^6$  to  $10^7$  ohm (back side  $10^3$  to  $10^4$  ohm), Platinum gray on top, black back of electrostatically dissipative synthetic rubber with 2 press buttons 10 mm for ground connection, solder-resistant workplace support, heat resistant, abrasion resistant, scratch proof, extremely wear-resistant, permanently elastic, halogen free  
Weight: 1400 g

9-367  
9-361-0

All our mats are also available in practical sets:

Art.-Nr. Set	NEW		NEW		NEW		
	9-354	9-354-A	9-360	9-360-A	9-361	9-361-A	9-367
grounding mat	9-354-100	9-354-100	9-360-0	9-360-0	9-361-0	9-361-0	9-367-0
bracelt with spiral cord	9-342 (blue)	9-341 (yellow)	9-342 (blue)	9-341 (yellow)	9-342 (blue)	9-341 (yellow)	—
grounding cable	9-343-1	9-341-1	9-343-1	9-344-1	9-343-1	9-344-1	—
crocodile clip	9-353	—	9-353	—	9-353	—	—
grounding plug / earth bonding point	—	9-359-2	—	9-359-2	—	9-359-1 9-359-2	9-359

## ESD MOBILE WORKING MAPS

p. 152

tool sets



### ► 2301

#### ESD dissipative workplace pad with 20 tool loops

Dissipative workplace pad with 20 tool loops for various uses.

The foldable tool folder made from ESD material also serves as an electrically dissipative workplace pad and, when unfolded, is 680 x 660 x 35 mm. The bleeder resistance is approx. 10<sup>8</sup> ohms in accordance with DIN 53482. **The workplace pad is equipped with 3 press studs for connecting a contact wrist band and an earthing cable.** The tool folder can be closed with two additional press studs and used as a tool wallet. The large support surface (660 x 435 mm) offers enough space to handle sensitive electronic components safely. For transport, the bag can be quickly folded to a handy size.

locating surface: 660 x 435 mm

Weight: 525 g



2301

### ► 2291

#### ESD dissipative workplace pad with 22 tool loops

A foldable tool bag with integrated work surface for various ESD applications. Handy tool flap pocket made of dissipative synthetic leather. The bag has a total of 22 rubber loops for holding tools and other parts. Thanks to the new design, the tool area can be set up with a Velcro loop, which significantly improves access to the tools. **The bag has two press studs that can be connected to a wrist strap and an earthing cable (included), which allows each workstation to be converted to an ESD workstation.** The large support surface (480 x 340 mm) offers enough space to safely handle sensitive electronic components. For transport, the bag can be quickly folded to a handy size and closed with a rubber band.

locating surface: 480 x 340 mm

Weight: 480 g



2291  
Code scannen  
für Produktfilm

## DESOLDERING SUCTION PUMPS

### ► 8-390

#### desoldering suction pump PRAKTIK Ø 20 mm

Handy device in all-metal housing with replaceable Teflon tip,  
high suction power due to 2-fold sealing of the piston,  
Total length: 200 mm, Weight: 71 g



8-390

### ► 8-238

#### SMD vacuum pipette Vampir

for simple, safe and precise handling of SMD components,  
complete with angled suction nozzle and 3 suction cups 4, 6 and 9 mm (conductive)  
Total length: 150 mm, Weight: 60 g



8-238

## GAS SOLDERING IRON

### ► 8-376

#### gas soldering iron butane lighter gas

GAS soldering iron is perfect for all mobile applications. The soldering iron is ignited by a piezo-electronic system. The on/off switch is marked with 1-0, the ignition switch is marked with a lightning. Soldering, hot air or hot knife by the placement of different soldering tips possible. with soldering tip width 2 mm, power infinitely variable 15 - 75 W, operating time 45 minutes. Housing antistatic, tip temperature up to soldering: 580°C  
Total length: 150 mm, Weight: 60 g



8-376

## ESD HELPINT TOOLS AND ORGANIZER



EPA suitable. For working in electrostatically protected areas (ESD workplace / ESD protection zone).

### ► 5-090-0

#### ESD tool holder VARIO tronics (without tools)

For more tidiness in the workplace!

The practical VARIO tronics tool holder is made of sturdy 1.5 mm sheet steel and has a high-quality, dissipative black powder coating. In addition to pliers and tweezers, it can also store our handy screwdrivers or round objects with a maximum diameter of 9 mm. The recess in the lower area allows the blades or tips of the tools to be quickly identified and selected. The locking aid at the rear edge additionally helps to hold each tool in position. Small noses on the upper edge of the suspension rail prevent pliers or tweezers from slipping down. The tool holder can be placed on a surface as well as hung. Two holes on the rear side allow easy mounting to the wall.

Weight: 400 g

p. 72

VARIOsets



5-090-0

### ► 7-421

#### ESD brush bristles Ø 6 mm

Total length 147 mm,

Weight: 9 g



7-421

### ► 7-422

#### ESD brush bristles width 20 mm

Total length 150 mm,

Weight: 26 g



7-422

#### ESD boxes for SMD components (PU10)

storage box for microprocessors, boards, chips, etc.

conductive  $10^2$  to  $10^5$  ohm, to stick together

lid with spring mechanism, known as „mouse toilet“

Art.-No. set	9-321-VE10	9-322-VE10	9323-VE10
inner dimension	16 x 12 x 15 mm	37 x 12 x 15 mm	41 x 37 x 15 mm
Weight	5 g	10 g	15 g



9-321-VE10



9-322-VE10



9-323-VE10

### ► 9-316-VE5

NEW

#### ESD Chip-Container (VE5)

storage box for microprocessors, boards, chips, etc.

conductive  $10^2$  to  $10^5$  ohm, with conductive foam insert

Inner dimension 57 x 36 x 17 mm, Weight: 15 g



9-316-VE5  
57 x 36 x 17 mm

### ► 9-334

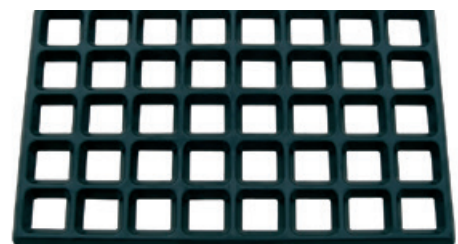
#### ESD assembly grid mat

material natural rubber, electrically conductive  $10^3$  bis  $10^4$  Ohm

tough mat as a stress-relieving tray, for SMD repairs

printed circuit boards (PCBs) or devices,

dimension 610 x 370 x 20 (cell size 50 x 45 mm), Weight: 3200 g



9-334

## STEREO MICROSCOPES

Our microscopes are particularly suitable for the reliable inspection of material and assembly details as well as for the finest work in SMD technology.

### ► 9-155

#### stereo microscope with a stable

Stereo microscope with a stable metal tripod for incident light illumination. The field of view at a magnification of 10 x is 19 mm in diameter. The LED ring illumination has a bright, shadow-free incident light with a luminous colour of 5,800 K. The brightness can be steplessly adjusted between 0 and 15,000 lux.

#### CHARACTERISTICS

<b>table stand</b>	200 x 150 mm
<b>magnification</b>	10 x / 20 x expandable by attachable lenses up to 40 x
<b>eyepieces wide field</b>	10 x ocular tube left with diopter adjustment of + - 5 dpt, eyepiece cup
<b>stereo head 45°</b>	oblique view, 360° rotatable adjustable eye distance of 54 - 74 mm
<b>Weight</b>	5300 g



9-155

### ► 9-158

#### stereo microscope with stable hinge arm 850 mm length

Stereo microscope with stable metal tripod for incident light illumination. The field of view at a magnification of 10 x is 19 mm in diameter. The LED ring illumination has a bright, shadow-free incident light with a light colour of 5800 K. The light is illuminated by a LED ring. The brightness is continuously adjustable between 0 and 15000 lux.

#### CHARACTERISTICS

<b>equipment</b>	with stable table clamp and screw-on table base, Joint arm with 3 locking screws
<b>magnification</b>	10 x / 20 x expandable by attachable lenses up to 40 x
<b>eyepieces wide field</b>	10 x ocular tube left with diopter adjustment of + - 5 dpt, eyepiece cup
<b>stereo head 45°</b>	oblique view, 360° rotatable adjustable eye distance of 54 - 74 mm
<b>Weight</b>	5300 g



9-158

### ► 9-158-1

#### stereo microscope conversion lens 0,5

Lens with a factor of 0.5 increases the working distance from 83 mm to 100 mm.

## INDUSTRIELLE LED-MAGNIFYING LAMPS

Optimum illumination according to the most modern, economical standard. The closed construction makes it a ideal instrument for mechanical, electronic, or other precision applications as well as for the printed circuit board, dental and jewellery industries.

Therefore, the highest value is placed on the light quality of the magnifier luminaires. They have powerful light sources with excellent luminous efficacy.

The quality and precise positioning of the light sources in relation to the lens allows almost shadow-free magnification and excellent colour rendering. The crown-glass-lens has a lower refractive index than magnifier luminaires with plastic lenses. It reduces the loss of light transmission through the lens, resulting in less image distortion.

The three-dimensional function is particularly useful for inspections and rework on printed circuit boards and similar delicate objects.

The loupes are specially designed to maximize horizontal and vertical movements. They are characterized by a considerable horizontal action radius and always maintain the correct position without drifting off. Exact positioning is possible thanks to the flexibility of the self-balancing arm and the joint between the lamp head and the arm.

WAVE and LFM with automatic switch-off function for more energy efficiency.

5 years warranty, delivery with dust cover and EU plug.

The following types are available:

CHARACTERISTICS	NEW			
	9-121	9-161	9-101	9-721
glass lens	3.5 dioptries (1,88x magnification)	5 dioptries (2.25x magnification)	3 dioptries (1.75x magnification)	2x 1.75 and 2.25 magnification
LED module	2 x 6W	2 x 6W	1 x 10W	ring with 9W
3 step dimmer	0-50-100%	0-50-100%	0-50-100%	—
focal length	297 mm, 4600 lux	297 mm, 4600 lux	330 mm, 1500 lux	6000 lux up to 15 cm ultra light led
colour temperature (CCT)	4000°K	4000°K	4000°K	6500°K
colour rendering index (CRI)	Ra 80	Ra 80	Ra 80	Ra 80
crown glass	rectangular 171 mm x 114 mm	rectangular 171 mm x 114 mm	round Ø 127 mm	—
power	13 W	13 W	11 W	7.2 W
voltage	230 V / 50 Hz	230 V / 50 Hz	230 V / 50 Hz	230 V / 50 Hz
shutoff	automatically after 4 or 9 hours	automatically after 4 or 9 hours	automatically after 4 or 9 hours	—
arm length	1050 mm	1050 mm	1000 mm	950 mm
colour	white	black	white	white
weight	4400 g	4600 g	2000 g	3000 g
expandable	Secondary attachment lenses (STAYS) with 4, 6 or 10 diopters can be attached to the crown glass lens. (STAYS: Self-Traction Accessory Yield System)			—

## INDUSTRIAL LED MAGNIFYING LAMPS

### ► 9-121

#### LED magnifying lamp WAVE 3.5 dioptries

Flexible, self-balancing steel light arm, with aluminium head and table clamp (AH clamp). Efficient, dimmable, shadow-free 3D illumination, selectable LED left/right illumination. High-quality crown glass lens for maximum clarity, precision and visual comfort.

Industrial magnifier luminaires with powerful light sources and optimum illumination according to the latest economic standards. The quality and precise positioning of the light sources in relation to the lens enable almost shadow-free magnification. The crown glass lens has a lower refractive index than magnifier luminaires with plastic lenses, and reduces light transmission loss, resulting in less image distortion. Exact positioning is possible thanks to the flexibility of the self-balancing arm and the joint between the luminaire head and the arm. 5 year warranty, supplied with dust cover and EU plug.



9-121

### ► 9-161

#### ESD LED magnifier light WAVE 5 dioptries

Flexible, self-balancing steel light arm, with aluminium head and table clamp (AH clamp). Efficient, dimmable, shadow-free 3D illumination, selectable LED left/right illumination. High-quality crown glass lens for maximum clarity, precision and visual comfort.

Industrial magnifier luminaires with powerful light sources and optimum illumination according to the latest economic standards. The quality and precise positioning of the light sources in relation to the lens enable almost shadow-free magnification. The crown glass lens has a lower refractive index than magnifier luminaires with plastic lenses, and reduces light transmission loss, resulting in less image distortion. Exact positioning is possible thanks to the flexibility of the self-balancing arm and the joint between the luminaire head and the arm. 5 year warranty, supplied with dust cover and EU plug.



9-161

### ► 9-101

#### LED magnifying lamp LFM 3.0 diopters

Round magnifying lamp in modern lightweight construction with small dimensions, as metal construction with LED (light emitting diode) light sources and a flexible spring arm. The glass lens with a diameter of 127 mm is located in the middle of an LED light ring. This enables perfect illumination of objects for shadow-free viewing.

Applications: Excellent for precision work, including electronic rework, deburring, sample preparation, preparation, assembly and manipulation, and wherever the smallest possible magnifying lamp is required.



9-101

### ► 9-721

#### LED magnifying lamp SLIM LINE 3.0 diopters

This elegant, slim magnifier is ideal for all your detail work, with very bright Daylight LEDs. With the adjustable inner spring arm you can easily position the lamp with one hand exactly where you need the light. In addition, the bright daylight LEDs offer high contrast and accurate colour matching, making it easier and less tiring to work.

Applications: Excellent for precision work, including electronic rework, deburring, sample preparation, preparation, assembly and manipulation, and wherever the smallest possible magnifying lamp is required.



9-721



## PLIERS – THEY PERFORM WELL!

BERNSTEIN mainly offers electronics pliers for professional demands which are characterised by their consistent quality and a long service life. Our series of pliers differ from each other due to their different production methods and properties.

The EUROline, CLASSICline und BLACKline series of pliers are made from high-quality blanks which are hot forged in a die and inserted through the die. The pliers are oil hardened and the tips receive additional inductive hardening.

The TECHNICline series of pliers are cut by laser from ball bearing steel and further processed and refined in CNC machining centres, allowing us to achieve a particularly stable microstructure with enormous cutting performance.

This is why our pliers are suitable for cutting all types of wire. The tensile strength (soft, semi-hard, hard wire) is crucial for common resistance wire, solder wire, winding wire or heating wire (thermocouple wire). Particularly for copper wire, brass wire, steel wire, iron wire, aluminium wire, bond wire, tin wire, nickel wire, gold wire, silver wire, platinum wire, tungsten-copper wire, tungsten wire, glass fibre and even Kevlar.

Please note the cutting value given in the packaging of the pliers as well as the care instructions for a long service life.

## DIFFERENCES OF THE PLIERS

### MATERIALS

Depending on the model and the requirements, we use high-alloyed tool steels or high-grade ball bearing steel (chrome steel) from selected suppliers.

### CONSTRUCTION

We manufacture pliers with four different joint constructions (joint) depending on the application and design of the pliers.

#### Lap joint

The simplest form for joining the two halves of a pair of pliers is the lap joint. Here, the levers are put on top of each other and connected by a hinge pin. This construction is only used for very crude pliers.

#### Single joint

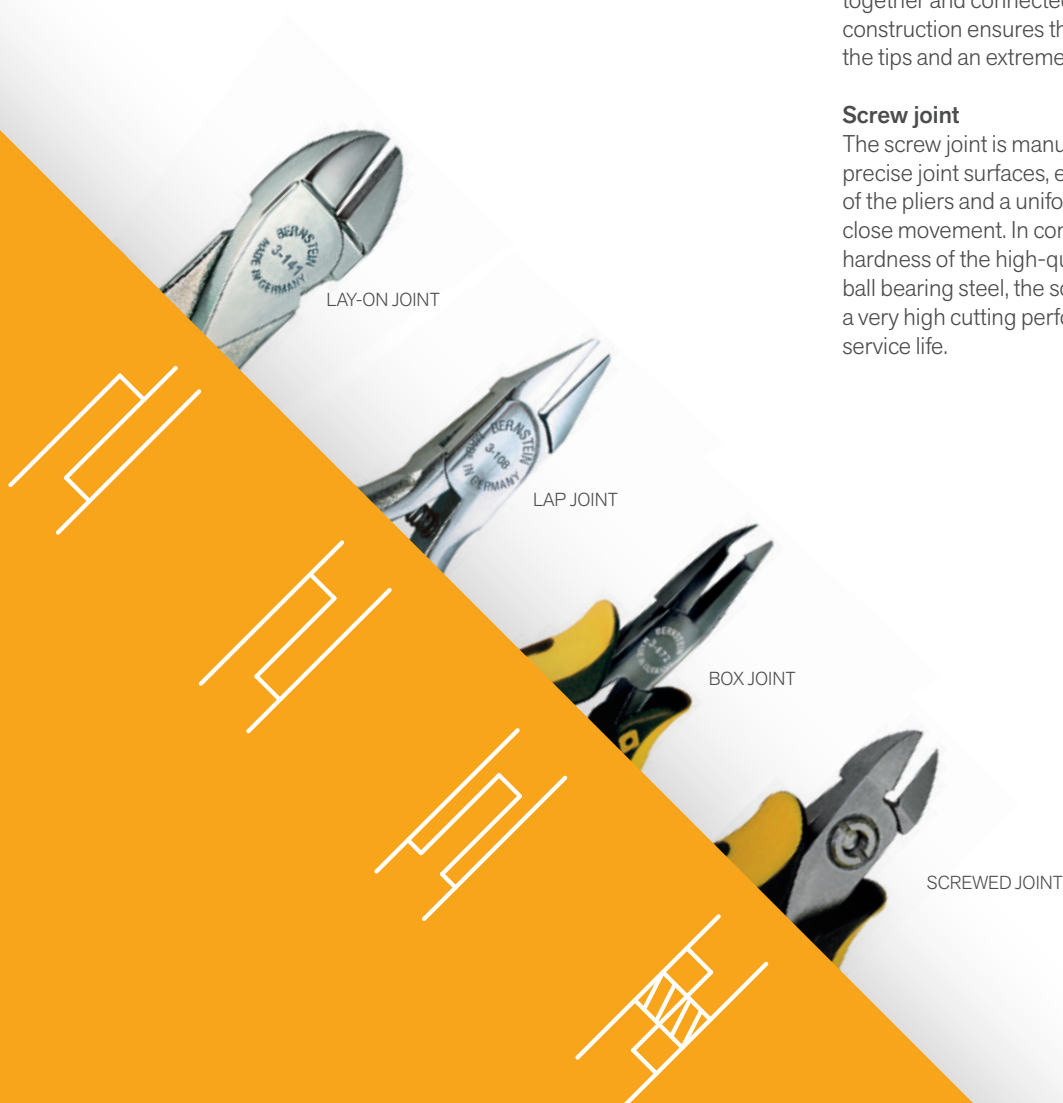
For a single joint, the joint surfaces are also milled out so that the halves fit into one another and can be connected using a hinge pin.

#### Box joint

The most complex construction is the box joint. In a very special process, one lever is passed through the joint of the other lever which is opened using heat. The joint is then pressed together and connected with a pin. This construction ensures the best parallel motion of the tips and an extremely long service life.

#### Screw joint

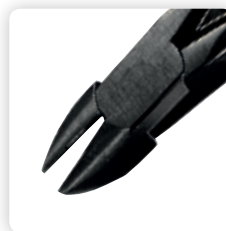
The screw joint is manufactured with highly precise joint surfaces, ensuring smooth motion of the pliers and a uniform, low-friction open-close movement. In combination with the basic hardness of the high-quality chrome-vanadium ball bearing steel, the screw design provides a very high cutting performance with a long service life.



## SURFACES

Over the decades we have developed surface properties that meet the wide ranging applications and requirements arising in daily use.

This involves properties such as corrosion protection, hardness, abrasion, spalling, smoothness and surface roughness in order to ensure the optimal work results.



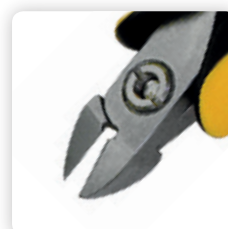
BURNISHED  
(free of glare and reflections)



HIGH-GLOSS  
STEEL POLISHED



FINE POLISHED AND  
GLOSSY BURNISHED  
(free of glare and reflections)



MATT FINISH  
(free of glare and reflections)

## CUTTING SHAPE AND CUTTING PERFORMANCE

The service life of the cutting tips depends on their sharpness. The sharper the edge (full flush) the quicker the wear. That's why semi-flush pliers are preferable as long as flush or shock-reducing cutting is not required.

### Semi flush

This can be used for hard and soft steel wires and soft materials, such as copper wire. The cut leaves a pyramid-like tip at the end of the wire.

### Flush

This provides an almost flush cut. It can be used for soft steel wires and copper wire. The cut is slightly shock reduced. It only leaves a very small tip at the end of the wire.

### Full flush

This cuts completely flush and provides an extremely sharp cut. It is used exclusively for soft steel wires and copper wire and has a largely shock-reducing cut. It cuts absolutely plane-parallel.

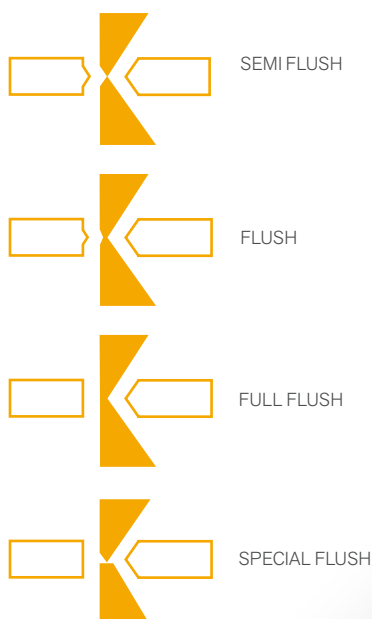
### Special flush

This is used to cut glass fibre, Kevlar, etc.

### Fitted with carbide insert

Inserted with hard metal tips, designed for constant stress. These are also for tough nickel, electrode and tungsten wires.

p. 7 Bleeder resistance



## WIRE QUALITIES AND SYMBOLS

(N/mm<sup>2</sup> = tensile strength)

- soft wire: 220 - 250 N/mm<sup>2</sup>
- ▨ medium hard wire: 750 - 800 N/mm<sup>2</sup>
- hard wire: 1600 - 1800 N/mm<sup>2</sup>
- Ⓟ Piano wire: 2200 - 2300 N/mm<sup>2</sup>

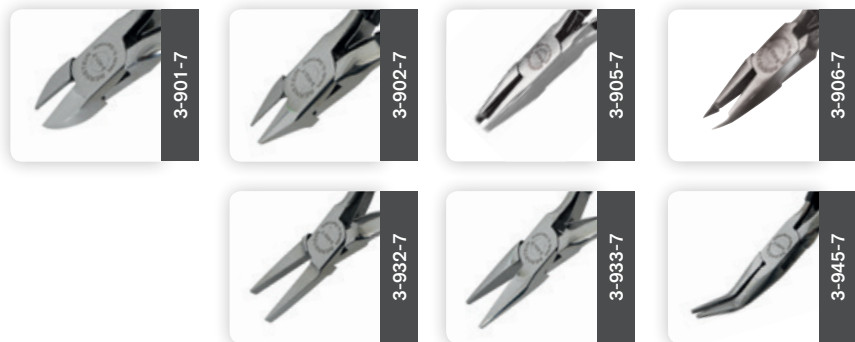
## ESD ELECTRONIC PLIERS BLACKLINE

The pliers in the BLACKline series are characterised by their dip-insulated slender grips. They benefit from a comfortable feel and the pliers do not slip when held. They give the feeling that you are working very close to the workpiece and allow you to control cutting in an optimal manner.





The slim heads are ideal for working on delicate components and feature a highly polished, corrosion-resistant surface.

The smooth, box-jointed or single-jointed construction (depending on the model) guarantees a long service life if cared for properly.

The pliers have been tested with great results in accordance with DIN EN 61340-5-1, 61340-2-1 and 61340-2-3 as well as for work in ESD protected areas.



The following types are available, specifications in mm:

Art.-No.	Short description	Type	Flush					Head width	Cutting length	Total length	Weight in g
CUTTING PLIERS											
▶ 3-901-7	ESD side cutters	–	Semi flush	1.5	1.0	0.4	–	12	10	115	65
3-902-7	ESD side cutters	–	Flush	1.5	0.8	–	–	12	10	120	65
3-905-7	ESD top cutters	–	Flush	0.8	0.6	–	–	13	3 x 20*	135	75
3-906-7	ESD end cutters	–	Flush	0.8	0.6	–	–	13	7 x 25*	125	75
HOLDING PLIERS											
									*jaw length		
▶ 3-932-7	ESD flat nose pliers	not serrated jaws	–	–	–	–	–	15	21.5	120	60
3-933-7	ESD snipe nose pliers	not serrated jaws	–	–	–	–	–	11.5	23	125	60
3-945-7	ESD snipe nose pliers	serrated jaws	–	–	–	–	–	12.5	12.5	145	85



## ► 3-960

**ESD pliers set BLACKline 4 pcs**

320 x 150 x 20 mm

Weight: 345 g

Art.-No.	Content
3-960-0	ESD dissipative bag 4 empty compartments
3-901-7	ESD side cutters BLACKline semi flush 115 mm
3-906-7	ESD end cutters BLACKline flush 125 mm
3-932-7	ESD flat nose pliers BLACKline not serrated jaws 120mm
3-933-7	ESD snipe nose pliers BLACKline not serrated jaws 125mm



3-960

## ► 3-960 VB

**ESD tool kit BLACKline VARIO 6 pcs**

150 x 145 x 80 mm

Weight: 750 g

Art.-No.	Content
5-090-0	ESD tool holder VARIO 8 slots
3-901-7	ESD side cutters BLACKline semi flush 115 mm
3-906-7	ESD end cutters BLACKline flush 125 mm
3-932-7	ESD flat nose pliers BLACKline not serrated jaws 120mm
3-933-7	ESD snipe nose pliers BLACKline not serrated jaws 125mm
5-078-13	ESD SMD universal tweezers 130mm form PSF stainless steel, dissipative
5-055-13	ESD SMD tweezers 120mm form 7a stainless steel angle 40°, dissipative



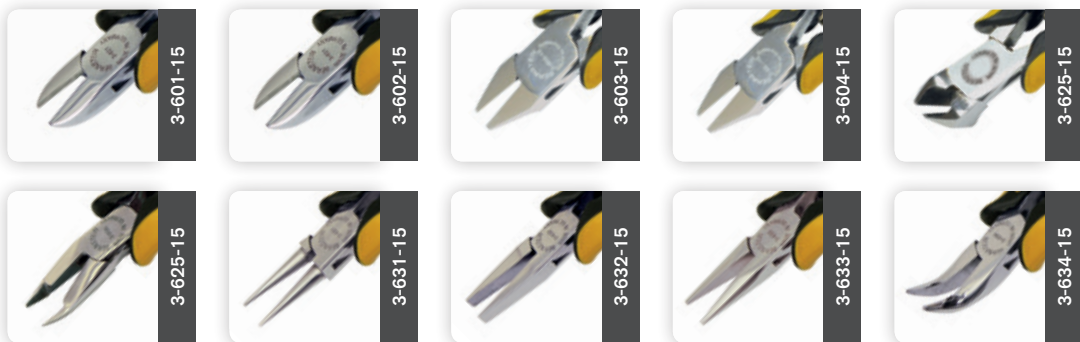
3-960 VB

## ESD ELECTRONIC PLIERS CLASSICLINE





The pliers in the CLASSICline series are characterised by their high-gloss electropolished surface, which is very resistant to corrosion, without friction and microcracks, extremely smooth and free of particles. The heads are ideal for working on small components.

The pliers sit perfectly in the hand thanks to their two-component protective covering, which is ergonomically shaped, dissipative and features an individually adjustable double leaf spring. The smooth box joint guarantees a long service life if cared for properly.

The pliers have been tested with great results in accordance with DIN EN 61340-5-1, 61340-2-1 and 61340-2-3, as well as for work in ESD protected areas.



The following types are available, specifications in mm:

Art.-No.	Short description	Type	Flush					Head width	Cutting length	Total length	Weight in g
▶ CUTTING PLIERS											
3-601-15	ESD side cutters	–	Semi flush	1.5	1.2	0.4	–	11	13	115	65
3-602-15	ESD side cutters	–	Flush	1.5	1.2	–	–	11	13	115	65
3-603-15	ESD side cutters	–	Semi flush	1.5	1.2	0.3	–	11	13	115	65
3-604-15	ESD side cutters	–	Flush	1.5	1.2	–	–	11	13	115	65
3-606-15	ESD side cutters	–	Flush	1.0	0.8	–	–	10.5	6	120	55
3-625-15	ESD oblique top cutters	–	Flush	1.5	1.2	–	–	11	11	120	90
3-627-15	ESD top cutters	–	Flush	1.5	1.2	–	–	11	11	120	90
▶ HOLDING PLIERS											
										jaw length	
3-631-15	ESD round nose pliers	not serrated jaws	–	–	–	–	–	10	20	120	55
3-632-15	ESD flat nose pliers	not serrated jaws	–	–	–	–	–	9	18.5	120	55
3-633-15	ESD snipe nose pliers	not serrated jaws	–	–	–	–	–	9.5	17.5	120	55
3-634-15	ESD snipe nose pliers	not serrated jaws	–	–	–	–	–	9.5	22.5	120	55

## ► 3-650 V

**ESD pliers set CLASSICline VARIO 5 pcs**

150 x 190 x 80 mm

Weight: 750 g

Art.-No.	Content
5-090-0	ESD tool holder VARIO 8 slots
3-601-15	ESD side cutters CLASSICline semi flush 115 mm
3-631-15	ESD round nose pliers CLASSICline not serrated jaws 120 mm
3-632-15	ESD flat nose pliers CLASSICline not serrated jaws 120 mm
3-633-15	ESD snipe nose pliers CLASSICline not serrated jaws 120 mm
3-634-15	ESD snipe nose pliers CLASSICline not serrated jaws 120 mm



3-650 V

## ► 3-960 VC

**ESD tool kit CLASSICline VARIO 6 pcs**

150 x 180 x 80 mm

Weight: 700 g

Art.-No.	Content
5-090-0	ESD tool holder VARIO 8 slots
3-601-15	ESD side cutters CLASSICline semi flush 115 mm
3-606-15	ESD side cutters CLASSICline flush 120 mm
3-632-15	ESD flat nose pliers CLASSICline not serrated jaws 120 mm
3-633-15	ESD snipe nose pliers CLASSICline not serrated jaws 120 mm
5-078-13	ESD SMD universal tweezers 130mm form PSF stainless steel dissipative
5-055-13	ESD SMD tweezers 120mm form 7a stainless steel angle 40° dissipative



3-960 VC

## ► 3-960 C

**ESD pliers set CLASSICline 4 pcs**

320 x 150 x 20 mm

Weight: 380 g

Art.-No.	Content
3-960-0	ESD dissipative bag 4 empty compartments
3-601-15	ESD side cutters CLASSICline semi flush 115 mm
3-606-15	ESD side cutters CLASSICline flush 120 mm
3-632-15	ESD flat nose pliers CLASSICline not serrated jaws 120 mm
3-633-15	ESD snipe nose pliers CLASSICline not serrated jaws 120 mm



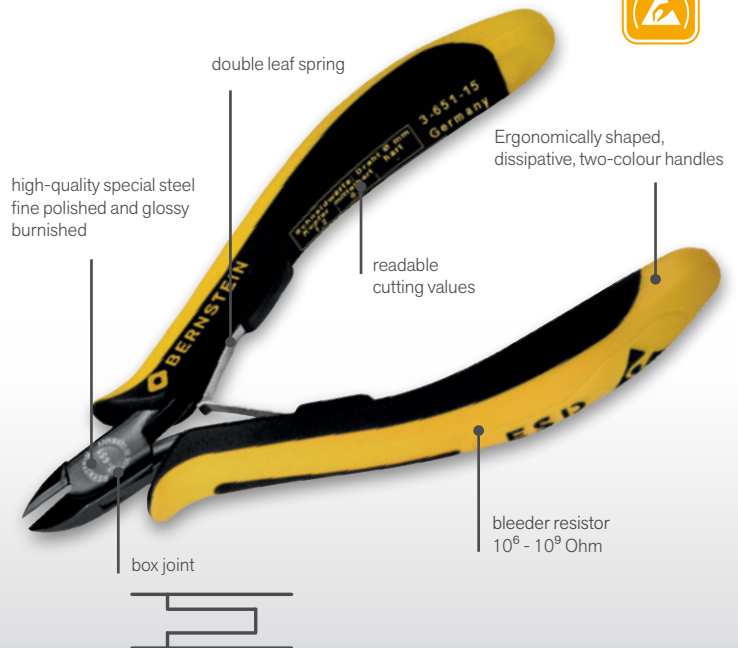
3-960 C

## ESD ELECTRONIC PLIERS EUROLINE



The pliers in the EUROline series are characterised by the precision in manufacturing. The delicate, highly precise heads are produced by hand in a series of work steps. They are highly suitable for working on the smallest components or for cutting fine, strong wires. The high-gloss burnished surface guarantees resistance to corrosion and glare-free, fatigue-free work under the magnifier or microscope. The pliers sit perfectly in the hand thanks to their two-component protective covering, which is ergonomically shaped, dissipative and features an individually adjustable double leaf spring. The smooth box joint guarantees a long service life if cared for properly.

The pliers have been tested with great results in accordance with DIN EN 61340-5-1, 61340-2-1 and 61340-2-3, as well as for work in ESD protected areas.



### ► 3-960 E

#### ESD pliers set EUROline 4 pcs

320 x 150 x 20 mm

Weight: 375 g

Also available as ESD dissipative zipper pocket Art.-No. 3-680.

Art.-No.	Content
3-960-0	ESD dissipative bag 4 empty compartments
3-651-15	ESD mini side cutters EUROline flush 120mm
3-672-15	ESD end cutters EUROline flush 130mm
3-682-15	ESD flat nose pliers EUROline not serrated jaws 130mm
3-683-15	ESD snipe nose pliers EUROline not serrated jaws 130mm



### ► 3-960 VE

#### ESD tool kit EUROline VARIO 6 pcs

150 x 90 x 80 mm

Weight: 375 g

Art.-No.	Content
5-090-0	ESD tool holder VARIO 8 slots
3-651-15	ESD mini side cutters EUROline flush 120mm
3-672-15	ESD end cutters EUROline flush 130mm
3-682-15	ESD flat nose pliers EUROline not serrated jaws 130mm
3-683-15	ESD snipe nose pliers EUROline not serrated jaws 130mm
5-078-13	ESD SMD universal tweezers 130mm form PSF stainless steel dissipative
5-055-13	ESD SMD tweezers 120mm form 7a stainless steel angle 40° dissipative



3-960 E

3-960 VE

### ► 3-960 ES

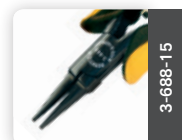
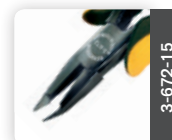
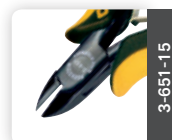
NEW

#### ESD pliers set EUROline 3 pcs

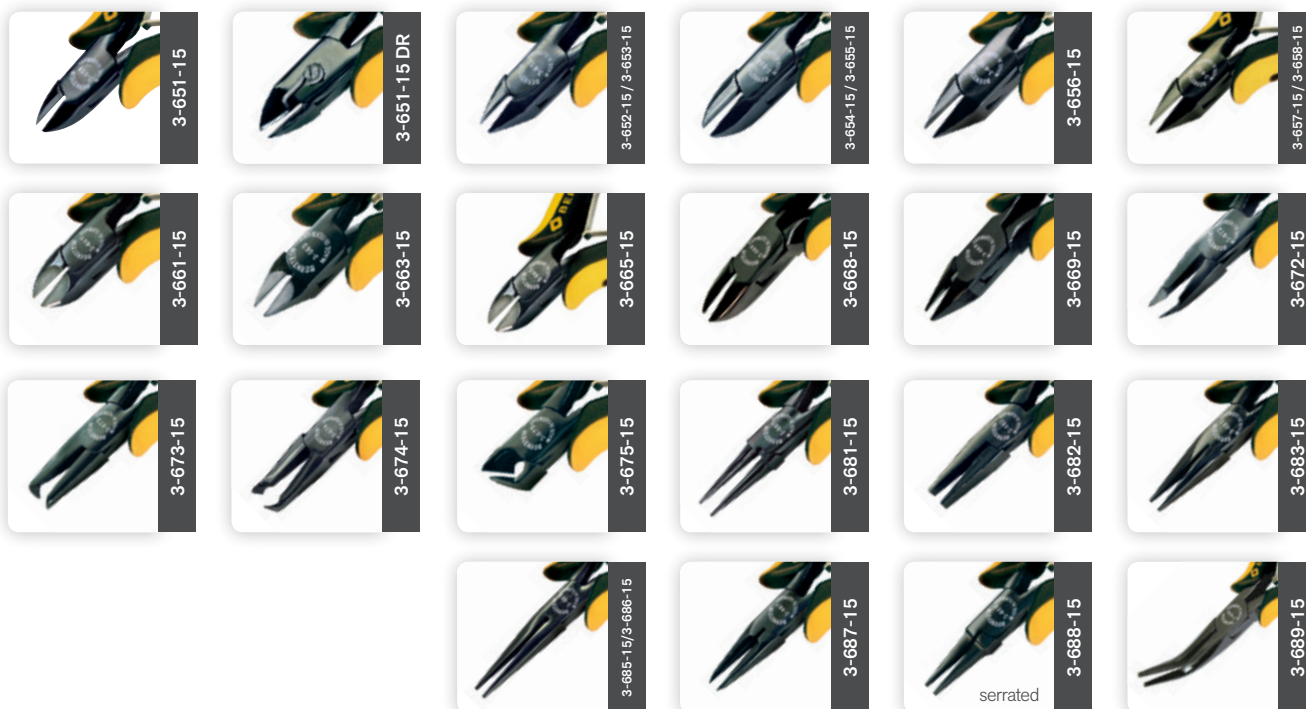
without container, loosely packed

Weight: 200 g

Art.-No.	Content
3-651-15	ESD mini side cutters EUROline flush 120mm
3-672-15	ESD end cutters EUROline flush 130mm
3-683-15	ESD snipe nose pliers EUROline not serrated jaws 130mm



3-960 ES



The following types are available, specifications in mm:

Art.-No.	Short description	Type	Flush	Cutting values				Head width	Cutting length	Total length	Weight in g
				○	◐	●	Ⓟ				
<b>CUTTING PLIERS</b>											
<b>3-651-15</b>	ESD mini side cutters	–	Flush	1.5	0.8	–	–	10	9.5	120	65
<b>3-651-15 DR</b>	ESD mini side cutters	–	Flush	1.5	0.8	–	–	10	9.5	120	65
<b>3-652-15</b>	ESD mini side cutters	–	Flush	1.5	0.8	–	–	10	10	120	60
<b>3-653-15</b>	ESD mini side cutters	–	Flush	1.5	0.8	–	–	10	10	120	60
<b>3-654-15</b>	ESD side cutters	–	Semi flush	1.5	1.0	0.4	–	11	13	125	70
<b>3-655-15</b>	ESD side cutters	–	Flush	1.5	1.0	–	–	11	13	125	70
<b>3-656-15</b>	ESD side cutters	–	Semi flush	1.5	1.0	0.3	–	11	13	125	70
<b>3-657-15</b>	ESD side cutters	–	Flush	1.5	1.0	–	–	11	13	125	70
<b>3-658-15</b>	ESD side cutters	–	Full flush	1.5	0.6	–	–	11	13	125	70
<b>3-661-15</b>	ESD mini side cutters	with carbide insert	Semi flush	2.0	1.5	1.0	0.6	11	10	120	70
<b>3-663-15</b>	ESD mini side cutters	with carbide insert	Flush	1.8	1.3	0.8	0.4	11	10	120	65
<b>3-665-15</b>	ESD mini side cutters	with carbide insert	Special flush	only for glass fibre 2.0				11	10	120	65
<b>3-668-15</b>	ESD side cutters	–	Semi flush	2.0	1.5	0.7	–	14	17	135	110
<b>3-669-15</b>	ESD side cutters	–	Flush	2.0	1.5	–	–	14	17	135	110
<b>3-672-15</b>	ESD end cutters	–	Flush	0.8	0.6	–	–	10	5	130	70
<b>3-673-15</b>	ESD top cutters	–	Flush	0.8	0.6	–	–	10	5	130	60
<b>3-674-15</b>	ESD top cutters	–	Semi flush	0.8	0.6	–	–	10	5	130	60
<b>3-675-15</b>	ESD oblique top cutters	–	Flush	1.2	1.0	0.4	–	10	10	115	65
<b>HOLDING PLIERS</b>											
									jaw length		
<b>3-681-15</b>	ESD round nose pliers	not serrated jaws	–	–	–	–	–	10	20	130	65
<b>3-682-15</b>	ESD flat nose pliers	not serrated jaws	–	–	–	–	–	10	20	130	70
<b>3-683-15</b>	ESD snipe nose pliers	not serrated jaws	–	–	–	–	–	10	23	130	70
<b>3-685-15</b>	ESD snipe nose pliers	not serrated jaws	–	–	–	–	–	10	32	140	70
<b>3-686-15</b>	ESD snipe nose pliers	serrated jaws	–	–	–	–	–	10	32	140	70
<b>3-687-15</b>	ESD snipe nose pliers	not serrated jaws	–	–	–	–	–	10	19	130	70
<b>3-688-15</b>	ESD flat nose pliers	not serrated jaws	–	–	–	–	–	8.5	18	130	60
<b>3-689-15</b>	ESD flat nose pliers	not serrated jaws	–	–	–	–	–	12	39	145	70

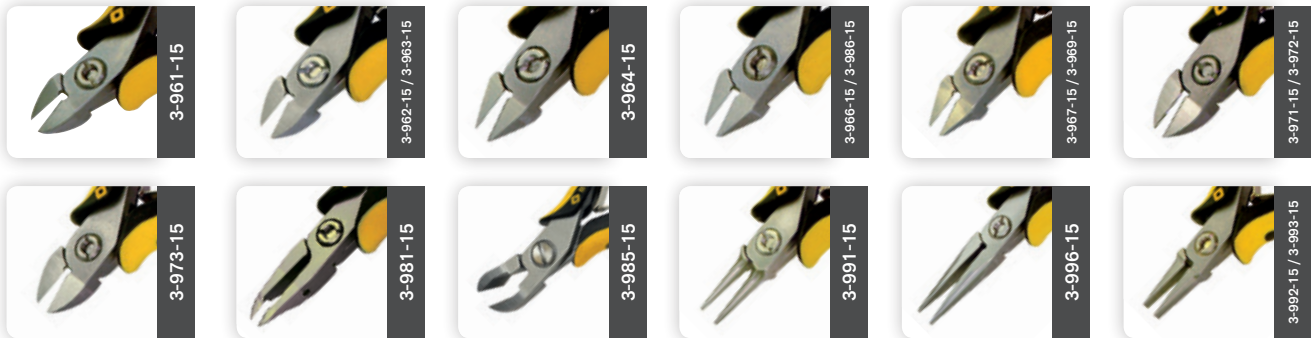
## ESD ELECTRONIC PLIERS TECHNICLINE



The pliers in the TECHNICline series are characterised by their exceptional cutting performance. The precisely symmetrical, induction-hardened cutting edges have a hardness of 63-65 HRC and thus achieve particularly high cutting values, making them suitable for hard and special wires (HRC 81 made of tungsten carbide steel is also available on request). The matt-polished surface is scratch proof, glare free and non reflective.





The pliers sit perfectly in the hand thanks to their two-component protective covering, which is ergonomically shaped, dissipative and features an individually adjustable double leaf spring. The smooth screw joint can be readjusted, guaranteeing a long service life if cared for properly. **OBSERVE THE CARE INSTRUCTIONS**

The pliers have been tested with great results in accordance with DIN EN 61340-5-1, 61340-2-1 and 61340-2-3, as well as for work in ESD protected areas.



The following types are available, specifications in mm:

The following types are available, specifications in mm:

Art.-No.	Short description	Type	Flush					Head width	Cutting length	Total length	Weight in g
▶ CUTTING PLIERS											
3-961-15	ESD side cutters	–	Semi flush	1.2	1.0	0.6	–	10	8	120	75
3-962-15	ESD side cutters	–	Flush	1.2	1.0	–	–	10	8	120	75
3-963-15	ESD side cutters	–	Full flush	1.0	0.8	–	–	10	8	120	75
3-964-15	ESD side cutters	–	Semi flush	1.2	1.0	0.6	–	10	8	120	75
3-966-15	ESD side cutters	–	Full flush	1.0	0.9	–	–	10	8	120	75
3-967-15	ESD side cutters	–	Semi flush	1.2	1.0	–	–	10	8	120	75
3-969-15	ESD side cutters	–	Full flush	0.8	0.4	–	–	10	8	120	75
3-971-15	ESD side cutters	–	Semi flush	1.6	1.3	0.7	–	12.5	10	125	80
3-972-15	ESD side cutters	–	Flush	1.6	1.2	–	–	12.5	10	125	80
3-973-15	ESD side cutters	–	Full flush	1.2	1.0	–	–	12.5	10	125	80
3-981-15	ESD end cutters	–	Full flush	0.8	0.6	–	–	10	20	135	80
3-985-15	ESD oblique top cutters	–	Flush	1.2	1.0	–	–	10	6.4	130	80
3-986-15	ESD side cutters	with carbide insert	Flush	HRC81 for hard wires				14.5	7.5	120	75
▶ HOLDING PLIERS											
									jaw length		
3-991-15	ESD round nose pliers	not serrated jaws	–	–	–	–	–	10	20	130	75
3-992-15	ESD flat nose pliers	not serrated jaws	–	–	–	–	–	10	20	130	75
3-993-15	ESD flat nose pliers	serrated jaws	–	–	–	–	–	10	20	140	75
3-996-15	ESD snipe nose pliers	not serrated jaws	–	–	–	–	–	10	30	140	80

► **Wire holder**

Wire catchers prevents the wire from falling between assemblies and components on circuit boards or into circuits. These cut wire pieces can cause serious damage. Suitable for side cutters for easy manual retrofitting.

Art.-No.	Side cutters for Art.-No.	For head width in mm	Weight in g
<b>3-999-1</b>	Art.-No. 3-961-15 to 3-696-15	10	9
<b>3-999-2</b>	Art.-No. 3-971-15 to 3-973-15	12.5	9

► **3-960 VT****ESD tool kit TECHNICline VARIO 6 pcs**

150 x 145 x 80 mm

Weight: 750 g

Art.-No.	Content
<b>5-090-0</b>	ESD tool holder VARIO 8 slots
<b>3-963-15</b>	ESD side cutters TECHNICline full flush 120mm
<b>3-981-15</b>	ESD end cutters TECHNICline full flush 135mm
<b>3-992-15</b>	ESD flat nose pliers TECHNICline not serrated jaws 130mm
<b>3-996-15</b>	ESD snipe nose pliers TECHNICline not serrated jaws 140mm
<b>5-078-13</b>	ESD SMD universal tweezers 130mm form PSF stainless steel dissipative
<b>5-055-13</b>	ESD SMD tweezers 120mm form 7a stainless steel angle 40° dissipative

► **3-960 T****ESD pliers set TECHNICline 4 pcs**

320 x 150 x 20 mm

Weight: 410 g

Art.-No.	Content
<b>3-960-0</b>	ESD dissipative bag 4 empty compartments
<b>3-963-15</b>	ESD side cutters TECHNICline full flush 120mm
<b>3-981-15</b>	ESD end cutters TECHNICline full flush 135mm
<b>3-992-15</b>	ESD flat nose pliers TECHNICline not serrated jaws 130mm
<b>3-996-15</b>	ESD snipe nose pliers TECHNICline not serrated jaws 140mm

► **3-970 T****ESD pliers set TECHNICline 4 pcs**

320 x 150 x 20 mm

Weight: 410 g Also available as ESD dissipative zipper pocket (Art.-No. 3-970)

Art.-No.	Content
<b>3-960-0</b>	ESD dissipative bag 4 empty compartments
<b>3-963-15</b>	ESD side cutters TECHNICline full flush 120mm
<b>3-971-15</b>	ESD side cutters TECHNICline semi flush 125mm
<b>3-992-15</b>	ESD flat nose pliers TECHNICline not serrated jaws 130mm
<b>3-996-15</b>	ESD snipe nose pliers TECHNICline not serrated jaws 140mm

► **3-960 TS****NEW****ESD pliers set TECHNICline 3 pcs**

without container, loosely packed

Weight: 230 g

Art.-No.	Content
<b>3-963-15</b>	ESD side cutters TECHNICline full flush 120mm
<b>3-981-15</b>	ESD end cutters TECHNICline full flush 135mm
<b>3-996-15</b>	ESD snipe nose pliers TECHNICline not serrated jaws 140mm



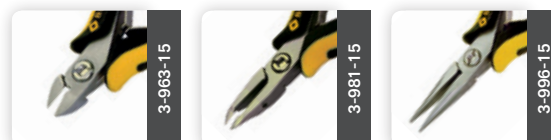
3-960 VT



3-960 T

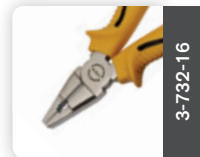
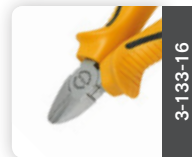
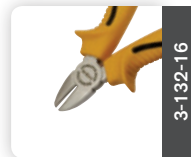
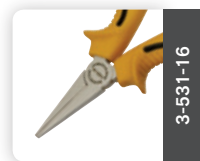
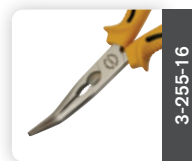
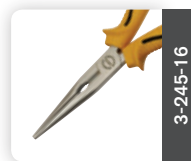
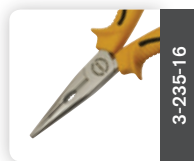


3-970 T



3-960 ES

## ROBUST PLIERS



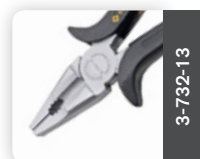
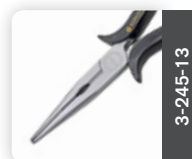
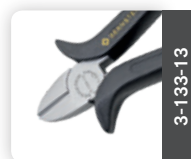
Material Q & T steel according to DIN  
Cutting edges inductively hardened

The following types are available, specifications in mm:

Art.-No.	Short description	Type	Flush	Cutting values				Head width	Cutting/ jaw length	Total length mm	Weight in g
				○	⊘	●	Ⓟ				
3-235-16	Telephone pliers	serrated jaws	–	–	–	–	–	15	55	160	145
3-245-16	Telephone pliers	serrated jaws	–	–	–	–	–	18	75	205	210
3-255-16	Telephone pliers	serrated jaws	–	–	–	–	–	18	70	205	210
3-531-16	Flat nose pliers	serrated jaws	–	–	–	–	–	15	40	150	105
3-132-16	Side cutters	–	Full flush	4.0	2.3	1.5	–	15	16	130	125
3-133-16	Side cutters	–	–	4.0	2.5	1.8	–	18	18	150	155
3-732-16	Combination pliers	serrated jaws	–	4.0	2.5	2.0	–	23	35	170	205



The pliers of this program have been successfully tested by several testing laboratories according to DIN EN 61340-5-1, 61340-2-1, as well as 61340-2-3 for work in ESD-protected areas.



The following types are available, specifications in mm:

Art.-No.	Short description	Type	Flush	Cutting values				Head width	Cutting/ jaw length	Total length mm	Weight in g
				○	⊘	●	Ⓟ				
3-133-13	ESD side cutters	–	Semi flush	4.0	2.5	1.8	–	18	18	145	165
3-245-13	ESD telephone pliers	serrated jaws	Semi flush	–	–	–	–	18	75	200	180
3-732-13	ESD combination pliers	serrated jaws	Semi flush	4.0	2.5	1.8	–	23	35	165	185

## PLIERS WITH SPECIAL REQUIREMENTS

### ► 3-734-13

NEW

#### ESD combination pliers, dissipative

The perfect tool for removing screws with defective screw heads safely and well. In contrast to conventional combination pliers, the gripping teeth (cutting) do not sit crosswise but lengthwise. Thus the jaws enclose the screw head perfectly and have a direct hold. This allows the screw to be unscrewed quickly and without slipping.

Made of special tool steel, matt polished, lap joint, with conductive hand protection cover.

ESD bleeder resistor  $10^3 \Omega$ .

Suitable for screw heads  $2.0 \times 3.5 \text{ mm}$

Head width: 12 mm, total length: 120 mm, weight: 105 g



3-734-13



### ► 3-573

#### Water pump pliers 180mm with push-button

Size adjustable at the push of a button - thanks to the push button.

With extra slim head for hard-to-reach places

and protective, non-slip handles.

Total length: 180 mm, weight: 170 g



3-573



### ► 3-575-6

#### Water pump pliers 240 mm

Water pump pliers 240 mm, very stable, dip insulated, non-slip handles.

Total length: 240 mm, weight: 380 g



3-575-6

### ► 3-0641

#### Mini side cutters full flush for CU-wire up to Ø 1.0mm

Elektronik Seitenschneider mit Feder, ohne Schneidwate, für CU-Drähte bis Ø 1,0 mm / 18 AWG.

Gesamtlänge: 135 mm, Gewicht: 70 g



3-0641

### ► 3-0645

#### Stripping side cutters full flush for CU-Wire up to Ø 0.8mm

Stripping side cutter standard version, with spring, without cutting edge,

for CU wires up to Ø 0.8 mm / 22-26 AWG.

Total length: 130 mm, weight: 80 g



3-0645

### ► 3-0648

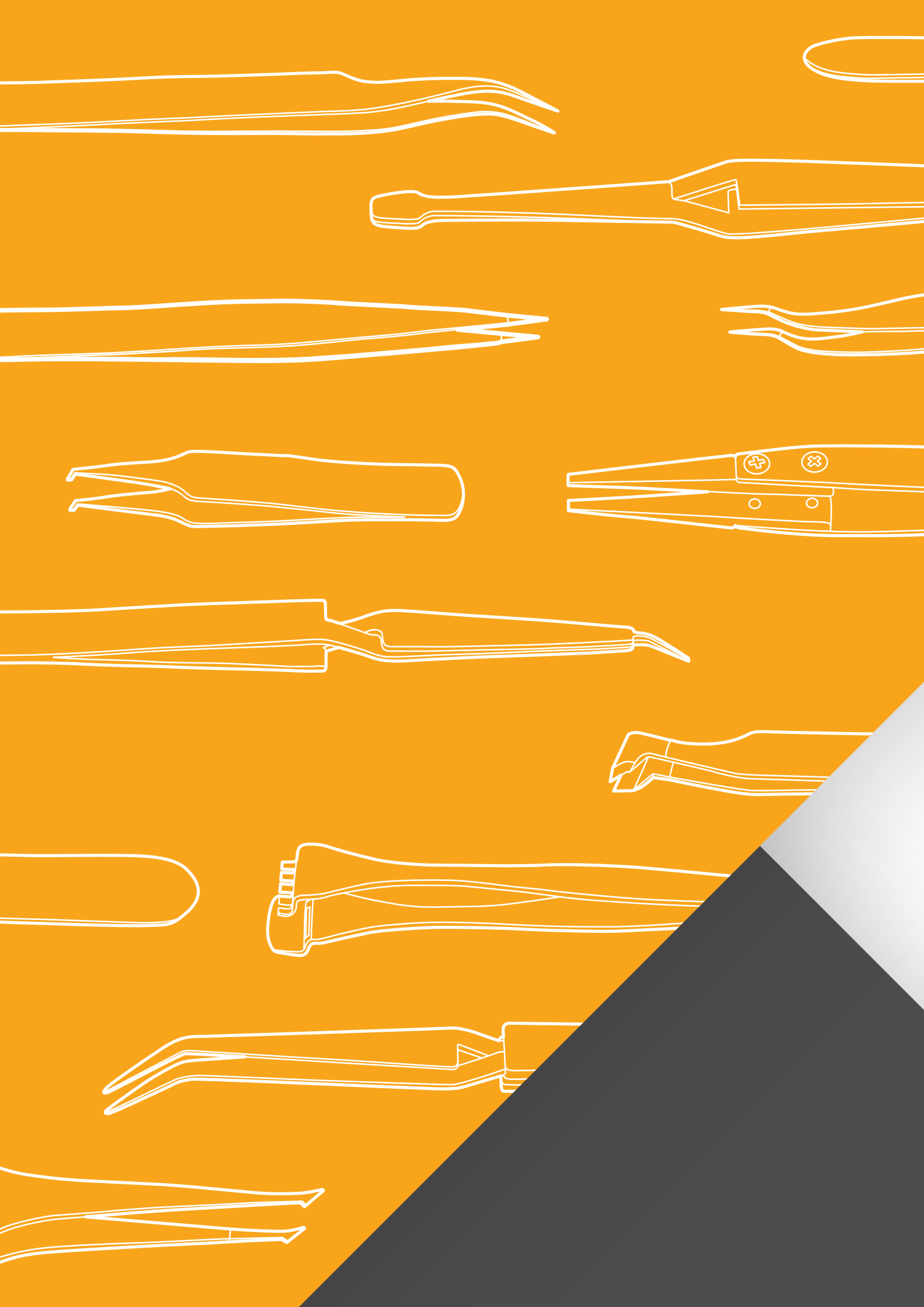
#### Cable cutter up to Ø 10.5mm with lock function

Cable cutter, especially for coaxial cables, robust design, spring and locking device, for cables up to Ø 10.5 mm.

Total length: 170 mm, weight: 155 g



3-0648



## TWEEZERS – EVERYTHING IS UNDER CONTROL

The requirements for tweezers could not be more varied. For this reason, we are continuously expanding our range of tweezers with useful models, either through new designs or technically sophisticated materials.

Our tweezers are suitable for work on statically sensitive electronics in EPAs, clean rooms, the dental sector or laboratories, as well as for jewellers, watchmakers or in the craft trade.

BERNSTEIN tweezers meet the highest demands in quality, wherever they are used.

Get in touch with us if you can't find what you're looking for in the following pages.

Together we'll find the right tweezers for you.

[sales@bernstein-werkzeuge.de](mailto:sales@bernstein-werkzeuge.de)

# TWEEZERS - MATERIAL, FORM AND APPLICATION

## TYPES AND APPLICATIONS

Our product selection ranges from microscope tweezers manufactured with exact tolerances (also recently available with ergonomically adapted, recessed grips) to interchangeable or cutting tips to all possible universal shapes and even locking tweezers.

Traditional tweezers are made from high-quality steel or stainless steel. We also manufacture tweezers made from titanium, ceramic, plastic and even bamboo.

The different surface finishes allow us to support a vast range of applications.

### Delicate tweezers

SMD assembly requires the finest precision tweezers due to the increasingly smaller components. The variety of shapes and a parallel tip end enable reliable handling of components, even in confined spaces.

### Delicate tweezers with grip

Tweezers with grips have the distinct advantage of allowing the user to keep focus while working under a microscope and not needing to look away to grip and hold the tweezers in the correct position.

### Ultra-fine tweezers

For precise gripping, holding and positioning work with a tip width of 0.2 mm at a tolerance of  $\pm 0.05$ .

### Geometric tweezers

For easy removal and insertion of round or cubic components, every imaginable design is possible

### Universal tweezers

Partially cut (small cross grooves on the tips) for better and stable gripping. They have precise, parallel tips and are used in the medical sector to remove foreign objects.

### Wafer tweezers

For positioning flat and thin components, such as highly sensitive and fragile wafers (glass wafers, etc.), thin PCBs and LCDs.

### Cutting tweezers

Best suited for soft wires up to  $\varnothing 0.25$  mm, for example, copper wire, gold wire and silver wire.

### Self-holding tweezers

Self-holding tweezers in different shapes are suitable for simple holding and positioning.

### Tweezers with interchangeable tips

The tips are connected to the body by a screw joint, allowing them to be changed.

DELICATE

ULTRA FINE

GEOMETRIC

UNIVERSAL

WAFER

CUTTING

SELF-HOLDING

INTERCHANGEABLE

## MATERIALS, SURFACE AND PROPERTIES

**Stainless steel tweezers (SA)**

Anti-magnetic, corrosion-resistant, resistant to acids and chemicals, good conductivity, very hygienic, sterilisable, food-safe, recyclable

**Titanium tweezers (Ti)**

Anti-magnetic, corrosion-resistant, resistant to acids and chemicals, antibacterial, good conductivity, glare-free, solder-repellent, heat-resistant (melting point is 1677°C)

**Quality steel (FE)**

Protected from corrosion with nickel plating, not anti-magnetic, not resistance to acid.

**ESD coating**

Provides a bleeder resistance of  $10^6 - 10^9$  ohms

**VDE dip-insulation**

For working with voltages up to 1000 V, in accordance with DIN IEC 60900 / EN 60900

**Dip-insulated (red) or lacquered (red)**

anti-allergic, non-slip, secure hold

**PTFE coating**

Heat resistant up to 280 °C (536 °F), anti-allergic

**Bamboo (BA)**

Tips are individually shapeable, non-conductive, partially chemical resistant, light in the hands

**ESD ceramic zirconia (ZC)**

Dissipative  $10^6 - 10^9$  ohms, extremely wear resistant, heat resistant up to 800°, acid and chemical resistant, solder-repellent

**Plastic ESD (PA)**

Conductive between  $10^3 - 10^5$  ohms, glass-fibre reinforced plastic material, resistant to acids, heat-resistant to 175 °C, free from silicone and armin

**Carbofib (CF)**

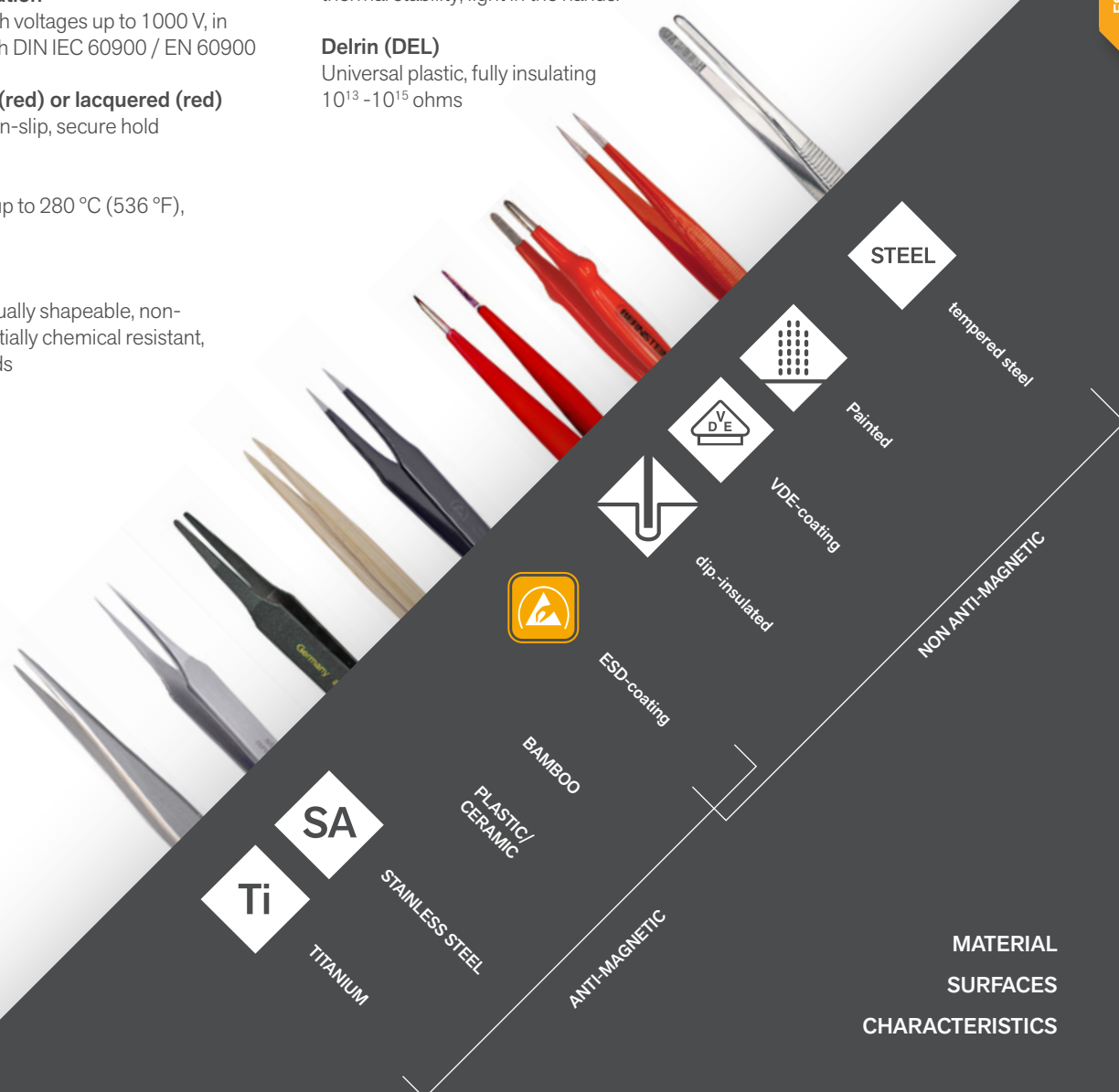
Carbon-fibre reinforced plastic, conductive  $10^2 - 10^3$  ohms

**Plastic (PP)**

Low-priced alternative, insulating, good chemical resistance, high thermal stability, light in the hands.

**Delrin (DEL)**

Universal plastic, fully insulating  $10^{13} - 10^{15}$  ohms



## DELICATE TWEEZERS

SMD assembly requires the finest precision tweezers due to the increasingly smaller components. The variety of shapes and a parallel tip end enable reliable handling of components, even in confined spaces. In the electronics manufacturing, antimagnetic, acid and corrosion-resistant stainless steel (SA) is preferred with a particularly high strength, making the fine tips incredibly hard and resistant. Titanium and plastic are also popular materials.

Made from anti-magnetic, non-corrosive and acid-resistant stainless steel – non-reflective and matt-polished. The dissipative ESD coating provides a bleeder resistance of  $10^6$ – $10^9$  ohms.

The following types are available, specifications in mm:



Art.-No.	Art.-No.	Short description	Type	Material	Total length	Weight in g
5-048	5-048-13	SMD tweezers	straight, very fine, tapered long tip approx. 30 mm	stainless steel	110	12
5-049	5-049-13	SMD tweezers	straight, very fine, tapered long tip approx. 20 mm	stainless steel	110	15
5-051	5-051-13	SMD tweezers	straight pointed, tapered approx. 30 mm	stainless steel	120	15
5-052	5-052-13	SMD tweezers	30° angled very fine, tapered long tip approx. ca. 25 mm	stainless steel	120	15
NEW 5-852	5-852-13	SMD tweezers	40° angled, very pointed, tapered	stainless steel	110	14
5-053	5-053-13	SMD tweezers	30° oblique, angled upwards, very fine long tip approx. 30 mm	stainless steel	110	13
5-054	5-054-13	SMD tweezers	double bent, very sharp approx. 7/40 mm	stainless steel	120	15
5-055	5-055-13	SMD tweezers	40° sickle-shaped, very-sharply pointed approx. 35 mm	stainless steel	120	15
5-056	5-056-13	SMD tweezers	slightly bent, very-sharply pointed approx. 35 mm	stainless steel	120	15
NEW 5-088	5-088-13	SMD tweezers	straight, oblique, very fine long tip approx. 35 mm	stainless steel	115	18
NEW 5-069	5-069-13	SMD tweezers	30° oblique, angled upwards, very fine long tip, serrated	stainless steel	115	15
NEW 5-089	5-089-13	SMD tweezers	stable, filigree hook tip	stainless steel	115	17

### ► SMD tweezers set 6 pcs

Content: 5-051, 5-052, 5-054, 5-058, 5-061, 5-062

Art.-No.	Description	Weight in g
5-050	in a pocket (synthetic leather)	135
5-050-NY	in a pocket (nylon)	110
5-050-ES	without a pocket (loosely packed)	90
5-050-ST	with plastic stand (5-180-0)	110
5-050-V	with VARIO tool holder (5-090-1)	480



5-050

### ► ESD SMD tweezers set 6 pcs

Content: 5-049-13, 5-055-13, 5-059-13, 5-067-13, 5-068-13, 5-078-13

Art.-No.	Description	Weight in g
5-060	in a pocket (synthetic leather)	135
5-060-NY	in a pocket (nylon)	110
5-060-ES	without a pocket (loosely packed)	90
5-060-ST	with plastic stand (5-180-0)	110
5-060-V	with VARIO tool holder (5-090-0)	480



5-060

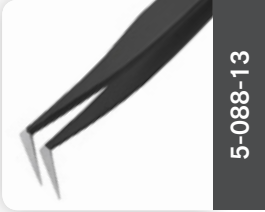
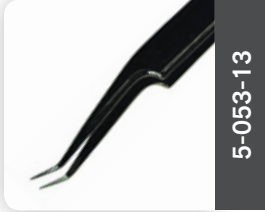
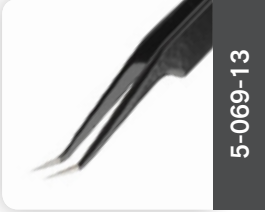
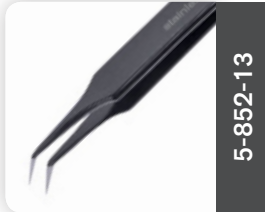
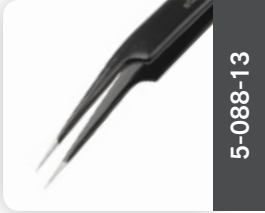
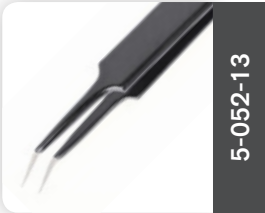
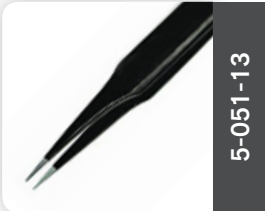
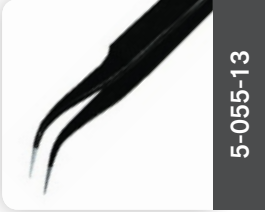
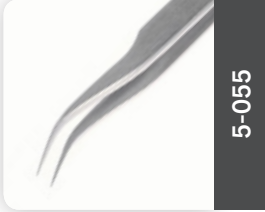
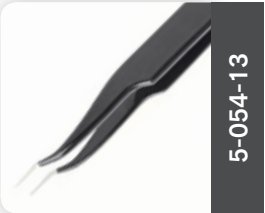
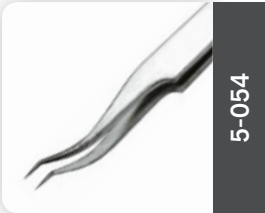
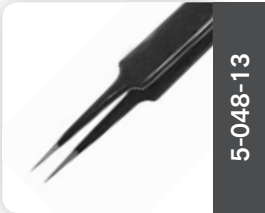
DELICATE TWEEZERS

STAINLESS STEEL

WITH ESD COATING


STAINLESS STEEL

WITH ESD COATING



## DELICATE TWEEZERS

The following types are available, specifications in mm:

	Art.-No.	Art.-No. 	Short description	Type	Material	Total length	Weight in g
	5-071	5-071-13	MINI tweezers	straight, very stable slim form, very short	stainless steel	85	8
NEW	5-086	5-086-13	MINI tweezers	straight, very stable wide form 10 mm, very short	steel	90	12
	5-072	5-072-13	universal tweezers	light type, stable fine tip, middle length	stainless steel	110	11
	5-073	5-073-13	universal tweezers	straight, long, slim, very pointed, very long	stainless steel	140	13
	5-074	5-074-13	universal tweezers	classic tweezers, straight pointed, stable form	stainless steel	120	14
	5-075	5-075-13	universal tweezers	straight, slim, tapered, reinforced tip, very long	stainless steel	140	13
	5-076	5-076-13	universal tweezers	straight pointed, classic tweezers, very stable type	stainless steel	120	19
	5-077	5-077-13	universal tweezers	long, very pointed and tapered	stainless steel	130	16
	5-078	5-078-13	universal tweezers	tapered 1.0 mm wide tip	stainless steel	130	20
	5-083	5-083-13	universal tweezers	tapered, large massive form	steel	140	8
NEW	5-085	5-085-13	universal tweezers	30° angled, slim, very pointed, very long	stainless steel	140	14
NEW	5-087	5-087-13	universal tweezers	short, stable form, tapered, non-slip	stainless steel	110	18
NEW	5-874	5-874-13	SMD tweezers	light type, slim tapered, very fine tip	stainless steel	120	14
NEW	5-878	5-878-13	SMD tweezers	sharp tapered 1 mm wide tip, serrated	stainless steel	130	19

## DELICATE TWEEZERS SETS

NEW

### ► SMD tweezers set 6 pcs

Content: 5-049, 5-053, 5-055, 5-059, 5-078, 5-089

Art.-No.	Description	Weight in g
5-050-A	in a pocket (synthetic leather)	135
5-050-ANY	in a pocket (nylon)	110
5-050-AES	without a pocket (loosely packed)	90
5-050-AST	with plastic stand (5-180-0)	110
5-050-AV	with VARIO tool holder (5-090-1)	480

### ► ESD SMD tweezers set 6 pcs

Content: 5-051-13, 5-052-13, 5-053-13, 5-059-13, 5-061-13, 5-077-13

Art.-No.	Description	Weight in g
5-060-A	in a pocket (synthetic leather)	135
5-060-ANY	in a pocket (nylon)	110
5-060-AES	without a pocket (loosely packed)	90
5-060-AST	with plastic stand (5-180-0)	110
5-060-AV	with VARIO tool holder (5-090-0)	480

## ESD AND ELECTRONICS Tweezers

WITH ESD COATING

5-071

WITH ESD COATING

5-071-13

## STAINLESS STEEL

5-077

WITH ESD COATING

5-077-13

5-086

100

5-086-13

100

5-078



5-078-13

5-072

5-072-13

5-083

5-083-13

5-073

5-073-13

5-085

5-085-13

5-074

5-074-13

5-087

5-087-13

5-075

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-874

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5-076


5-076-13

5-878

5-878-13

# DELICATE TWEEZERS

NEW

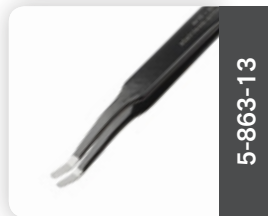
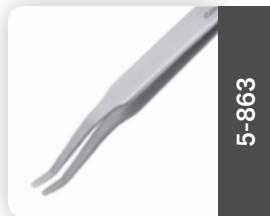
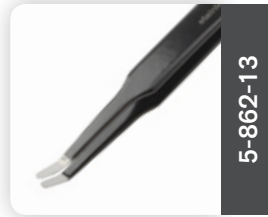
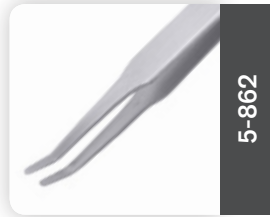
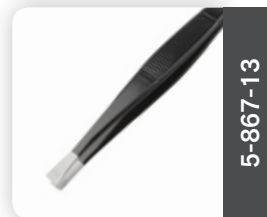
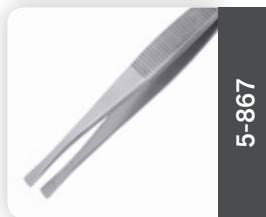
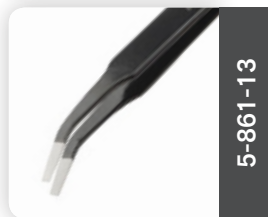
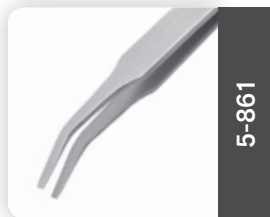
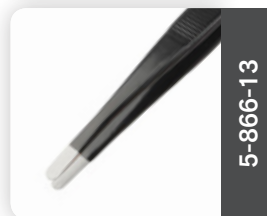
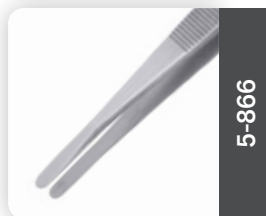
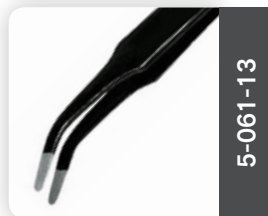
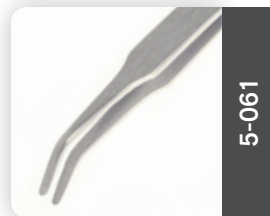
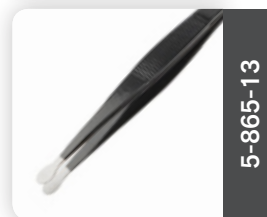
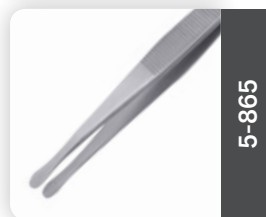
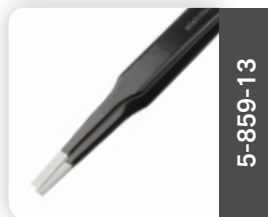
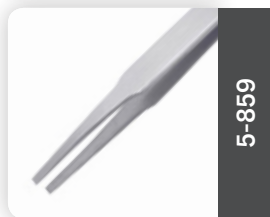
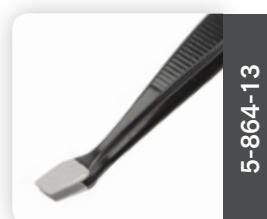
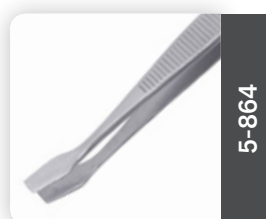
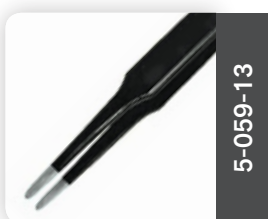
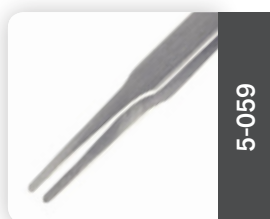
Art.-No.	Art.-No. 	Short description	Type	Material	Total length	Weight in g
5-059	5-059-13	SMD tweezers	straight, rounded tip 2.0 mm wide	stainless steel	120	15
5-859	5-859-13	SMD tweezers	long, flat, angular tip 3 mm wide	stainless steel	125	17
5-061	5-061-13	SMD tweezers	30° angled, rounded tip 2.0 mm wide	stainless steel	115	16
5-861	5-861-13	SMD tweezers	30° bent, long, flat, angular tip 3 mm wide	stainless steel	120	17
5-862	5-862-13	SMD tweezers	30° bent upwards, rounded tip 2 mm wide	stainless steel	125	17
5-863	5-863-13	SMD tweezers	30° double bent, rounded tips 2 mm wide	stainless steel	125	17
5-864	5-864-13	SMD tweezers	flat, angular, bent upwards tip 5 mm wide, non-slip	stainless steel	105	14
5-865	5-865-13	SMD tweezers	spoon, flat, rounded tip 5 mm wide, non-slip	stainless steel	120	17
5-866	5-866-13	SMD tweezers	long, flat, rounded tip 4 mm wide, non-slip	stainless steel	120	17
5-867	5-867-13	SMD tweezers	flat, angular tip 5 mm wide, non-slip	stainless steel	120	17

STAINLESS STEEL

WITH ESD COATING

STAINLESS STEEL

WITH ESD COATING



# DELICATE TWEEZERS WITH GRIP

NEW

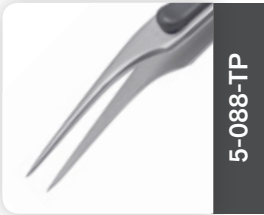
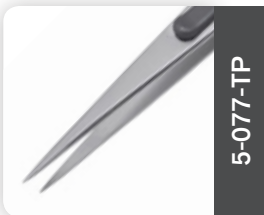
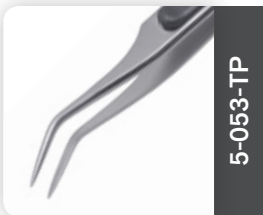
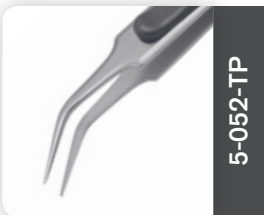
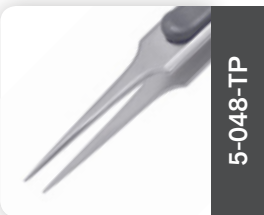


Tweezers with grips have the distinct advantage of allowing the user to keep focus while working under a microscope and not needing to look away to grip the tweezers in the correct position. In addition, they guarantee steady positioning. A special feature of the Touch Point tweezers is their ergonomically shaped grip points, which enable precise and repeatable gripping. Moreover, the user needs about 20% less bending force due to the grip, reducing the effects of long-term stress. They reduce the manual force by approximately 33% compared to conventional tweezers performing the same work. This reduces the pressure applied to components to a minimum.

Made from anti-magnetic, non-corrosive and acid-resistant stainless steel – non-reflective and matt-polished. Dissipative ESD coating available on request.

The following types are available, specifications in mm:

Art.-No.	Short description	Type	Material	Total	
				length	Weight in g
5-048-TP	Touch Point Tweezers	straight, very fine, tapered long tip	stainless steel	110	12
5-052-TP	Touch Point Tweezers	30° angled, very fine, tapered long tip	stainless steel	110	15
5-053-TP	Touch Point Tweezers	30° oblique bent upwards, very fine long tip	stainless steel	120	18
5-077-TP	Touch Point Tweezers	long, stable, extra pointed	stainless steel	130	16
5-082-TP	Touch Point Tweezers	short, straight, wide tip with heel	stainless steel	95	12
5-088-TP	Touch Point Tweezers	straight, light oblique, very fine long tip	stainless steel	120	18



ESD AND ELECTRONICS  
Tweezers

► 5-010-ATP

NEW

Touch Point tweezers set 3 pcs

in a pocket (nylon)  
Content: 5-048-TP, 5-052-TP, 5-082-TP, 5-030-0  
Weight: 59 g

► 5-010-BTP

NEW

Touch Point tweezers set 3 pcs

in a pocket (nylon)  
Content: 5-088-TP, 5-053-TP, 5-077-TP, 5-030-0  
Weight: 78g

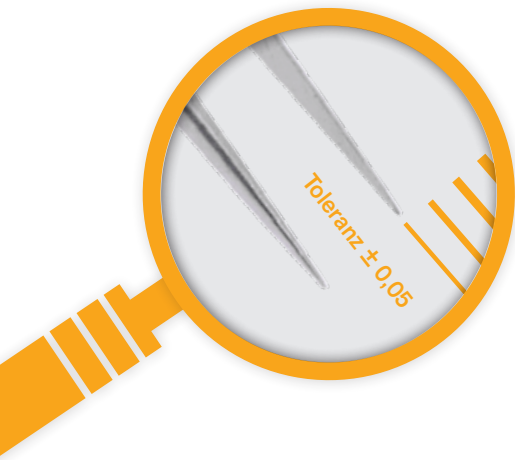


5-010-ATP

5-010-BTP

# ULTRA FINE TIPPING TWEEZERS

NEW




## ► ULTRA FINE tipping tweezers

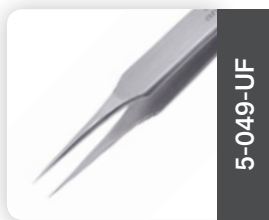
For precise gripping, holding and positioning work in laboratories, test facilities and, above all, under the microscope. Featuring a tip width of 0.2 mm at a tolerance of  $\pm 0.05$ , even robots can be equipped with them (pick-and-place), enabling a configuration with high repetition accuracy.

Made from anti-magnetic, non-corrosive and acid-resistant stainless steel – non-reflective and matt-polished. The dissipative ESD coating provides a bleeder resistance of  $10^6$ - $10^9$  ohms.

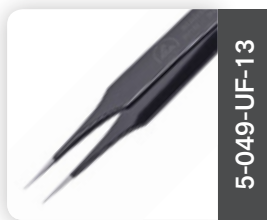
The following types are available, specifications in mm:

Art.-No.	Art.-No. 	Short description	Type	Material	Total length	Weight in g
5-049-UF	5-049-UF-13	SMD tweezers ULTRA FINE	straight, very pointed, tapered	stainless steel	110	15
5-051-UF	5-051-UF-13	SMD tweezers ULTRA FINE	straight, very pointed, slim tapered	stainless steel	120	15
5-052-UF	5-052-UF-13	SMD tweezers ULTRA FINE	30° angled, very fine tapered	stainless steel	110	15
5-055-UF	5-055-UF-13	SMD tweezers ULTRA FINE	40° sickle-shaped, very pointed	stainless steel	120	15
5-072-UF	5-072-UF-13	Universal tweezers ULTRA FINE	slim type, very fine	stainless steel	110	11
5-078-UF	5-078-UF-13	Universal tweezers ULTRA FINE	tapered	stainless steel	130	20

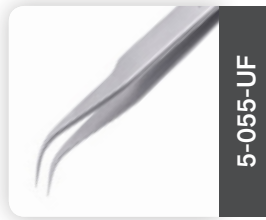
STAINLESS STEEL



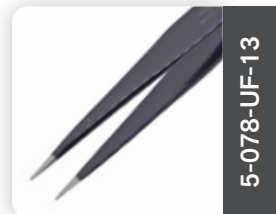
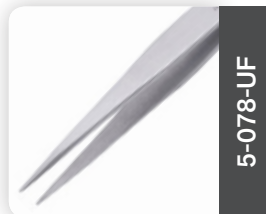
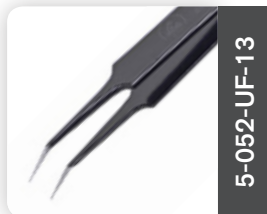
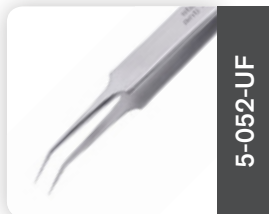
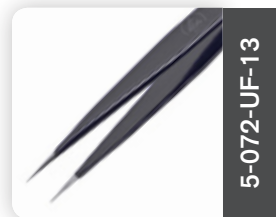
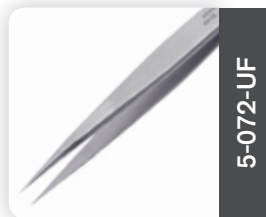
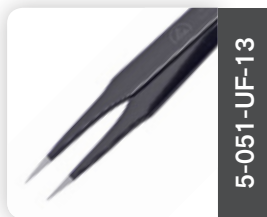
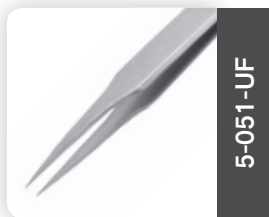
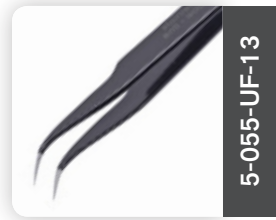
WITH ESD COATING



STAINLESS STEEL



WITH ESD COATING



## ULTRA FINE TIPPING TWEEZERS SETS

## ► 5-070-UF

NEW

**SMD tweezers set ULTRA FINE 6 pcs**

in a pocket (synthetic leather)

Content: 5-049-UF, 5-051-UF, 5-052-UF, 5-055-UF,  
5-072-UF, 5-078-UF

Weight: 150 g



5-070-UF

## ► 5-070-UF-13

NEW

**ESD SMD tweezers set ULTRA FINE 6 pcs**

in a pocket (synthetic leather)

Content: 5-049-UF-13, 5-051-UF-13, 5-052-UF-13,  
5-055-UF-13, 5-072-UF-13, 5-078-UF-13

Weight: 150 g



5-070-UF-13



## TITANIUM TWEEZERS



## ► TITANIUM tweezers

Tweezers made of titanium material are antimagnetic, corrosion-resistant, acid- and chemical resistant, antibacterial, highly conductive, glare-free, solder repellent, heat resistant (melting point at 1677° C), matt polished

The following types are available, specifications in mm:

Art.-No.	Short description	Type	Material	Total length	Weight in g
5-031	TITAN tweezers	straight, very fine, tapered long tip	titan	110	9
5-035	TITAN tweezers	light type, slim tapered, fine tip	titan	120	9
5-036	TITAN anatomical tweezers	long, straight, rounded tip, serrated	titan	145	15
5-037	TITAN anatomical tweezers	long, guiding pin, angled, fine tip, serrated	titan	150	12
5-051-Ti	TITAN tweezers	straight, very pointed, slim tapered	titan	125	10
5-055-Ti	TITAN tweezers	40° sickle-shaped, very pointed	titan	125	10
5-059-Ti	TITAN tweezers	straight, rounded tip 2.0 mm wide	titan	125	10
5-078-Ti	TITAN tweezers	tapered	titan	130	10

## ► 5-030

**TITAN tweezers set 3 pcs**

in a pocket (synthetic leather)

Content: 5-031, 5-036, 5-037

Weight: 70 g



5-030

## ► 5-030-A

NEW

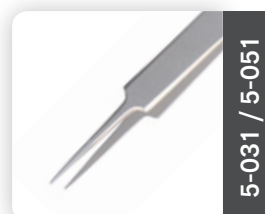
**TITAN tweezers set 3 pcs .**

in a pocket (synthetic leather)

Content: 5-051-Ti, 5-055-Ti, 5-059-Ti

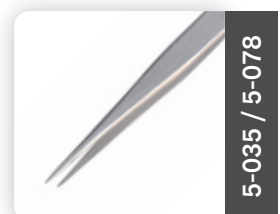
Weight: 55 g

TITAN

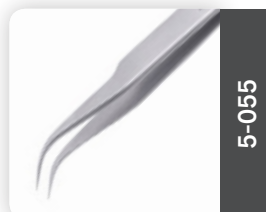


5-031 / 5-051

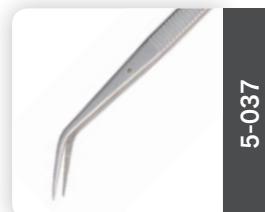
TITAN



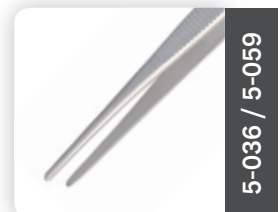
5-035 / 5-078



5-055



5-037



5-036 / 5-059

## GEOMETRIC TWEEZERS


Every imaginable shape is possible. Bulbous or long, hollow tweezers with the appropriate diameter are suitable for the easy removal or insertion of round or cubic component parts. PVC dip-insulation on the tips protect sensitive parts made from plastic or glass such as laser optics or other opto-mechanical components.

Made from quality steel (nickel-plated, not anti-magnetic) or made from Stainless steel (anti-magnetic, non-corrosive and acid-resistant, non-reflective and matt-polished).

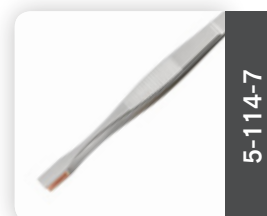
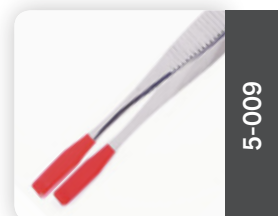
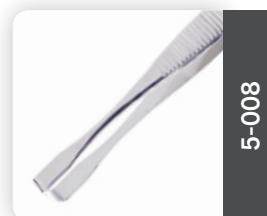
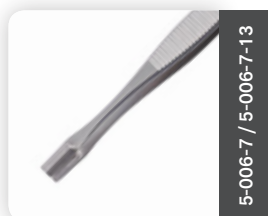
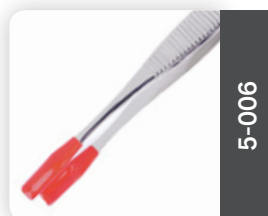
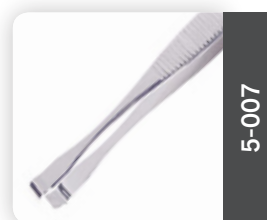
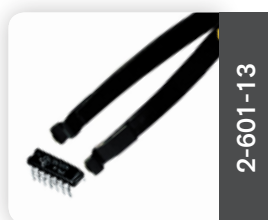
The dissipative ESD coating provides a bleeder resistance of  $10^6$ - $10^9$  ohms.

**Additional models with dissipative ESD coating on request.**

The following types are available, specifications in mm:

Art.-No.	Art.-No. 	Short description	Type	Material	Total length	Weight in g
2-601	2-601-13	IC tweezers	for gripping, inserting and pulling out of ICs	nickel-plated steel	125	21
2-601-7		IC tweezers	for gripping, inserting and pulling out of ICs	stainless steel	125	21
5-006		component tweezers	straight, rectangular insulated gripper jaws 5 mm, non-slip	insulated steel	125	21
5-006-7	5-006-7-13	assembly tweezers	socket 5 mm wide, 10 mm long, gripper jaws spoonful	stainless steel	145	23
5-007	5-007-13	assembly tweezers	straight, gripper jaws 5 mm wide, Ø 5 mm	nickel-plated steel	145	23
5-008		assembly tweezers	straight, gripper jaws 5 mm wide, non-slip	nickel-plated steel	145	22
5-009		assembly tweezers	straight, flat insulated gripper jaws 5.5 mm wide, non-slip	insulated steel	145	25
5-013-7	5-013-7-13	assembly tweezers	45° diagonal socket Ø 1.5 mm, wide 5 mm	stainless steel	125	15
5-014-7	5-014-7-13	assembly tweezers	socket Ø 3 - 5 mm, wide 4 mm, gripper jaws round bulbous	stainless steel	120	15
5-015-7	5-015-7-13	assembly tweezers	socket Ø 6 - 10 mm, wide 4 mm, gripper jaws round bulbous	stainless steel	120	15
5-016-7	5-016-7-13	assembly tweezers	socket 2 mm wide, 10 mm long, gripper jaws spoonful	stainless steel	125	15
5-062	5-062-13	SMD tweezers	tip width 1.5 mm, gripping recess Ø 0.8 mm, angled 35°	stainless steel	115	16
5-063	5-063-13	SMD tweezers	tip width 3.0 mm, gripping recess Ø 0.8 mm, angled 35°	stainless steel	115	16
5-064	5-064-13	SMD tweezers	tip width 1.5 mm, gripping recess Ø 0.8 mm, straight	stainless steel	120	16
5-065	5-065-13	SMD tweezers	tip width 3.0 mm, gripping recess Ø 0.8 mm, straight	stainless steel	120	16
5-066	5-066-13	SMD tweezers	tip 30° angled, 2.5 mm wide	stainless steel	120	15
5-067	5-067-13	SMD tweezers	tip 45° angled, 2.0 mm wide	stainless steel	120	15
5-068	5-068-13	SMD tweezers	tip 45° angled, 2.0 mm oblique	stainless steel	120	13
5-114-7	5-114-7-13	thermal tweezers	with copper jaws 5 x 11 mm	stainless steel	145	23

NEW



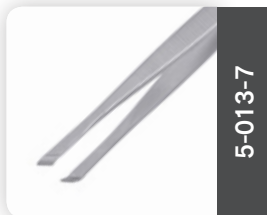
S. 71

CROSS THERMAL Tweezers

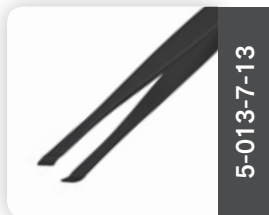
## GEOMETRIC TWEEZERS

STAINLESS STEEL

WITH ESD COATING



5-013-7



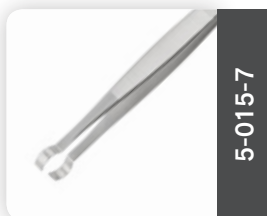
5-013-7-13



5-014-7



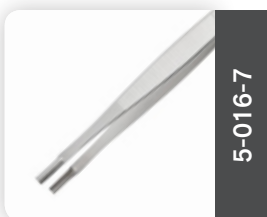
5-014-7-13



5-015-7



5-015-7-13



5-016-7

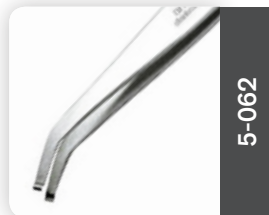


5-016-7-13

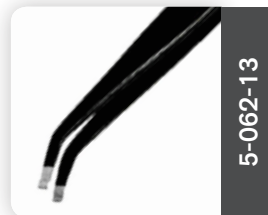
NEW

STAINLESS STEEL

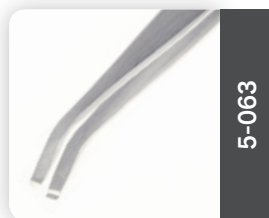
WITH ESD COATING



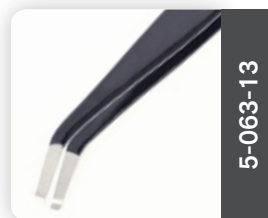
5-062



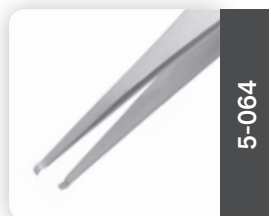
5-062-13



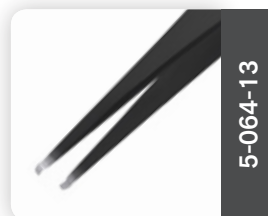
5-063



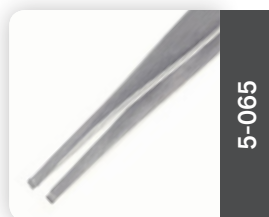
5-063-13



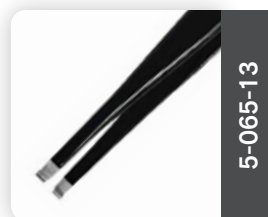
5-064



5-064-13



5-065



5-065-13

## SETS

NEW

### ► 5-130

#### Geometric tweezers set 3 pcs

in a pocket (synthetic leather)

Content: 5-066-13, 5-067-13, 5-068-13

Weight: 90 g

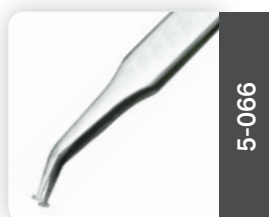
### ► 5-130-A

#### Geometric tweezers set 3 pcs

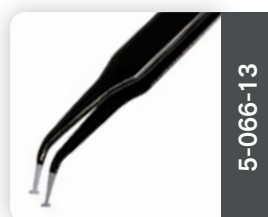
in a pocket (synthetic leather)

Content: 5-013-7-13, 5-014-7-13, 5-062-13

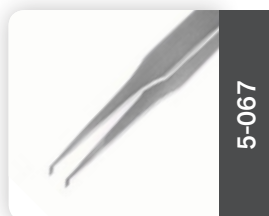
Weight: 95 g



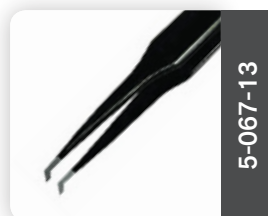
5-066



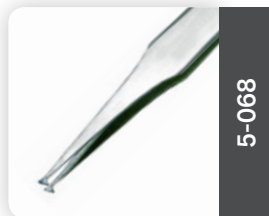
5-066-13



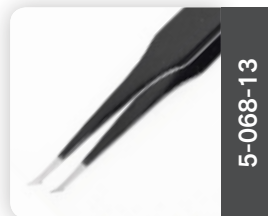
5-067



5-067-13



5-068



5-068-13








## UNIVERSAL TWEEZERS

Anatomic tweezers are somewhat larger due to their main body and are partially cut (small cross grooves on the tips) for better and stable gripping. They have precise, parallel tips and are used in the medical sector to remove foreign objects. Bent, slightly angled models provide support for work in the laboratory with ergonomic positioning for high grip repetition.

Made from quality steel (nickel-plated, not anti-magnetic) or made from Stainless steel (anti-magnetic, non-corrosive and acid-resistant, non-reflective and matt-polished). The dissipative ESD coating provides a bleeder resistance of  $10^6$ – $10^9$  ohms.

**Additional models with dissipative ESD coating on request.**

The following types are available, specifications in mm:

Art.-No.	Art.-No.		Short description	Type	Material	Total length	Weight in g
<b>NEW</b> 5-106-7	<b>5-106-7-13</b>		anatomical tweezers	long, with guiding pin, very fine and stabel tip, serrated	stainless steel	155	20
5-107			anatomical tweezers	long, with guiding pin, angled, fine tip serrated	nickel-plated steel	150	20
5-107-1			anatomical tweezers	long, with guiding pin, angled, fine tip serrated	painted steel	150	23
5-107-6			anatomical tweezers	long, with guiding pin, angled, fine tip serrated	dip insulated steel	150	27
5-107-7	<b>5-107-7-13</b>		anatomical tweezers	long, with guiding pin, angled, fine tip serrated	nickel-plated steel	155	28
5-107-9			anatomical tweezers	long, with guiding pin, angled, fine tip serrated	steel PTFE	150	22
5-117			anatomical tweezers	long, straight, rounded tip, serrated	nickel-plated steel	145	25
5-117-1			anatomical tweezers	long, straight, rounded tip, serrated	painted steel	145	26
5-117-6			anatomical tweezers	long, straight, rounded tip, serrated	dip insulated steel	145	31
5-117-7	<b>5-117-7-13</b>		anatomical tweezers	long, straight, rounded tip, serrated	stainless steel	155	20
5-117-9			anatomical tweezers	long, straight, rounded tip, serrated	steel PTFE	145	29
5-119			anatomical tweezers	long, straight, rounded tip, serrated	nickel-plated steel	140	19
5-121			anatomical tweezers	short, straight, fine tip, serrated	nickel-plated steel	120	14
5-121-1			anatomical tweezers	short, straight, fine tip, serrated	painted steel	120	14
5-121-6			anatomical tweezers	short, straight, fine tip, serrated	dip insulated steel	120	17
5-121-7	<b>5-121-7-13</b>		anatomical tweezers	short, straight, fine tip, serrated	stainless steel	120	14
5-121-9			anatomical tweezers	short, straight, fine tip, serrated	steel PTFE	120	13
5-125			universal tweezers	light type, tapered	dip insulated steel	110	12
5-107 VDE			mechanic tweezers	VDE insulated, angled, fine tip, serrated with VDE protective insulation according to VDE standard	   dip insulated steel	150	37
5-117 VDE			mechanic tweezers	VDE insulated, straight, rounded tip, serrated with VDE protective insulation according to VDE standard	   nickel-plated steel	145	39
5-020			bamboo tweezers	long slim form, pointed, universal use, individually formable, non conductive, non magnetic, partly chemical resistant	bamboo	150	4

### ► 5-110

#### Universal tweezers set 3 pcs.

in a pocket (synthetic leather), anatomical and cross tweezers

Content: 5-107, 5-121, 5-155

Weight: 95 g



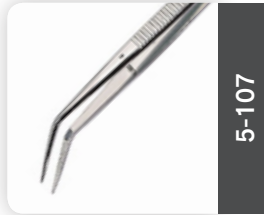
5-110



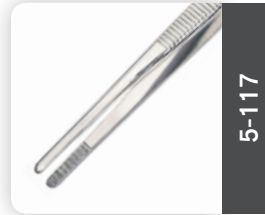
NICKEL-  
PLATED  
STEEL



5-125



5-107



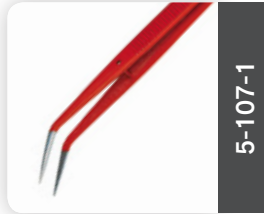
5-117



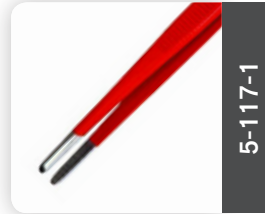
5-121



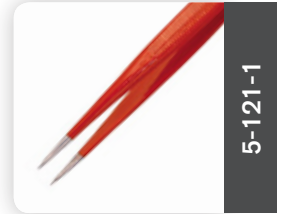
PAINTED STEEL



5-107-1



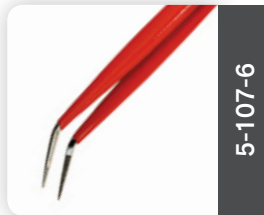
5-117-1



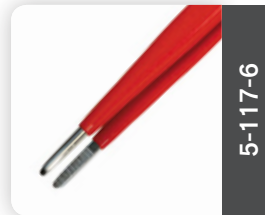
5-121-1



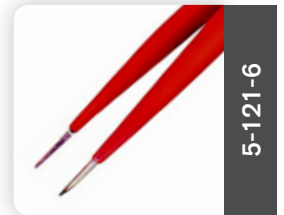
DIP INSULATED STEEL



5-107-6



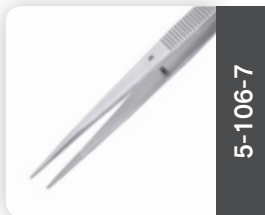
5-117-6



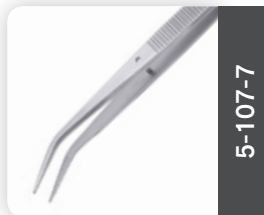
5-121-6



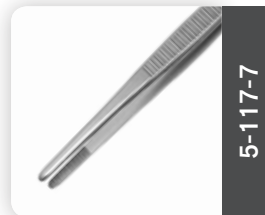
STAINLESS  
STEEL



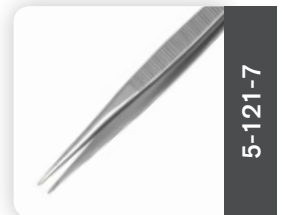
5-106-7



5-107-7



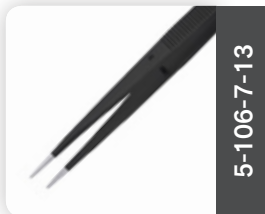
5-117-7



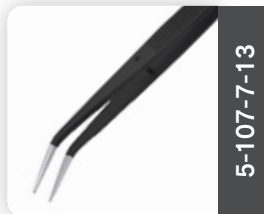
5-121-7



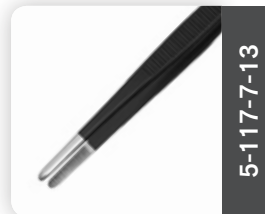
ESD



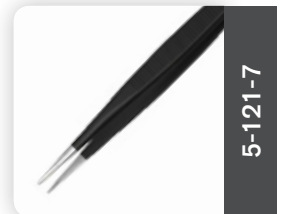
5-106-7-13



5-107-7-13

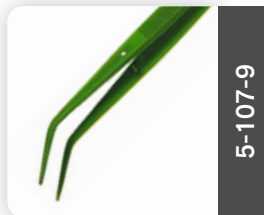


5-117-7-13

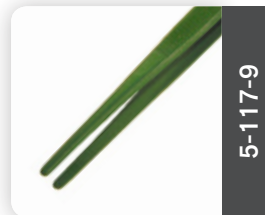


5-121-7

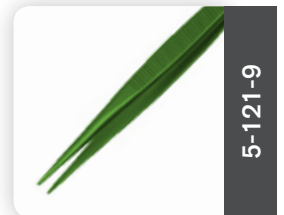
STEEL PTFE COATED



5-107-9



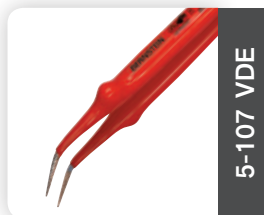
5-117-9



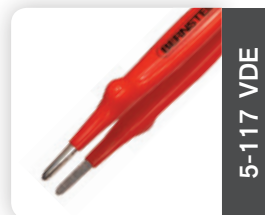
5-121-9



VDE



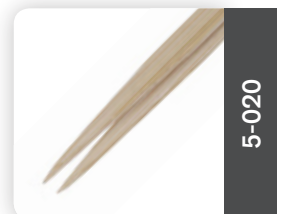
5-107 VDE



5-117 VDE

BAMBOO

NEW



5-020

WAFER TWEEZERS


For positioning flat and thin components, such as highly sensitive and fragile wafers (glass wafers, etc.), thin PCBs and LCDs.

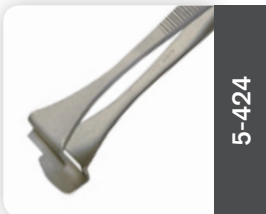
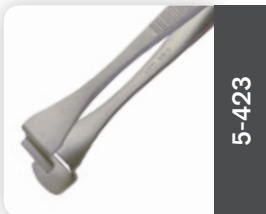
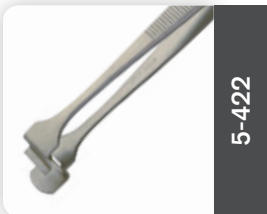
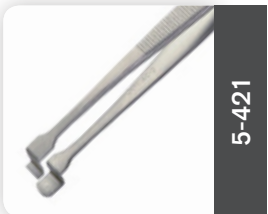
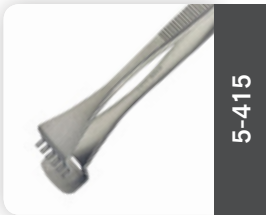
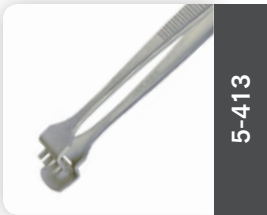
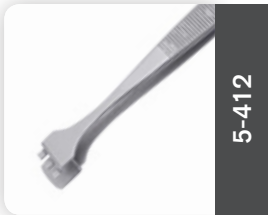
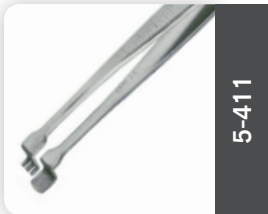
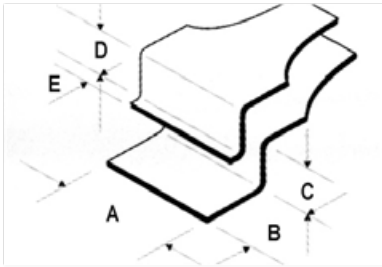
Made from anti-magnetic, non-corrosive and acid-resistant stainless steel – non-reflective and matt-polished. The dissipative ESD coating provides a bleeder resistance of 10<sup>6</sup>–10<sup>9</sup> ohms.



All types are available with a ESD-coating (-13)

The following types are available, specifications in mm:

Art.-No.	Art.-No. 	Short descriptin	Type	Material	A	B	C	D	E	for Wafer in inch	Total length	Weight in g
5-411	5-411-13	wafer tweezers	3 teeth, slim	stainless steel	6	6	4	4	3,2	2	130	14
5-412	5-412-13	wafer tweezers	3 teeth	stainless steel	9	6	2,5	3	3,2	2	130	14
5-413	5-413-13	wafer tweezers	4 teeth	stainless steel	12	8	4	5	3,2	3	130	17
5-414	5-414-13	wafer tweezers	5 teeth	stainless steel	16	6	4	5	3,2	4-5	130	20
5-415	5-415-13	wafer tweezers	6 teeth	stainless steel	20	8	4	5	3,2	6	130	20
5-421	5-421-13	wafer tweezers	without teeth	stainless steel	6	6	4	5	3	2	130	14
5-422	5-422-13	wafer tweezers	without teeth	stainless steel	12	8	4	5	3	3	130	17
5-423	5-423-13	wafer tweezers	without teeth	stainless steel	16	8	4	4	3	4-5	130	20
5-424	5-424-13	wafer tweezers	without teeth	stainless steel	20	8	4	5	3,5	6	130	20



## CUTTING TWEEZERS



Made from high-quality carbon steel (INOX).

CARE INSTRUCTIONS: Carbon steel rusts in high humidity or if touched with fingers (sweat). For this reason, tweezers should always be kept dry or rubbed with oil if stored for longer periods.

If a film of rust still forms on the tweezers or blades, it can be easily removed by lightly sanding the affected area.

The dissipative ESD coating provides a bleeder resistance of  $10^6$ – $10^9$  ohms.

The following types are available, specifications in mm:

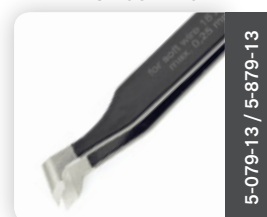
Art.-No.	Art.-No.	Short description	Type	Material	Total length	Weight in g
5-079	5-079-13	cutting tweezers	for oblique cutting, cutting width 10 mm, very stable	Carbon steel	115	25
5-879	5-879-13	cutting tweezers	for flush cutting, cutting width 10 mm, very stable	Carbon steel	115	25

NEW

STEEL



WITH ESD COATING

ESD AND ELECTRONICS  
Tweezers

## SELF-HOLDING TWEEZERS

Made from quality steel (nickel-plated, not anti-magnetic) or made from Stainless steel (anti-magnetic, non-corrosive and acid-resistant, non-reflective and matt-polished). Dissipative ESD coating available on request.

The following types are available, specifications in mm:

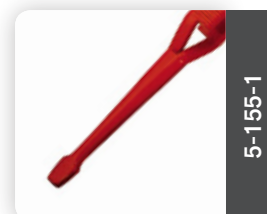
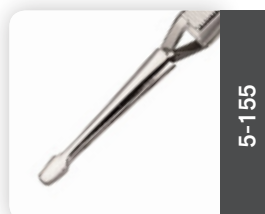
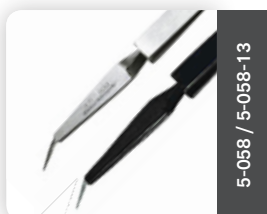
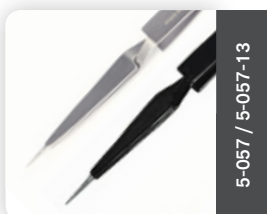
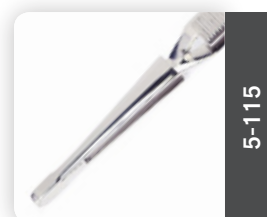
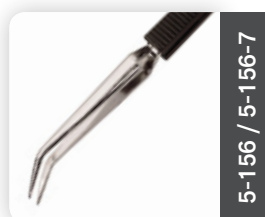
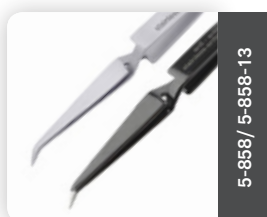
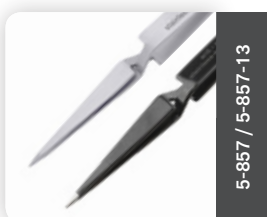
Art.-No.	Art.-No.	Short description	Type	Material	Total length	Weight in g
5-057	5-057-13	SMD cross tweezers, fine	self-holding, straight, very fine and delicate tip	stainless-steel	120	13
5-058	5-058-13	SMD cross tweezers, fine	self-holding, angled, very fine and delicate tip	stainless-steel	120	13
5-857	5-857-13	SMD cross tweezers, fine	self-holding, straight, strong and stable tip	stainless-steel	125	15
5-858	5-858-13	SMD cross tweezers, fine	self-holding, angled, strong and stable tip	stainless-steel	125	15
5-115		thermal tweezers	heat dissipative, non-serrated copper gripper jaws 5 x 11 mm	nickel-plated steel	165	35
5-155		cross tweezers	gripper jaws spoonful 5 mm, fine, serrated, non-slip	nickel-plated steel	160	35
5-155-1		cross tweezers, painted	gripper jaws spoonful 5 mm, fine, serrated, non-slip	antiallergical	160	40
5-156		soldering-cross tweezers	plastic handle, non-slip	nickel-plated steel	160	29
5-156-7		soldering-cross tweezers	plastic handle, non-slip	stainless-steel	160	29

NEW

NEW

NEW

NEW



## PLASTIC TWEEZERS

ESD tweezers made of conductive, black, glass fibre reinforced plastic material (Vestamid) which is antimagnetic, resistant to acids, usable at temperatures up to 175 °C and free of silicone and Armin.

The precisely matched tip closure allows components to be held optimally at a constant pressure.

Conductive between  $10^2$  and  $10^4$  ohms.

The following types are available, specifications in mm:

Art.-No.	Short description	Type	Material	Total length	Weight in g
5-191	ESD plastic precision tweezers	tip 2 mm wide, deductive	PA	120	5
5-192	ESD plastic precision tweezers	tip 3 mm wide, deductive	PA	120	5
5-193	ESD plastic precision tweezers	tip 6mm wide, deductive	PA	120	5
5-194	ESD plastic precision tweezers	hook tip, deductive	PA	120	5
5-195	ESD plastic precision tweezers	very fine tip, deductive	PA	120	5
05-0030	plastic tweezers	serrated tip	PP	130	6



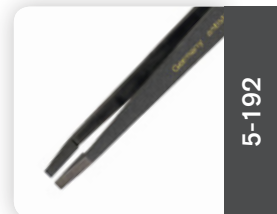
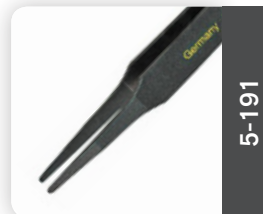
### ► 5-090 V

#### ESD plastic precision tweezers set VARIO 5 pcs

Content: 5-090-0 ESD tool holder VARIO 8 slotted holes

5-191, 5-192, 5-193, 5-194, 5-195

Weight: 530 g



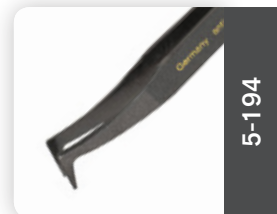
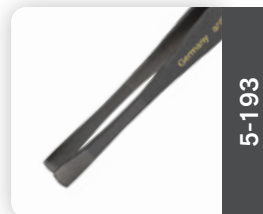
### ► 5-190 V

#### ESD plastic precision tweezers set VARIO pcs

Content: 5-090-0 ESD tool holder VARIO 8 slotted holes

5-191, 5-192, 5-193, 5-194, 5-195, 5-454

Weight: 390 g



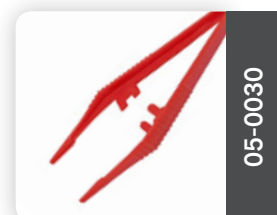
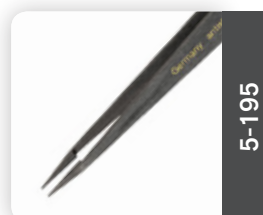
### ► 5-180

#### ESD plastics precision tweezers set 5 pcs

Content: 5-180-0 tweezers holder made of dissipative plastic

5-191, 5-192, 5-193, 5-194, 5-195

Weight: 200 g



p. 36 VARIO-Holder



5-090 V



5-190 V



5-180

## CHANGEABLE TIPS TWEEZERS

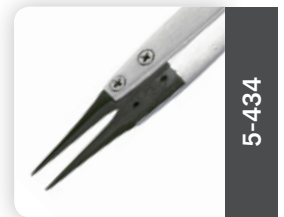
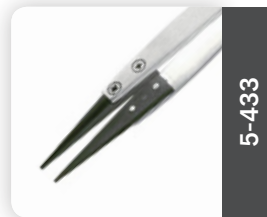
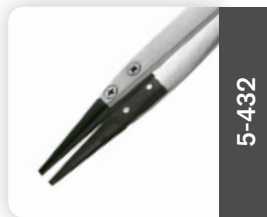
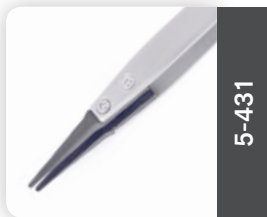
The body of the tweezers is made from anti-magnetic, non-corrosive and acid-resistant stainless steel – non-reflective and matt-polished

### Carbofib tips

Carbon-fibre reinforced plastic, electrically conductive  $10^2$ – $10^3$  ohms, scratch-proof, fully elastic, fatigue-resistant, vibration-dampening, water-repellent, resistant to most acids, alkalis and solvents.

The following types are available, specifications in mm:

Art.-No.	Short description	Type	Material	Total length	Weight in g
<b>5-431</b>	ESD tweezers with changeable tips	rounded tips 1.5 mm wide, conductive	stainless steel / Carbofib	125	17
<b>5-431-0</b>	ESD replacement tips for 5-431 (pair)	rounded tips 1.5 mm wide, conductive	Carbofib	42	2
<b>5-432</b>	ESD tweezers with changeable tips	angular tips 2 mm wide, conductive	stainless steel / Carbofib	125	17
<b>5-432-0</b>	ESD replacement tips for 5-432 (pair)	angular tips 2 mm wide, conductive	Carbofib	42	2
<b>5-433</b>	ESD tweezers with changeable tips	narrow blunt tip 1 mm wide, conductive	stainless steel / Carbofib	125	17
<b>5-433-0</b>	ESD replacement tips for 5-433 (pair)	narrow blunt tip 1 mm wide, conductive	Carbofib	42	2
<b>5-434</b>	ESD tweezers with changeable tips	very fine rounded tip 0.6 mm, conductive	stainless steel / Carbofib	125	17
<b>5-434-0</b>	ESD replacement tips for 5-434 (pair)	very fine rounded tip 0.6 mm, conductive	Carbofib	42	2



### Delrin tips

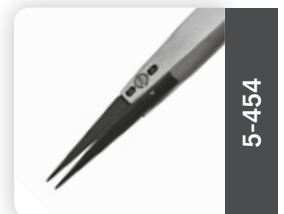
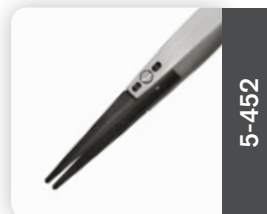
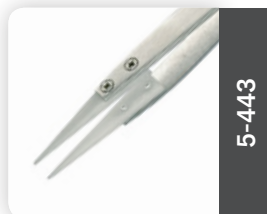
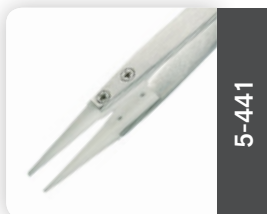
Universal plastic, fully insulating for  $10^{13}$  and  $10^{15}$  ohms, excellent technical properties, low frictional resistance, good abrasion resistance, excellent spring power, high fatigue strength, high dielectric strength, low dielectric dissipation factor, good chemical resistance, particularly to solvents, very resistant to stress crack formation.

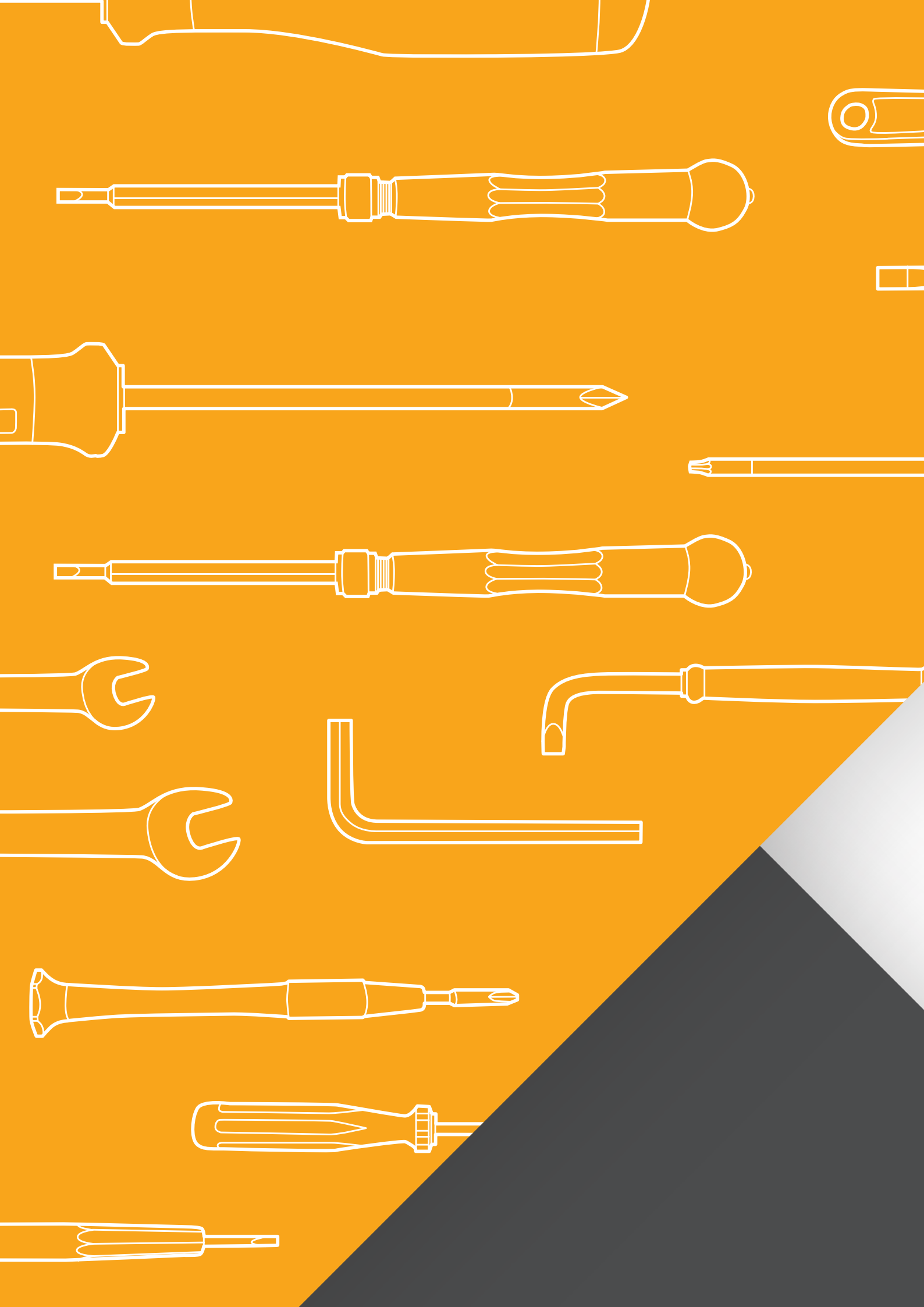
### Ceramic tips

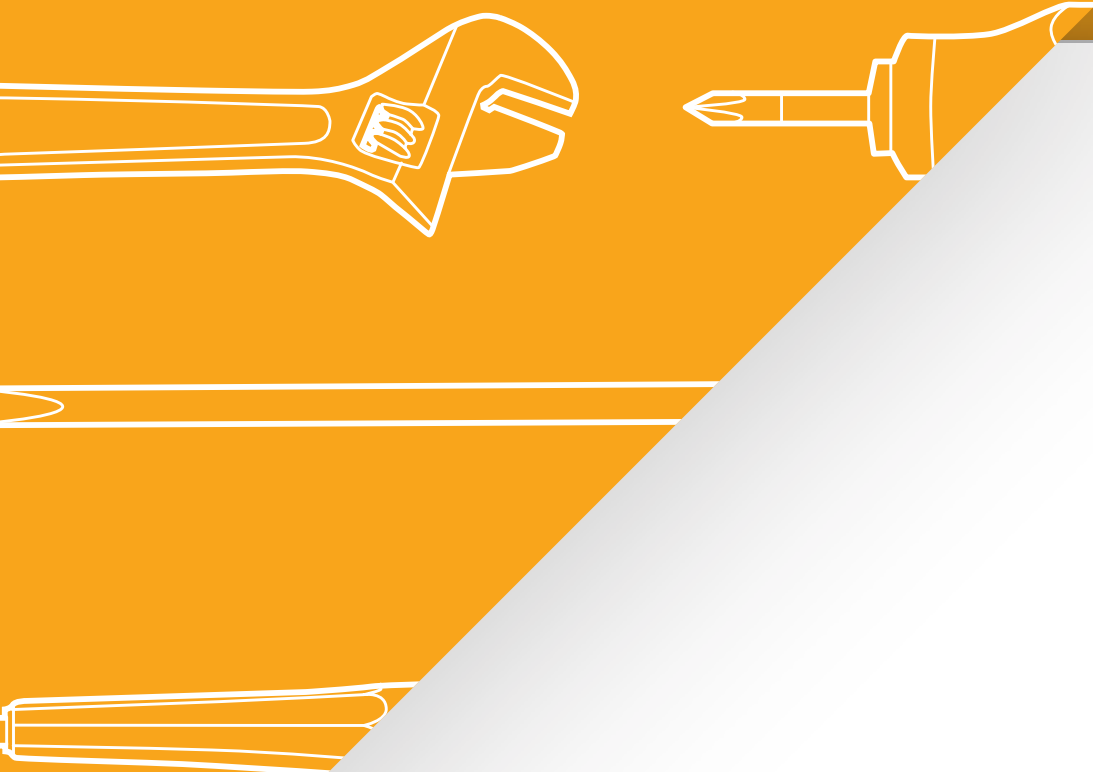
Conductive between  $10^6$  and  $10^9$  ohms, highly wear-resistant ceramic (zirconium), excellent mechanical and thermal properties, heat-resistant up to 800 °C, solder-repellent, coefficient of thermal expansion  $10 \times 10^{-6}$  K<sup>-1</sup>, thermal conductivity 2 W/mK, resistant to acids and solvents.

The following types are available, specifications in mm:

Art.-No.	Short description	Type	Material	Total length	Weight in g
<b>5-441</b>	Delrin tweezers	rounded tips 1.5 mm wide, insulating	stainless steel / Delrin	125	17
<b>5-441-0</b>	Delrin replacement tips for 5-441 (pair)	rounded tips 1.5 mm wide, insulating	Delrin	42	2
<b>5-443</b>	Delrin tweezers	narrow blunt tips 1 mm wide, insulating	stainless steel / Delrin	125	17
<b>5-443-0</b>	Delrin replacement tips for 5-443 (pair)	narrow blunt tips 1 mm wide, insulating	Delrin	42	2
<b>5-452</b>	ESD ceramic tweezers	rounded tips 2 mm wide, insulating	stainless steel / Zirconia	125	17
<b>5-452-0</b>	ESD ceramic replacement tips for 5-452 (pair)	rounded tips 2 mm wide, insulating	Zirconia	42	2
<b>5-454</b>	ESD ceramic tweezers	fine tips 0.7 mm wide, insulating	stainless steel / Zirconia	125	17
<b>5-454-0</b>	ESD ceramic replacement tips for 5-454 (pair)	fine tips 0.7 mm wide, insulating	Zirconia	42	2



















## SCREW TOOLS – THE RIGHT BLADE FOR EVERY SCREW

ESD screwdrivers offer solutions for a wide range of screw heads, especially for applications in electronics. BERNSTEIN offers various bit sets and special screwdriving tools especially for the smallest dimensions.

## ESD INTERCHANGEABLE SCREWDRIVER SETS









**ESD interchangeable screwdrivers**, single or in a set, in a practical roll-up case made of dissipative material ( $10^6$ - $10^9$  Ohm), equipped with double-sided screwdriver blades and an interchangeable ESD plastic handle. The holder is a brass clamping sleeve, suitable for all hexagon interchangeable blades with 4 mm wrench width. The blades are made of high-quality chrome vanadium steel, hardened over their entire length (HRC 56-58), matt chrome-plated, tip black burnished.

The following types are available, specifications in mm:












Art.-No.	Symbol	Size / drive	Blade length	Blade width	Blade thickness	Blade diameter	Handle length	Total length	Weight in g
4-901	Handle	—	—	—	—	—	85	105	16
4-905		Slot	120	1.5/3.0	0.4/0.6	4.5	—	120	12
4-906		Slot	120	2.0/3.5	0.4/0.6	4.5	—	120	12
4-907		Slot	120	2.5/4.0	0.6/0.9	4.5	—	120	12
4-911		PH00/PH000	120	2.0/1.5	0.8/0.76	4.5	—	120	12
4-912		PH0/PH1	120	3.0/4.5	0.84/1.3	4.5	—	120	12
4-919		T3/T4	120	1.12/1.30	—	4.5	—	120	12
4-921		T5/T6	120	1.37/1.65	—	4.5	—	120	12
4-922 L		T7/T8	120	1.97/2.30	—	4.5	—	120	12
4-923 L		T9/T10	120	2.48/2.72	—	4.5	—	120	12
4-932		TW0/FW0	120	—	0.45	4.5	—	120	12
4-933		TW1/FW1	120	—	0.57	4.5	—	120	12
4-934		TW2/FW2	120	—	0.75	4.5	—	120	12



### ► 4-920 ESD screwdriver set 9 pcs

Art.-No.	Content
4-960-0	ESD dissipative roll-up case 11 empty compartments
4-901	ESD interchangeable handle
4-905	 Interchangeable blade slot 1.5/3.0mm
4-906	 Interchangeable blade slot 2.0/3.5 mm
4-907	 Interchangeable blade slot 2.5/4.0 mm
4-911	 Interchangeable blade PH00/PH000
4-912	 Interchangeable blade PH0/PH1
4-921	 Interchangeable blade TORX T5/T6
4-922 L	 Interchangeable blade TORX T7/T8
4-923 L	 Interchangeable blade TORX T9/T10

### ► 4-960 ESD screwdriver set 12 pcs

Art.-No.	Content
4-960-0	ESD dissipative roll-up case 11 empty compartments
4-901	ESD interchangeable handle
4-905	 Interchangeable blade slot 1.5/3.0mm
4-907	 Interchangeable blade slot 2.5/4.0 mm
4-911	 Interchangeable blade PH00/PH000
4-912	 Interchangeable blade PH0/PH1
4-919	 Interchangeable blade TORX T3/T4
4-921	 Interchangeable blade TORX T5/T6
4-922 L	 Interchangeable blade TORX T7/T8
4-923 L	 Interchangeable blade TORX T9/T10
4-932	 Interchangeable blade TW0/FW0
4-933	 Interchangeable blade TW1/FW1
4-934	 Interchangeable blade TW2/FW2



4-920



4-960

## ESD SCREWDRIVERS

With slim, ergonomically shaped handles made of black dissipative plastic, surface resistance  $10^6 - 10^9$  Ohm, standard: IEC 61340-5-1. The rotating centering head guarantees precision. The matt chrome-plated blade is made of high-quality chrome-molybdenum steel, hardened over its entire length (HRC 56 - 58).

SLOT



CROSS-RECESS



The following types are available, specifications in mm:

Art.-No.	Symbol	Size / drive	Blade length	Blade width	Blade thickness	Blade diameter	Handle length	Total length	Weight in g
4-632		Slot	100	4	0.8	4.5	90	190	40
4-633		Slot	125	5.5	1	6	100	225	65
4-652		PH1	80	—	—	4.5	90	170	40
4-653		PH2	100	—	—	6	100	200	75

## ESD ELECTRONIC SCREWDRIVERS

With slim, ergonomically shaped handles made of black dissipative plastic, surface resistance  $10^6 - 10^9$  Ohm, standard: IEC 61340-5-1. The rotating centering head guarantees precision. The matt chrome-plated blade is made of high-quality chrome-molybdenum steel, hardened over its entire length (HRC 56 - 58).

SLOT



CROSS-RECESS



TORX



The following types are available, specifications in mm:

Art.-No.	Symbol	Size / drive	Blade length	Blade width	Blade thickness	Blade diameter	Handle length	Total length	Weight in g
4-603		Slot	40	1.5	0.25	2	80	120	11
4-605		Slot	40	2	0.4	2	80	120	11
4-606		Slot	50	2.5	0.4	2.5	95	145	17
4-607		Slot	50	3	0.5	3	95	145	18
4-608		Slot	60	3.5	0.6	3.5	110	170	26
4-609		Slot	60	4	0.8	4	110	170	28
4-621		PH000	40	1.5	0.76	2	80	120	10
4-622		PH00	40	2.0	0.8	2	80	120	11
4-623		PH0	50	3.0	0.84	3	95	145	18
6-657		T2	40	0.94	—	2.5	80	120	13
6-658		T3	40	1.12	—	2.5	80	120	13
6-659		T4	40	1.30	—	2.5	80	120	13
6-661		T5	40	1.37	—	2.5	80	120	13
6-662		T6	40	1.65	—	2.5	80	120	13
6-663 L		T7	50	1.97	—	3.5	95	145	13
6-664 L		T8	50	2.3	—	3.5	95	145	13
6-665 L		T9	50	2.48	—	4	110	160	19
6-666 L		T10	60	2.72	—	4	110	170	19

## ESD ELECTRONIC SCREWDRIVER SETS

With slim, ergonomically shaped handles made of black dissipative plastic, surface resistance  $10^6 - 10^9 \text{ Ohm}$   
Standard: IEC 61340-5-1. The rotating centering head guarantees precision. The matt chrome-plated blade is made of high-quality chrome-molybdenum steel, hardened over its entire length (HRC 56 - 58).




### ► 4-610




#### ESD screwdriver set 6 pcs

With practical plastic holder

For hanging or setting up

Weight: 111 g

Art.-No.		Content
4-603		Slot blade 1.5 x 0.25 x 40 mm
4-605		Slot blade 2.0 x 0.4 x 40 mm
4-606		Slot blade 2.5 x 0.4 x 50 mm

Art.-No.		Content
4-607		Slot blade 3.0 x 0.5 x 50 mm
4-608		Slot blade 3.5 x 0.6 x 60 mm
4-609		Slot blade 4.0 x 0.8 x 60 mm



4-610




### ► 4-620




#### ESD screwdriver set 6 pcs

With practical plastic holder

For hanging or setting up

Weight: 78 g

Art.-No.		Content
4-603		Slot blade 1,5 x 0,25 x 40 mm
4-605		Slot blade 2,0 x 0,4 x 40 mm
4-607		Slot blade 3,0 x 0,5 x 50 mm

Art.-No.		Content
4-621		Cross-recess PH000
4-622		Cross-recess PH00
4-623		Cross-recess PH0



4-620




### ► 6-610




#### ESD socket wrench set 6 pcs

With practical plastic holder

For hanging or setting up

Weight: 200 g

Art.-No.		Content
6-612		Hex socket wrench 2.0 mm
6-614		Hex socket wrench 3.0 mm
6-617		Hex socket wrench 4.0 mm

Art.-No.		Content
6-618		Hex socket wrench 4.5 mm
6-619		Hex socket wrench 5.0 mm
6-621		Hex socket wrench 5.5 mm



6-610




### ► 6-660




#### ESD TORX screwdriver set 6 pcs

With practical plastic holder

For hanging or setting up

Weight: 90 g

Art.-No.		Content
6-661		TORX T5
6-662		TORX T6
6-663 L		TORX T7 with hole

Art.-No.		Content
6-664 L		TORX T8 with hole
6-665 L		TORX T9 with hole
6-666 L		TORX T10 with hole



6-660

## TOOL HOLDER VARIO

p. 36

VARIO holder

NEW

ESD AND ELECTRONICS  
Screw tools

140 mm wide rail for  
hanging pliers and  
tweezers



8 slotted holes  
for inserting tools  
up to a diameter  
of 9 mm

Dimensions  
(L x W x H): 140 x 150 x 75 mm  
Weight: 400 g



**PRIVATE  
LABEL**

on request  
with logo print

Locking aids  
for a secure hold  
of the tools

Screw holes  
(Ø 6mm) for mounting  
on the wall

5-090-0  
**VARIO**tronics



Art.-No.	Content
5-090-0	VARIOtronics, dissipative ( $10^6 - 10^9$ Ohm)
5-090-1	VARIOcrafts, dark grey metallic
5-090-2	VARIOinox, brushed stainless steel



5-090-1  
**VARIO**crafts

5-090-2  
**VARIO**inox

NEW

NEW

Under the search term **VARIO** you will find all information  
about the tool holder and other sets on our website.

Available with dark grey powder coating  
or as brushed stainless steel.

## ESD ELECTRONIC SCREWDRIVER SETS

With the ESD tool holder VARIO your tool is always at hand. Whether pliers, tweezers or screwdrivers - everything finds its place here!

The sturdy tool holder made of multi-bent 1 mm thick sheet steel was designed for several applications. On the upper edge, which is bordered by two stoppers on the left and right, tweezers and pliers can be hung securely and ready to hand. The 8 slot holes on the front of the stand are ideal for inserting our electronic screwdrivers.

Recesses on the back hold each screwdriver in optimal position.

The high quality black ESD-Coating has a bleeder resistance between  $10^6 - 10^9$  Ohm and is thus ideally suited for working in EPA protected areas.

Two holes on the backside for space-saving wall mounting.

p. 41 ff

more VARIO sets



### ► 4-610 VC

#### ESD screwdriver set VARIO 9 pcs

Weight: 590 g

Art.-No.	Content
5-090-0	ESD tool holder VARIO 8 slots
4-603	ESD screwdriver slot blade 1.5 x 0.25 x 40 mm
4-605	ESD screwdriver slot blade 2.0 x 0.4 x 40 mm
4-606	ESD screwdriver slot blade 2.5 x 0.4 x 50 mm
4-607	ESD screwdriver slot blade 3.0 x 0.5 x 50 mm
4-608	ESD screwdriver slot blade 3.5 x 0.6 x 60 mm
4-609	ESD screwdriver slot blade 4.0 x 0.8 x 60 mm
3-604-15	ESD side cutters CLASSICline flush 115mm
5-055-13	ESD SMD tweezers 120mm form 7a stainless steel angle 40° dissipative



4-610 VC

### ► 4-620 VC

#### ESD screwdriver set VARIO 9 pcs

Weight: 545 g

Art.-No.	Content
5-090-0	ESD tool holder VARIO 8 slots
4-603	ESD screwdriver slot blade 1.5 x 0.25 x 40 mm
4-605	ESD screwdriver slot blade 2.0 x 0.4 x 40 mm
4-607	ESD screwdriver slot blade 3.0 x 0.5 x 50 mm
4-621	ESD screwdriver cross-recess PH000
4-622	ESD screwdriver cross-recess PH00
4-623	ESD screwdriver cross-recess PH0
3-604-15	ESD side cutters CLASSICline flush 115mm
5-055-13	ESD SMD tweezers 120mm form 7a stainless steel angle 40° dissipative



4-620 VC



### ► 6-610 VC

#### ESD tool kit VARIO 9 pccs

Weight: 575 g

Art.-No.	Content
5-090-0	ESD tool holder VARIO 8 slots
6-612	ESD hex socket wrench 2.0 mm
6-614	ESD hex socket wrench 3.0 mm
6-617	ESD hex socket wrench 4.0 mm
6-618	ESD hex socket wrench 4.5 mm
6-619	ESD hex socket wrench 5.0 mm
6-621	ESD hex socket wrench 5.5 mm
3-604-15	ESD side cutters CLASSICline flush 115 mm
5-055-13	ESD SMD tweezers 120mm form 7a stainless steel angle 40° dissipative



6-610VC

### ► 6-660 VC

#### ESD tool kit VARIO 9 pcs

Weight: 555 g

Art.-No.	Content
5-090-0	ESD tool holder VARIO 8 slots
6-661	ESD screwdriver TORX T5
6-662	ESD screwdriver TORX T6
6-663 L	ESD screwdriver TORX T7 with hole
6-664 L	ESD screwdriver TORX T8 with hole
6-665 L	ESD screwdriver TORX T9 with hole
6-666 L	ESD screwdriver TORX T10 with hole
3-604-15	ESD side cutters CLASSICline flush 115 mm
5-055-13	ESD SMD tweezers 120mm form 7a stainless steel angle 40° dissipative



6-660VC

## SCREWDRIVERS POWERLINE



The chrome-plated blade is made of high-quality chrome vanadium steel and hardened over its entire length to prevent twisting (HRC 56 - 58). The tip is burnished for reasons of dimensional accuracy and to prevent chrome chipping. The ergonomically shaped multi-component handle is non-slip, impact-resistant and has a practical hanging hole for your workbench.

The quality is particularly evident in the manufacturing process of the blade. During quality testing, the blade is clamped in a torque test rig and twisted until it breaks smoothly. According to DIN, this has to be done in a very specific Newton metre range. Only a smooth fracture is safe! Low quality products can splinter or tear, which can be extremely dangerous.

SLTO  
CROSS-RECESS  
TORX  
SOCKET WRENCH



The following types are available, specifications in mm:








Art.-No.	Symbol	Size / drive	Blade length	Blade width	Blade thickness	Blade diameter	Handle length	Total length	Weight in g
4-521		Slot	75	2.5	0.4	2.5	100	175	26
4-522		Slot	75	3	0.5	3	100	175	27
4-523		Slot	100	4	0.8	4	100	200	36
4-524		Slot	153	5	1	5.5	107	260	74
4-504		Slot	100	5.5	1	6	107	207	62
4-506		Slot	126	6.5	1.2	6	114	240	93
4-508		Slot	150	8	1.2	8	121	271	141
4-532		PH0	60	—	—	3	100	160	28
4-533		PH1	80	—	—	4.5	107	187	55
4-534		PH2	101	—	—	6	114	215	84
4-542		PZ0	60	—	—	3	100	160	28
4-543		PZ1	80	—	—	4.5	107	187	55
4-544		PZ2	101	—	—	6	114	215	90
6-979		T5	56	1.37	M 1.6 - 2.0	6	100	156	21
6-981		T6	66	1.65	M 2.0	3.5	100	166	29
6-983 L		T7	75	1.697	M 2.5	3.5	100	175	29
6-984 L		T9	75	2.48	M 3.0	4	100	175	29
6-985 L		T10	85	2.72	M 3.0 - 3.5	4	100	185	32
6-986 L		T15	85	3.26	M 3.5 - 4.0	4	100	185	34
6-987 L		T20	100	3.84	M 4.0 - 4.5	4	100	200	35
6-104		5	128	—	—	6	107	235	50
6-105		5.5	128	—	—	6	107	235	50
6-107		7	128	—	—	7	107	235	78

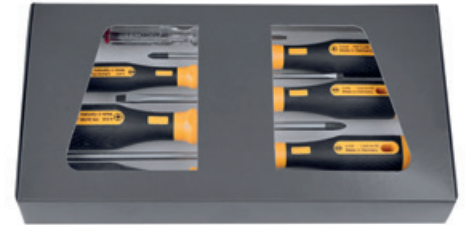
## ► 4-530

**Screwdriver set POWERline 7pcs**

In a display carton

Weight: 520 g

Art.-No.	Content
4-343 VDE	 VDE voltage tester slot blade 3.0 x 0.7 x 60 mm
4-504	 screwdriver POWERline slot blade 5.5 x 1.0 x 100 mm
4-506	 screwdriver POWERline slot blade 6.5 x 1.2 x 125 mm
4-523	 screwdriver POWERline slot blade 4.0 x 0.8 x 100 mm
4-524	 screwdriver POWERline slot blade 5.0 x 1.0 x 150 mm
4-533	 Screwdriver POWERline cross-recess PH1
4-534	 Screwdriver POWERline cross-recess PH2



4-530

## SCREWDRIVER FOR SPECIAL REQUIREMENTS

► **Screwdriver short**

Material chrome vanadium molybdenum steel HRC 56-58



2-component plastic handle ergonomically shaped, impact resistant

The following types are available, specifications in mm:



4-321

4-261

Art.-No.	Symbol	Size / drive	Blade length	Blade width	Blade thickness	Blade diameter	Handle length	Total length	Weight in g
4-321		Slot	25	4	0.8	4	55	80	30
4-261		PH1	25	—	—	4.5	55	80	30


► **Screwdriver for grub screws**

Material chrome vanadium molybdenum steel HRC 56-58, hard and stable plastic handle

The following types are available, specifications in mm:



4-311

Art.-No.	Symbol	Size / drive	Blade length	Blade width	Blade thickness	Blade diameter	Handle length	Total length	Weight in g
4-311		Slot	80	2.8	0.6	3	60	140	10


► **Liliput screwdriver**

Material chrome vanadium molybdenum steel, hard and stable plastic handle

The following types are available, specifications in mm:



4-301

Art.-No.	Symbol	Size / drive	Blade length	Blade width	Blade thickness	Blade diameter	Handle length	Total length	Weight in g
4-301		Slot	40	2.0	0.65	2	45	85	3

## ► 4-820

**Liliput screwdriver set 60 pcs in holder**

Material chrome vanadium molybdenum steel

Hard and stable plastic handle

Weight: 235 g

Content: 60 x Art.-No. 4-301



4-820

## ► 4-351

**Offset screwdriver**

Material chrome vanadium molybdenum steel HRC 56-58, hard and stable plastic handle

Slot blade, width: 4 mm, thickness: 0,65 mm, diameter: 4,5 mm

Weight: 12 g



4-351

## WATCHMAKER SCREWDRIVERS

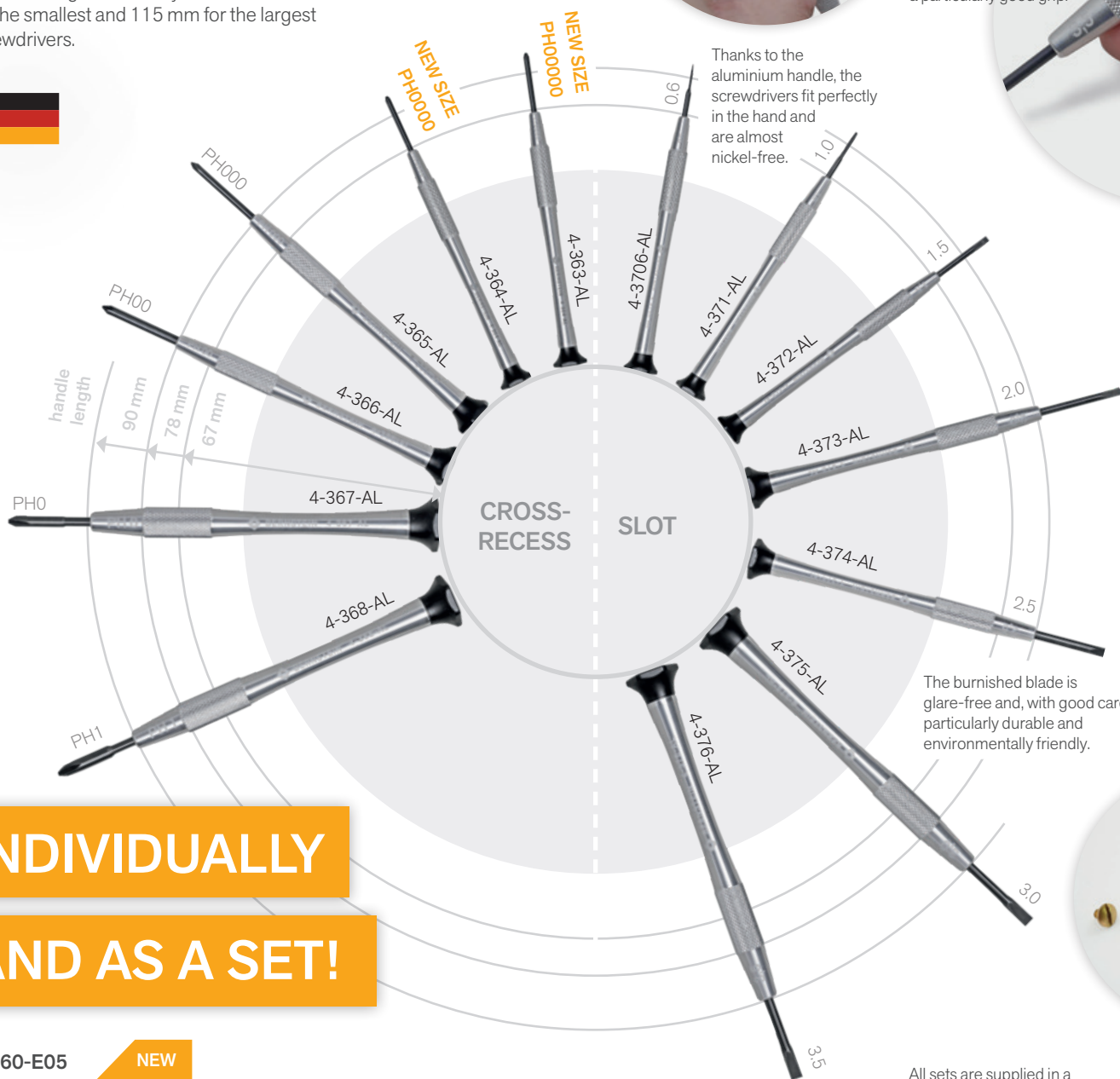
Our aluminium screwdrivers are available in three handle lengths, which are adapted to every drive size. The total lengths thus vary between 80 mm for the smallest and 115 mm for the largest screwdrivers.



The rotating cap enables optimum handling for particularly tricky cases.



The knurling ensures a particularly good grip.



Thanks to the aluminium handle, the screwdrivers fit perfectly in the hand and are almost nickel-free.

The burnished blade is glare-free and, with good care, particularly durable and environmentally friendly.

**INDIVIDUALLY  
AND AS A SET!**

► 4-360-E05

**NEW**

### Watchmakers screwdriver set 7 pcs

In plastic case

Weight: 111 g

Art.-No.	Content
4-372-AL	Watchmaker screwdriver slot blade 1.5 x 0.23 x 16 mm
4-373-AL	Watchmaker screwdriver slot blade 2.0 x 0.4 x 22 mm
4-374-AL	Watchmaker screwdriver slot blade 2.5 x 0.4 x 22 mm
4-375-AL	Watchmaker screwdriver slot blade 3.0 x 0.5 x 22 mm
4-376-AL	Watchmaker screwdriver slot blade 3.5 x 0.6 x 22 mm
4-367-AL	Watchmaker screwdriver cross-recess PH0
4-368-AL	Watchmaker screwdriver cross-recess PH1

All sets are supplied in a handy plastic case.



## WATCHMAKER SCREWDRIVERS

NEW

p. 86

Care advice

CROSS-RECESS



SLOT



The following types are available, specifications in mm:

Art.-No.	Symbol	Size / drive	Blade length	Blade width	Blade thickness	Blade diameter	Handle length	Total length	Weight in g
4-363-AL		PH00000	16	1.0	—	1.0	66	82	3
4-364-AL		PH0000	16	1.5	—	1.5	66	82	3
4-365-AL		PH000	22	2	—	2	78	100	5
4-366-AL		PH00	22	2.5	—	2.5	78	100	5
4-367-AL		PH0	22	3	—	3	90	112	9.5
4-368-AL		PH1	22	3.5	—	3.5	90	112	9.5
4-3706-AL		Slot	14	0.6	0.15	1.0	67	81	3
4-371-AL		Slot	14	1	0.2	1	67	81	3
4-372-AL		Slot	16	1.5	0.23	1.5	67	83	3
4-373-AL		Slot	22	2	0.4	2	78	100	5
4-374-AL		Slot	22	2.5	0.4	2.5	78	100	5.5
4-375-AL		Slot	22	3	0.5	2.5	90	112	9.5
4-376-AL		Slot	22	3.5	0.6	2.5	90	112	9.5

## ▶ 4-360-E01

NEW

## Watchmakers screwdriver set 3pcs (slot)

In plastic case

Weight: 17 g

Art.-No.	Content
4-3706-AL	Watchmaker screwdriver slot blade 0.6 x 0.15 x 14 mm
4-371-AL	Watchmaker screwdriver slot blade 1.0 x 0.2 x 14 mm
4-372-AL	Watchmaker screwdriver slot blade 1.5 x 0.23 x 16 mm

## ▶ 4-360-E02

NEW

## Watchmakers screwdriver set 3pcs (PH)

In plastic case

Weight: 22 g

Art.-No.	Content
4-364-AL	Watchmaker screwdriver cross-recess PH0000
4-365-AL	Watchmaker screwdriver cross-recess PH000
4-366-AL	Watchmaker screwdriver cross-recess PH00

## ▶ 4-360-E03

NEW

## watchmakers screwdriver set 6pcs (slot)

In plastic case

Weight: 37 g

Art.-No.	Content
4-3706-AL	Watchmaker screwdriver slot blade 0.6 x 0.15 x 14 mm
4-371-AL	Watchmaker screwdriver slot blade 1.0 x 0.2 x 14 mm
4-372-AL	Watchmaker screwdriver slot blade 1.5 x 0.23 x 16 mm
4-373-AL	Watchmaker screwdriver slot blade 2.0 x 0.4 x 22 mm
4-374-AL	Watchmaker screwdriver slot blade 2.5 x 0.4 x 22 mm
4-375-AL	Watchmaker screwdriver slot blade 3.0 x 0.5 x 22 mm

## ▶ 4-360-E04

NEW

## Watchmakers screwdriver set 6pcs

In plastic case

Weight: 30 g

Art.-No.	Content
4-3706-AL	Watchmaker screwdriver slot blade 0.6 x 0.15 x 14 mm
4-371-AL	Watchmaker screwdriver slot blade 1.0 x 0.2 x 14 mm
4-372-AL	Watchmaker screwdriver slot blade 1.5 x 0.23 x 16 mm
4-364-AL	Watchmaker screwdriver cross-recess PH0000
4-365-AL	Watchmaker screwdriver cross-recess PH000
4-366-AL	Watchmaker screwdriver cross-recess PH00

## WATCHMAKER SCREWDRIVERS

The watch screwdriver is not only for the watchmaker one of the most important tools, but also in the electrical sector, for the model maker or in the hobby and hobby supplies. The precision screwdriver with rotating cap facilitates precise repeated screwing, turning, tightening or loosening due to its special ease of movement.

### ► Watchmaker screwdrivers






Blades: material chrome-vanadium-molybdenum steel HRC 56-58, burnished

Plastic handle with rotating cap ergonomically shaped with colour ring recognition.

**Care advice:** High humidity or touching the blades with your fingers (sweat) will cause a rust film.

Therefore, the blades should always be kept dry or rubbed with oil if stored for a longer period of time. If a rust film still forms on the blade, it can easily be removed with a light sharpening.

The following types are available, specifications in mm:






Art.-No.	Symbol	Size / drive	Blade length	Blade width	Blade thickness	Blade diameter	Handle length	Total length	Weight in g
4-381		Slot	18	1	0.45	2	86	104	3
4-382		Slot	18	1.4	0.45	2	86	104	5
4-383		Slot	18	1.8	0.45	2	86	104	5
4-384		Slot	18	2.3	0.6	2.5	86	104	6
4-385		Slot	18	3	0.6	2.5	86	104	6

### ► 4-380

#### Watchmaker screwdriver set 6 pcs (slot)

In plastic box

Weight: 64 g

Art.-No.	Content
4-381	 Watchmaker screwdriver slot blade 1.0 x 0.45 x 18 mm
4-382	 Watchmaker screwdriver slot blade 1.4 x 0.45 x 18 mm
4-383	 Watchmaker screwdriver slot blade 1.8 x 0.45 x 18 mm
4-384	 Watchmaker screwdriver slot blade 2.3 x 0.6 x 18 mm
4-385	 Watchmaker screwdriver slot blade 3.0 x 0.6 x 18 mm



4-380






### ► 4-392

#### Watchmaker screwdriver magazine 6 pcs

Material tool steel HRC 58-61

Metal handle with rotating cap (nickel-plated), for opening with internal blades

Weight: 33 g

Content
 Slot blade 1.5 mm
 Slot blade 2.0 mm
 Slot blade 2.5 mm
 Slot blade 3.0 mm
 Cross-recess PH00
Metal handle with rotating cap






### ► 4-393

#### Watchmaker screwdriver magazine 6 pcs

Material tool steel HRC 58-61

Metal handle with rotating cap (nickel-plated), for opening with internal blades

Weight: 32 g

Content
 Slot blade 1.5 mm
 Slot blade 2.0 mm
 Slot blade 2.5 mm
 Cross-recess PH00
 Cross-recess PH000
Metal handle with rotating cap



4-392, 4-393

## WRENCH KEYS

### ► Hex wrench keys (VE10)

Material tool steel, surface nickel-plated  
DIN ISO 2936 (DIN 911)

The following types are available, specifications in mm:

Art.-No.	Symbol	WAF inch	WAF	Leg length A	Leg length B	Weight in g
6-811	⬢	—	0.9	32	10	0.2
6-812	⬢	—	1.0	32	10	0.2
6-813	⬢	—	1.5	45	14	1
6-814	⬢	5/64	2.0	50	16	2
6-815	⬢	—	2.5	56	18	3
6-816	⬢	—	3.0	63	20	5
6-817	⬢	9/64	3.5	66	22	8
6-818	⬢	5/32	4.0	70	25	10
6-819	⬢	—	4.5	75	26	15
6-821	⬢	—	5.0	80	28	18
6-822	⬢	7/32	5.5	85	30	24
6-823	⬢	—	6.0	90	32	30
6-825	⬢	9/32	7.0	95	34	43
6-826	⬢	5/16	8.0	100	36	60
6-827	⬢	11/32	9.0	105	38	80
6-828	⬢	—	10.0	112	40	103
6-851	⬢	3/64	1.2	40	12	0.4
6-852	⬢	1/16	1.59	45	14	1
6-853	⬢	5/64	2.0	50	16	2
6-854	⬢	3/32	2.38	56	18	3
6-855	⬢	1/8	3.18	63	20	5
6-856	⬢	9/64	3.5	66	22	8
6-857	⬢	5/32	4.0	70	25	10
6-858	⬢	3/16	4.76	80	28	18
6-859	⬢	7/32	5.5	85	30	24
6-861	⬢	1/4	6.35	90	32	30
6-862	⬢	9/32	7.0	95	34	43
6-863	⬢	5/16	8.0	100	36	60
6-864	⬢	11/32	9.0	105	38	80
6-865	⬢	3/8	9.53	112	40	103

### ► 6-820 ⬢

#### Wrench key set 8 pcs

Material tool steel, blade matt chromed, in plastic pocket  
Content: 1.5 - 2.0 - 2.5 - 3.0 - 4.0 - 5.0 - 5.5 - 6.0 mm  
Weight: 90 g

### ► 6-950 ⬢

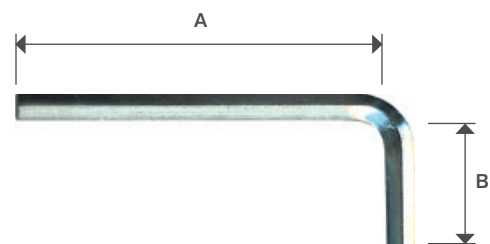
#### Ballpoint wrench key set 9 pcs

Material tool steel, blade matt chromed, in plastic holder  
Content: 1.5 - 2.0 - 2.5 - 3.0 - 4.0 - 5.0 - 6.0 - 8.0 - 10.0 mm  
Weight: 200 g

### ► 6-995 ⚙

#### TORX wrench key set with hole 8 pcs

Material tool steel, burnished, in plastic pocket  
Content: TORX T9 - T10 - T15 - T20 - T25 - T27 - T30 - T40 with hole  
Weight: 120 g



6-820



6-950



6-995

## SOCKET WRENCHES

### ► 4-775

#### Plastic spring handle 6.0 mm

Material transparent plastic

Weight: 30 g



4-775

### ► Socket wrench

Material chrome vanadium molybdenum steel HRC 56-58, nickel-plated

Interchangeable blades for spring handle Art.-No. 4-775

The following types are available, specifications in mm:

Art.-Nro	Symbol	Size / drive	Blade length	Blade diameter	Total length	Weight in g
6-201		4	140	6	140	30
6-202		5.5	140	6	140	35
6-203		6	140	6	140	35
6-204		7	140	6	140	40
6-205		8	140	6	140	40
6-206		9	140	6	140	43
6-207		10	140	6	140	45



### ► 6-200

#### Socket wrench set 8 pcs

In plastic roll-up bag

Weight: 310 g

Art.-No.	Content
6-201	Socket wrench 4.0 mm without handle (set 6-200)
6-202	Socket wrench 5.5 mm without handle (set 6-200)
6-203	Socket wrench 6.0 mm without handle (set 6-200)
6-204	Socket wrench 7.0 mm without handle (set 6-200)
6-205	Socket wrench 8.0 mm without handle (set 6-200)
6-206	Socket wrench 9.0 mm without handle (set 6-200)
6-207	Socket wrench 10.0 mm without handle (set 6-200)
4-775	Plastic spring handle 6.0 mm



6-200

### ► 6-320

#### Socket wrench set 36 pcs with ratchet + extension

Content:

Sheet steel case with foam inlay

1/4 inch hex sockets 4.0 - 4.5 - 5.0 - 5.5 - 6.0 - 6.5 - 7.0 - 8.0 - 9.0 - 10 - 11 - 12 - 13

1/4 inch PH screwdriver PH1 - PH2

1/4 inch screwdriver 4.0 - 4.5

1/4 inch Allen key 3.0 - 4.0 - 5.0 - 6.0

1/4 inch TX screwdriver TX20 - TX25 - TX27 - TX30

1/4 inch cardan joint

1/4 inch extension 50 and 100 mm

1/4 inch handle with slide

1/4 inch plug-in handle with square drive

1/4 inch lever ratchet 72 teeth 140 mm

Allen wrench 1.25 - 1.5 - 2.0 - 2.5 - 3.0

Weight: 1320 g



6-320

## OPEN-END WRENCHES AND RING SPANNERS

### ► 6-500

NEW

#### Double open-end wrench set 8 pcs

Material tool steel, surface chrome-plated, polished heads, DIN 3110

Content: 6 x 7 - 8 x 9 - 10 x 11 - 12 x 13 - 14 x 15 - 16 x 17 - 18 x 19 - 20 - 22 mm

Weight: 700 g



6-500

### ► 6-600

NEW

#### Combination wrench set 12 pcs

Material tool steel, surface chrome-plated, polished heads, DIN 3113

Content: 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 - 17 - 19 - 22 mm

Weight: 850 g



6-600

### ► 6-750

#### Special double open-end wrench set 6 pcs

Material tool steel, surface nickel-plated, in roll-up bag

Content: 3 - 3.5 - 4 - 4.5 - 5 - 5.5 - 6 - 6.5 - 7 - 8 - 9 - 10 mm

Weight: 100 g

Also available on request with ESD coating (10<sup>6</sup>-10<sup>9</sup> Ohm)

6-750

### ► Adjustable spanners / adjustable wrenches

Material chrome vanadium molybdenum steel HRC 56-58, surface nickel-plated

Art.-No.	Span width	Jaw length	Total length	Weight in g
6-771	0 - 13	12	100	55
6-772	0 - 19	22	150	135



6-772



## ADJUSTMENT TOOLS AND TRIMMER ADJUSTMENT IN ELECTRONICS

A large number of electrical and electronic devices or assemblies need to be adjusted and set after the production process. Even when servicing, when fitting new components or when electrical values have altered due to age, adjustment is usually necessary to restore the optimum functioning of the device. In order to save costs and achieve a high degree of reliability, adjustment work should be reduced to a minimum on the basis of design and technological procedures.

BERNSTEIN manufactures a high-quality, fully insulating synthetic material for adjustment screwdrivers and keys that is tough and elastic. A material made of hard special plastic is also available to meet the highest demands in terms of torsional strength. BERNSTEIN supplies

adjustment screwdrivers and keys with inserts made from resilient hard bronze for cores which are especially difficult to remove. This material has a precise size accuracy even in the smallest dimensions. Because it is only processed as small cutting tips together with the plastic materials, interference by the resilient bronze is virtually eliminated.

BERNSTEIN manufactures a variety of high-grade ceramic tips and tweezers with ceramic tips for industrial adjustments and work on electrostatically sensitive components.

## PLASTIC ADJUSTMENT SCREWDRIVERS

### ► Adjustment tools made of plastic

BERNSTEIN manufactures a high-quality, fully insulating synthetic material for adjustment screwdrivers and adjusting keys that is tough and yet elastic. A material made of hard special plastic is also available to meet the highest demands in terms of torsional strength (Art.-No. 1-738 and 1-739).



The following types are available, specifications in mm:

Art.-No.	Symbol	Blade length	Blade width	Blade thickness	Blade diameter	Handle length	Total length	Weight in g
1-151	⊖	40	3	0.5	3	45	85	3
1-152	⊖	40	4	0.5	4	45	85	3
1-153	⊖	130	2	0.7	3	45	175	4
1-154	⊖	130	3	0.7	4	45	175	5
1-155	⊖	130	3.5	0.7	5	45	175	6
1-156	⊖	130	4	0.7	5	45	175	6
1-157	⊖	155	3	0.7	4	45	200	6

### ► 1-150

#### Plastic adjustment screwdriver set 7 pcs

Weight: 750 g

Art.-No.	Content
1-150-0	ESD case empty
1-151	⊖ Plastic adjusting screwdriver slot blade 3 x 0.5 x 40 mm
1-152	⊖ Plastic adjusting screwdriver slot blade 4 x 0.5 x 40 mm
1-153	⊖ Plastic adjusting screwdriver slot blade 2 x 0.7 x 130 mm
1-154	⊖ Plastic adjusting screwdriver slot blade 3 x 0.7 x 130 mm
1-155	⊖ Plastic adjusting screwdriver slot blade 3.5 x 0.7 x 130 mm
1-156	⊖ Plastic adjusting screwdriver slot blade 4 x 0.7 x 130 mm
1-157	⊖ Plastic adjusting screwdriver slot blade 3 x 0.7 x 155 mm



1-150

## ADJUSTMENT SCREWDRIVERS WITH BRONZE INSERT

### ► Adjustment tools with bronze insert

BERNSTEIN supplies adjustment screwdrivers and keys with inserts made from resilient hard bronze for cores which are especially difficult to remove. This material has a very precise size accuracy even in the smallest dimensions. Because it is only processed as small cutting tips together with the plastic materials, interference by the resilient bronze is virtually eliminated.



The following types are available, specifications in mm:

Art.-No.	Symbol	Blade length	Blade width	Blade thickness	Blade diameter	Handle length	Total length	Weight in g
1-301	⊖	155	1.4	0.5	2.7	45	200	4
1-302	⊖	155	2	0.5	2.7	45	200	4
1-303	⊖	155	2.5	0.5	2.7	45	200	4
1-304	⊖	155	1.7	0.7	2.7	45	200	4
1-305	⊖	80	1.1	0.5	2.4	45	125	4
1-306	⊖	80	1.7	0.7	2.4	45	125	4
1-307	⊖	80	2	0.5	2.4	45	125	4

### ► 1-300

#### Bronze adjustment screwdriver set 7 pcs

Weight: 500 g

Art.-No.	Content
1-150-0	ESD case empty
1-301	⊖ Bronze adjusting screwdriver slot blade 1.4 x 0.5 x 155 mm
1-302	⊖ Bronze adjusting screwdriver slot blade 2 x 0.5 x 155 mm
1-303	⊖ Bronze adjusting screwdriver slot blade 2.5 x 0.5 x 155 mm
1-304	⊖ Bronze adjusting screwdriver slot blade 1.7 x 0.7 x 155 mm
1-305	⊖ Bronze adjusting screwdriver slot blade 1.1 x 0.5 x 80 mm
1-306	⊖ Bronze adjusting screwdriver slot blade 1.7 x 0.7 x 80 mm
1-307	⊖ Bronze adjusting screwdriver slot blade 2 x 0.5 x 80 mm



1-300

## ADJUSTMENT SCREWDRIVER WITH GUIDE SLEEVE

### ► 2-145

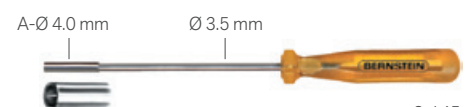
#### Screwdriver with guide sleeve

Potentiometers or potentiometer (short Poti), is an electrical resistance component. By turning or shifting, the resistance value changes. It has three connections and is mainly used as a continuously adjustable voltage divider.

Screwdriver with guide sleeve for easy and safe adjustment of spindle resistances and potentiometers, with slot axis up to Ø 3.2 mm, blade width 2.8 mm, blade length 80 mm.

Total length: 140mm

Weight: 12 g



2-145

## ADJUSTMENT SCREWDRIVERS MADE OF ZIRCONIA/CERAMIC

### ► Adjustment tools for ESD areas.

Ceramic bits meet the highest demands due to their excellent mechanical and thermal properties. The zirconium oxide material's hardness and breaking strength enables the manufacture and use of even the smallest dimensions with the highest possible resistance to wear. In addition to standard blades, we also manufacture special shapes at the customer's request.

### ► Ceramic – the long-lasting material

Zirconium oxide is a highly wear-resistant ceramic (zirconium), tetragonal ZrO<sub>2</sub>, Y<sub>2</sub>O<sub>3</sub> and partially stabilised.  
Physical properties at room temperature: Flexural strength 800 N/mm<sup>2</sup>, elastic modulus 2x10<sup>5</sup> N/mm<sup>2</sup>  
Density 6.05 g/cm<sup>3</sup>, hardness 1350HV, field of application up to 800 °C, coefficient of thermal expansion 10 x 10<sup>-6</sup> K<sup>-1</sup>  
Thermal conductivity 2 W/mK, insulating electrical resistance.

### ► Ceramic adjustment screwdriver

ESD handle with rotating cap  
Dissipative between 10<sup>6</sup> and 10<sup>9</sup> ohm  
Total length: 100 mm, weight: 10 g



The following types are available, specifications in mm:

Art.-No.	Symbol	Size / drive	Blade length	Blade width	Blade thickness	Blade diameter	Handle length	Total length	Weight in g
1-851		—	20	0.9	0.3	3	80	100	10
1-852		—	20	1.3	0.3	3	80	100	10
1-853		—	20	1.5	0.3	3	80	100	10
1-854		—	20	1.8	0.3	3	80	100	10
1-855		—	20	1.95	0.35	3	80	100	10
1-856		—	20	2.5	0.7	3	80	100	10
1-857		—	20	3	0.3	3	80	100	10
1-858		—	20	3	0.7	3	80	100	10
1-861		1,95	20	—	—	3	80	100	10
1-862		2,45	20	—	—	3	80	100	10
1-865		PH00	20	—	—	3	80	100	10
1-866		PH0	20	—	—	3	80	100	10
1-867		—	20	2.4	0.8	3	80	100	10



1-750

## HANDLES FOR CERAMIC ADJUSTMENT BITS

### ► 1-725

#### Adjustment screwdriver handle 80 mm plastic

Synthetic material, insulating, extra hard, sturdy  
 Plastic handle with rotating cap for blades Ø 3 mm  
 Total length: 80 mm, weight: 5 g



1-725

### ► 1-735

#### Adjustment screwdriver handle double-sided 100 mm plastic

Synthetic material, insulating, extra hard  
 Plastic handle with rotating cap for blades Ø 3 mm, usable on both sides  
 Total length: 100 mm, weight: 6 g



1-735

### ► Ceramic adjustment bits for insertion

Bits for Art.-No. 1-725 and 1-735

The following types are available, specifications in mm:



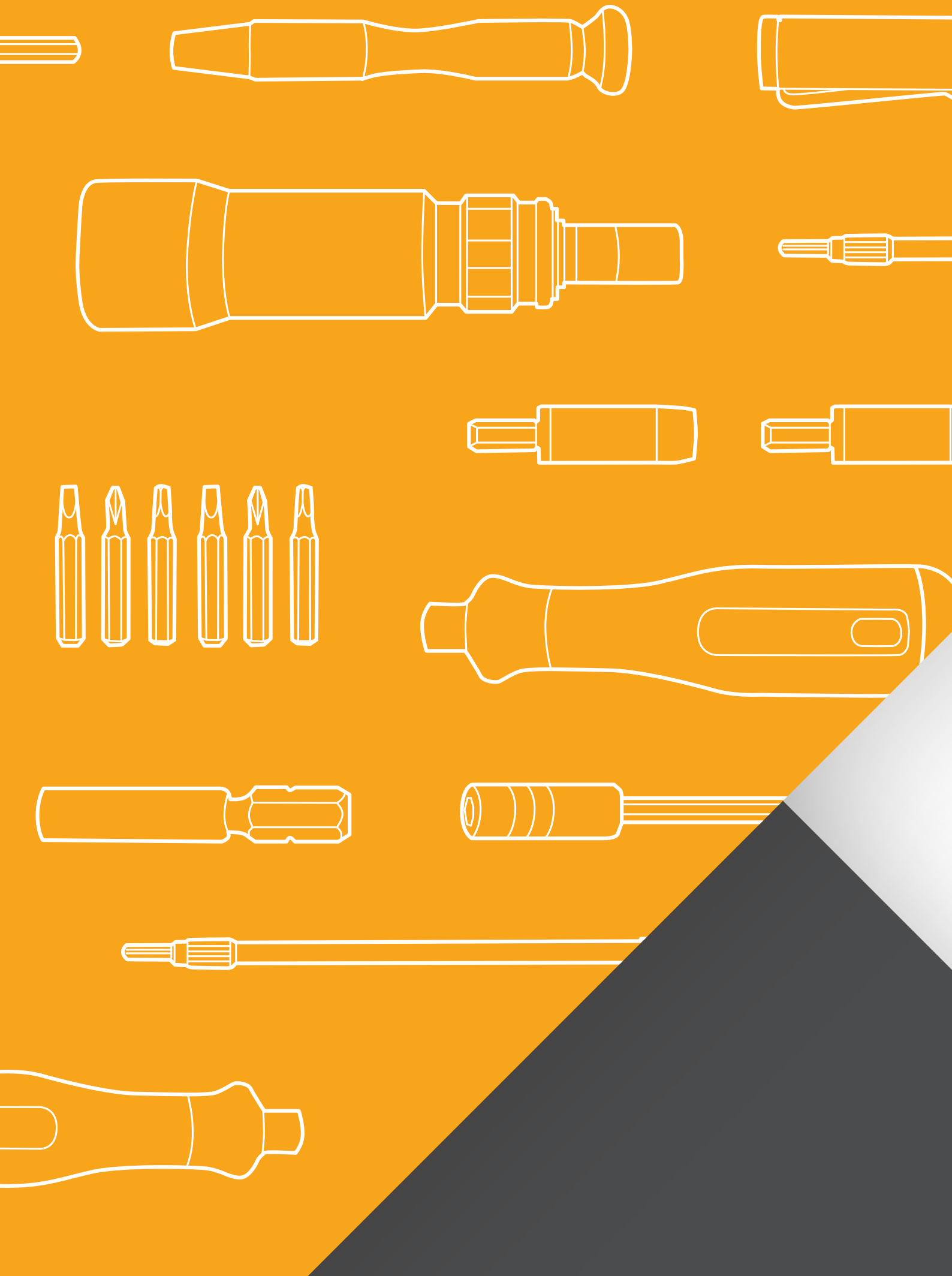
Art.-No.	Symbol	Size / drive	Blade length	Blade width	Blade thickness	Blade diameter	Handle length	Total length	Weight in g
<b>HARD PLASTIC</b>									
1-738		—	32	1.5	0.5	3	—	32	1
1-739		—	32	3	0.5	3	—	32	1
<b>CERAMIC (zirconia)</b>									
1-751		—	32	0.9	0.3	3	—	32	1
1-752		—	32	1.3	0.3	3	—	32	1
1-753		—	32	1.5	0.3	3	—	32	1
1-754		—	32	1.8	0.3	3	—	32	1
1-755		—	32	1.95	0.35	3	—	32	1
1-756		—	32	2.5	0.7	3	—	32	1
1-757		—	32	3	0.3	3	—	32	1
1-758		—	32	3	0.7	3	—	32	1
1-761		1.95	32	—	—	3	—	32	1
1-762		2.45	32	—	—	3	—	32	1
1-763		2.6	32	—	—	3	—	32	1
1-764		PH000	32	—	—	3	—	32	1
1-765		PH00	32	—	—	3	—	32	1
1-766		PH0	32	—	—	3	—	32	1
1-767		—	32	2.4	0.8	3	—	32	1

### ► 1-750

#### Ceramic adjusting screwdriver set 13 pcs

In plastic case, weight: 750 g

Art.-No.	Content	Art.-No.	Content
1-750-0	Hinged lid box empty	1-761	Ceramic blade (Bit) hex blade 1.95 x 32 mm
1-735	Adjustment screwdriver handle double-sided 100 mm plastic	1-762	Ceramic blade (Bit) hex blade 2.45 x 32 mm
1-751	Ceramic blade (Bit) slot blade 0.9 x 0.3 x 32 mm	1-765	Ceramic blade (Bit) cross-recess PH00
1-752	Ceramic blade (Bit) slot blade 1.3 x 0.3 x 32 mm	1-766	Ceramic blade (Bit) cross-recess PH0
1-753	Ceramic blade (Bit) slot blade 1.5 x 0.3 x 32 mm	1-767	Ceramic blade (Bit) Cross 2.4 x 0.8 mm
1-754	Ceramic blade (Bit) slot blade 1.8 x 0.3 x 32 mm		
1-755	Ceramic blade (Bit) slot blade 1.95 x 0.35 x 32 mm		
1-756	Ceramic blade (Bit) slot blade 2.5 x 0.7 x 32 mm		
1-757	Ceramic blade (Bit) slot blade 3 x 0.3 x 32 mm		



NEW

## TORQUE TOOLS - FOR EACH MOMENT THE RIGHT TURN!

The demands placed on screw connections are rising. This also increasingly applies to connections with low preload forces as screws tend to be overtightened. This can result in major damage. That's why it makes sense to tighten screws with a well-defined torque.

Tools that allow their tightening torque to be limited should be used for the quality assurance stage during production assembly and for the repair of electronic components.

For this reason we developed a torque screwdriver and a series of torque adapters for easy operation in the electronics sector.

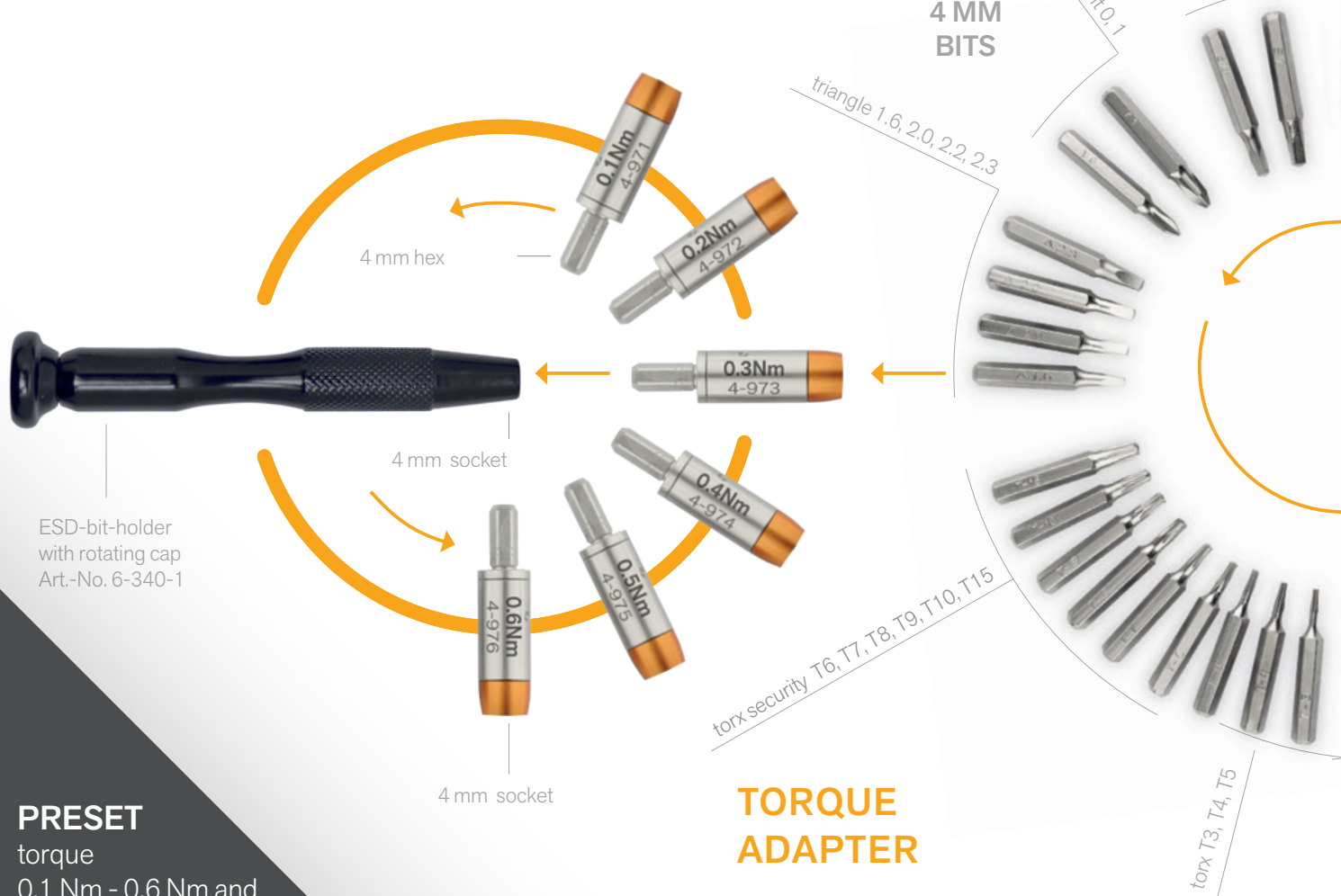
By using the right tool and the correct torque settings, you can fasten screw connections that will fulfil your purposes in the long term, sparing you costly and time-consuming thread repairs.

**NEW**

## TORQUE – ONE SYSTEM, MANY APPLICATIONS!

The new TORQUEline from BERNSTEIN impresses with its flexibility. We have developed a tooling system that allows to combine the individual components in different ways. Thus, you have the matching torque for every application.

Thanks to the adapter, every bit holder is turned into a professional torque screwdriver



### PRESET

torque

0.1 Nm - 0.6 Nm and  
0.6 Nm - 3.0 Nm



### TORQUE ADAPTER

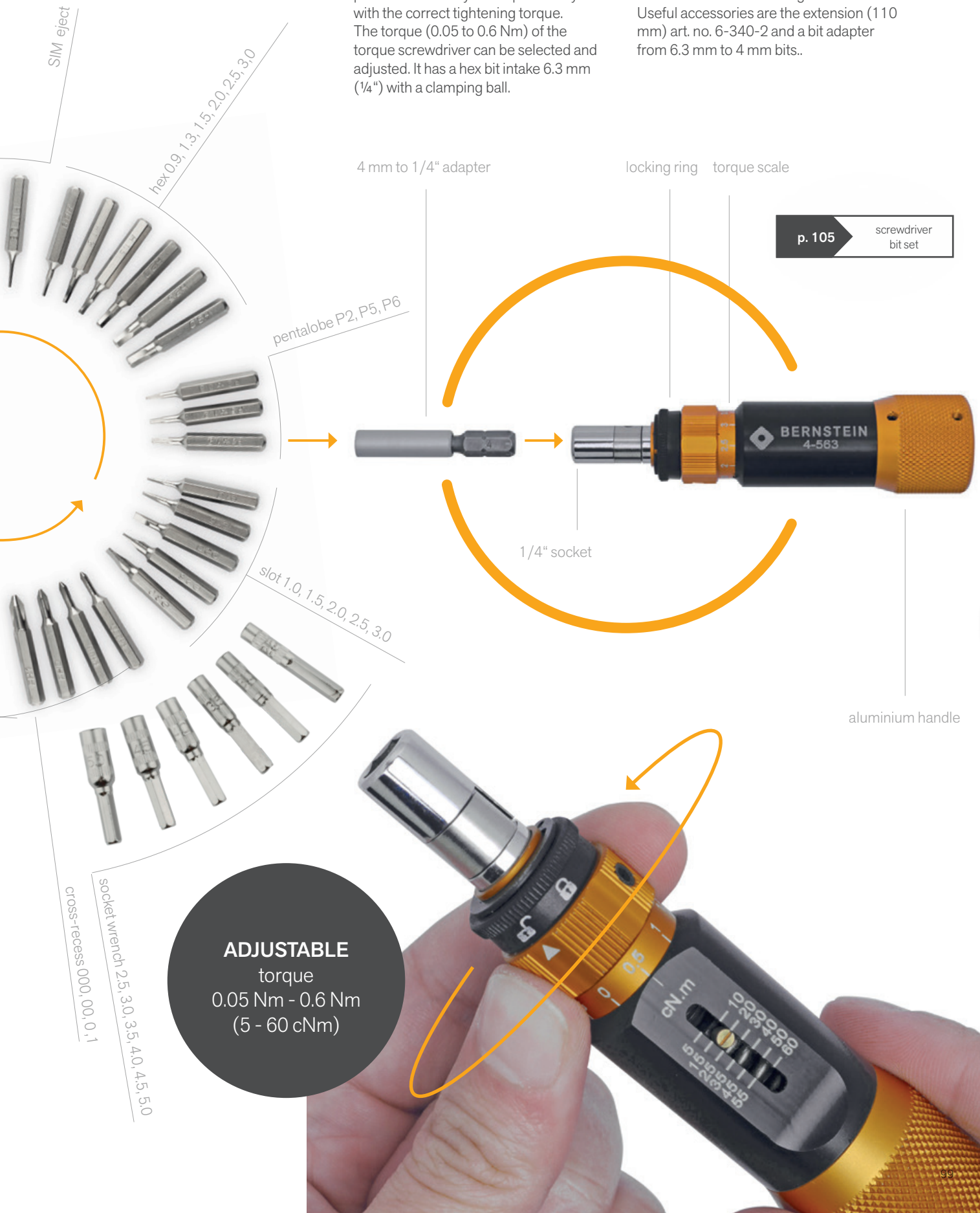
The torque adapter is suitable for particularly delicate applications. Thanks to the bit adapter, it can be easily clamped between any commercially available holding tool and a 4 mm bit. This turns every bit screwdriver into a torque screwdriver. When the factory-set torque is reached, you will hear a loud click. Now the torque no longer increases. The screw is now tightened to the correct torque. The adapter is made of tool steel, has a hardness of 43 - 46 HRC and a magnet in the bit holder. The torque adapter can also be used to loosen the screws, because it has no torque limit when turning back.

- ▶ 20.000 CLICKS
- ▶  $\pm 10$  % NM-TOLERANCE

## TORQUE SCREWDRIVER

The torque screwdriver has been developed to carry out the screwdriving process accurately and reproducibly with the correct tightening torque. The torque (0.05 to 0.6 Nm) of the torque screwdriver can be selected and adjusted. It has a hex bit intake 6.3 mm (1/4") with a clamping ball.

The torque can be adjusted to the desired size and locked with a knurled screw. The screwdriver has a total length of 105 mm. Useful accessories are the extension (110 mm) art. no. 6-340-2 and a bit adapter from 6.3 mm to 4 mm bits..



# TORQUE SCREWDRIVERS, ADAPTERS AND BITS

NEW

## ► 4-563

### Mini torque screwdriver 0.05 - 0.6 Nm with adapter

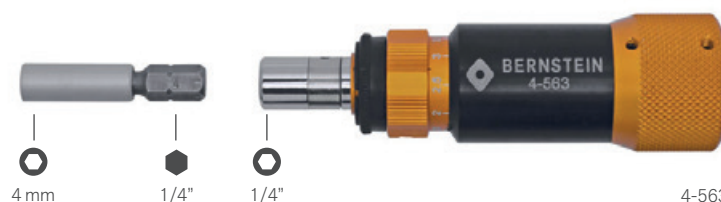
With multicoloured knurled aluminium handle, hex socket 6.35 mm (1/4 inch), adjustable torque from 0.05 to 0.6 Nm tolerance:  $\pm 6\%$

With adapter from 6.3 mm to 4 mm bits. Blade length 15 mm, blade  $\varnothing$  10 mm

Material high-quality tool steel

Total length: 100 mm

Weight: 111 g



4-563

## ► Torque adapter for 4 mm bits

Torque adapter length 22 mm (without shank),

Adapter  $\varnothing$  8 mm, hex socket 4.0 mm, (5/32 inch)

Material stainless steel and quality tool steel

Tolerance:  $\pm 10\%$

Weight: 3 g



4 mm 1/4"

The following types are available, specifications in mm:

Art.-No.	Description	NM	KgfcM	in-lb	size/ shank	Blade length	Blade diameter	Total length	Weight in g
4-971	Torque adapter for 4 mm bits	0.1	1.0	0.9	4	10	8	32	7.5
4-972	Torque adapter for 4 mm bits	0.2	2.0	1.8	4	10	8	32	7.5
4-973	Torque adapter for 4 mm bits	0.3	3.1	2.7	4	10	8	32	7.5
4-974	Torque adapter for 4 mm bits	0.4	4.1	3.5	4	10	8	32	7.5
4-975	Torque adapter for 4 mm bits	0.5	5.1	4.4	4	10	8	32	7.5
4-976	Torque adapter for 4 mm bits	0.6	6.1	5.3	4	10	8	32	7.5

## ► Torque adapter for 1/4" bits

Torque adapter length 39 mm (without shank),

Adapter  $\varnothing$  12 mm, hex socket 6.35 mm (1/4 inch),

Material stainless steel and quality tool steel

Tolerance:  $\pm 10\%$

Weight: 3 g



6.35 mm 1/4"

The following types are available, specifications in mm:

Art.-No.	Description	NM	KgfcM	in-lb	Colour code	size/ shank	Blade length	Blade diameter	Total length	Weight in g
4-981	Torque adapter for 1/4" bits	0.6	6.1	5.3	red	6.35	10	12	39	26
4-982	Torque adapter for 1/4" bits	0.9	9.2	8.0	grey	6.35	10	12	39	26
4-983	Torque adapter for 1/4" bits	1.2	12.0	10.6	green	6.35	10	12	39	26
4-984	Torque adapter for 1/4" bits	1.4	14.0	12.4	orange	6.35	10	12	39	26
4-985	Torque adapter for 1/4" bits	2.0	20.0	17.7	purple	6.35	10	12	39	26
4-986	Torque adapter for 1/4" bits	3.0	30.6	26.6	blue	6.35	10	12	39	26

## BIT ADAPTERS, HANDLES AND BITS

NEW

## ► 4-106

**Screwdriver handle with 5/32 inch magnetic bit holder**

2-component synthetic handle, ergonomically shaped, non-slip, blades Ø 7.5 mm,  
Socket WAF 4 mm, material high-quality tool steel  
Total length: 110 mm  
Weight: 38 g



4-106

## ► 4-107

**Screwdriver handle with 1/4 inch magnetic bit holder**

2-component synthetic handle, ergonomically shaped, non-slip, blades Ø 10.0 mm,  
Socket WAF 6.35 mm, material high-quality tool steel  
Total length: 120 mm  
Weight: 58 g



4-107

## ► 6-340-1

**Bit holder for 4 mm hex bits, with ESD coating**

Ergonomically shaped handle, material aluminium, ESD powder coated  
Surface resistance  $10^6 - 10^9$  Ohm, Norm: IEC 61340-5-1  
Total length: 80 mm  
Weight: 15 g



6-340-1

## ► 4-564

**Bit adapter 1/4 inch > 4 mm bit**

Blade length 28 mm, blades Ø 8 mm, material steel/aluminium  
Total length: 42.5 mm  
Weight: 11 g



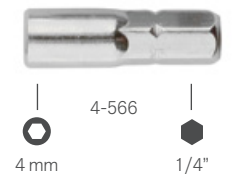
4-564

1/4"

## ► 4-566

**Bit adapter 1/4 inch > 4 mm bit**

Material quality tool steel, blade length 15 mm, blades Ø 10 mm  
Total length: 25 mm  
Weight: 6 g



4-566

1/4"

## ► 4-567

**Bit adapter 4 mm bits extension 60 mm**

Socket 4 mm, material steel-aluminum combination eloxed,  
Perfectly combinable with torque adapter set Art.-No. 4-970-KSB  
Total length: 60 mm  
Weight: 7,5 g



4-567

4 mm

4 mm

## ► 6-340-2

**Bit adapter (5/32) extension 115 mm**

Socket 4 mm, material steel-aluminum combination sandblasted,  
Perfectly combinable with torque adapter set Art.-No. 4-970-KSB  
Total length: 115 mm  
Weight: 13 g



6-340-2

4 mm

4 mm

## ► 4-565

**Flexible bitholder for 4 mm bits**

Socket WAF 4 mm, material steel/rubber,  
Total length: 200 mm  
Weight: 23 g



4-565

4 mm

4 mm

## TORQUE SETS

NEW

### ► 4-970-KSB

#### Set torque adapter 0.1 - 0.6 Nm 8 pcs (+ 2 adapters)

Torque adapter length 22 mm (without shank), adapter Ø 8 mm, Hex socket 6.35 mm 4.0 mm (5.32")

Material stainless steel and quality tool steel

1 bit holder made of aluminium (Art.-No. 4-564)

1 bit holder made of chrome-plated steel (Art.-No. 4-566)

In a plastic quadro box

Weight: 70 g



4-970-KSB

### ► 4-970-G

#### Set torque adapter 0.1 - 0.6 Nm 8 pcs (+ 2 bit adapters + handle)

Torque adapter length 22 mm (without shank), adapter Ø 8 mm, Hex socket 6.35 mm 4.0 mm (5.32")

Material stainless steel and quality tool steel

1 bit holder made of aluminium (Art.-No. 4-564)

1 bit holder made of chrome-plated steel (Art.-No. 4-566)

In a plastic quadro box

Screwdriver handle Art.-No. 4-106

Weight: 108 g



4-970-G

### ► 4-980-KSB

#### Torque adapter set 0.6 - 3.0 Nm for 1/4 inch bits

Torque adapter length 39 mm (without shank), adapter Ø 12 mm,

Hex socket 1/4" (6.35 mm)

Material stainless steel and quality tool steel

In a plastic quadro box

Weight: 141 g



4-980-KSB

### ► 4-980-G

#### Torque adapter set 0.6 - 3.0 Nm for 1/4 inch bits with handle

Torque adapter length 39 mm (without shank), adapter Ø 12 mm,

Hex socket 1/4" (6.35 mm)

Material stainless steel and quality tool steel

In a plastic quadro box

screwdriver handle Art.-No. 4-107

Weight: 198 g



4-980-G

## TORQUE SCREWDRIVERS AND SETS

NEW

## ► 4-930

**Bit set with torque screwdriver 0.05 - 0.6 Nm 46 pcs**

Material quality tool steel, blade length 15 mm, blades Ø 10 mm

Material steel/aluminium, in plastic case with foam insert

Tolerance: ± 6 %

Weight: 420 g

Art.-No.	Content
4-563	Mini torque screwdriver 0.05 - 0.6 Nm with adapter 4 mm > 6.35 mm
6-340	ESD screwdriver bit set 44 pcs Content see page 105



4-930

## ► 4-970

**Bit set with torque adapter 0.1 - 0.6 Nm 51 pcs**

Torque adapter length 22 mm (without shank), adapter Ø 8 mm, hex socket 4.0 mm,

Material stainless steel and quality tool steel, in plastic case with foam insert

Tolerance: ± 10 %

Weight: 427 g

Art.-No.	Content
4-971 - 4-976	Torque adapter 0.1, 0.2, 0.3, 0.4, 0.5, 0.6 Nm for 4 mm bits
4-564	Bit adapter 1/4" > 4 mm bits
6-340	ESD screwdriver bit set 44 pcs Content see page 105



4-970

## ► 4-970-A / 4-970-B / 4-970-C

**Bit-set with 2 torque adapters, 47 pcs**

Torque adapter length 22 mm (without shank), adapter Ø 8 mm, hex socket 4.0 mm,

Material stainless steel and quality tool steel, in plastic case with foam insert

Tolerance: ± 10 %

Weight: 410 g

Art.-No.	4-970	Content
4-564	A/B/C	Bit adapter 1/4" > 4mm bits
6-340	A/B/C	ESD screwdriver bit set 44 pcs Content see page 105
4-971 + 4-972	A	Torque adapter 0.1 Nm for 4 mm bits Torque adapter 0.2 Nm for 4 mm bits
4-973 + 4-974	B	Torque adapter 0.3 Nm for 4 mm bits Torque adapter 0.4 Nm for 4 mm bits
4-975 + 4-976	C	Torque adapter 0.5 Nm for 4 mm bits Torque adapter 0.6 Nm for 4 mm bits



4-970-A, 4-970-B, 4-970-C

BITS AND BIT SETS

NEW

► 4-909

**PEN bit set 23 pcs  
(22 bits + holder)**

Made of high-quality gun metal with powder coating in metallic grey. The set consists of 22 bits and a bit holder in a handy pen design and a magnetic cap with clip. The magazine can be individually equipped with 5 bits. The remaining bits can be stored in the practical synthetic holder.

Weight: 120 g



4-909



Bits	Description
	Square S1
	Pentalobe P2 - P5 - P6
	Torx security T8 - T9 - T10
	Torx 5 - 6 - 7
	Cross-recess 00 - 0 - 1
	Slot 1.5 - 2.0 - 2.5 - 3.0 mm
	Hex 0.9 - 1.3 - 1.5 - 2.0 mm
	Sim eject bit 0.8



► 4-950

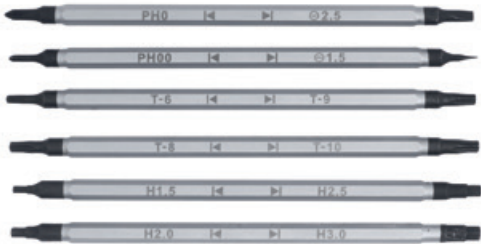
**Screwdriver set 13 pcs  
(12 bits within handle)**

High-quality aluminium handle with integrated magazine for up to 5 bit blades, Ø 4 mm

Weight: 112 g



4-950



Bits	Description
	Slot 1.5, 2.5
	Cross-recess PH0, PH00
	Torx T6, T8, T9, T10
	Hex 1.5, 2.0, 2.5, 3.0



p. 76 ESD screwdriver set

## BITS AND BIT SETS



## ► 6-340

**ESD screwdriver bit set 44 pcs**

In combination with the ESD handle (Art.-No. 6-340-1) suitable for all work on electrostatically sensitive components.

Surface resistance:  $10^6 - 10^9$  Ohm

Norm: IEC 61340-5-1.

The rotatable centering head guarantees precision.

Extension: Art.-No. 6-340-2 (115 mm)

Material bits: quality steel sandblasted and nickel-plated 52-54 HRC

Weight: 157 g

Bits	Description
	Slot 1.0, 1.5, 2.0, 2.5, 3.0
	Cross-recess PH000, PH00, PH0, PH1
	Torx T3, T4, T5
	Torx security T6, T7, T8, T9, T10, T15
	Triangle 1.6, 2.0, 2.2, 2.3
	Tri-point 0, 1
	Square S0, S1
	Hex 0.9, 1.3, 1.5, 2.0, 2.5, 3.0
	Pentalobe P2, P5, P6
	Socket wrench 2.5, 3.0, 3.5, 4.0, 4.5, 5.0
	SIM eject bit



6-340

## ► 6-340-3

NEW

**Screwdriver bit set 42 pcs**

3 bit bars equipped with 36 special bits and 1 bit bar with 6 nut setter, C4 shank, 4 mm (5/32") hex, blade length 22 mm, blades Ø 8 mm, quality steel sandblasted and nickel-plated 52-54 HRC, Dimensions bars: 65 x 8 x 28 mm

Weight: 117 g



6-340-3

## SERVICE SET HANDY REPAIR

p. 109

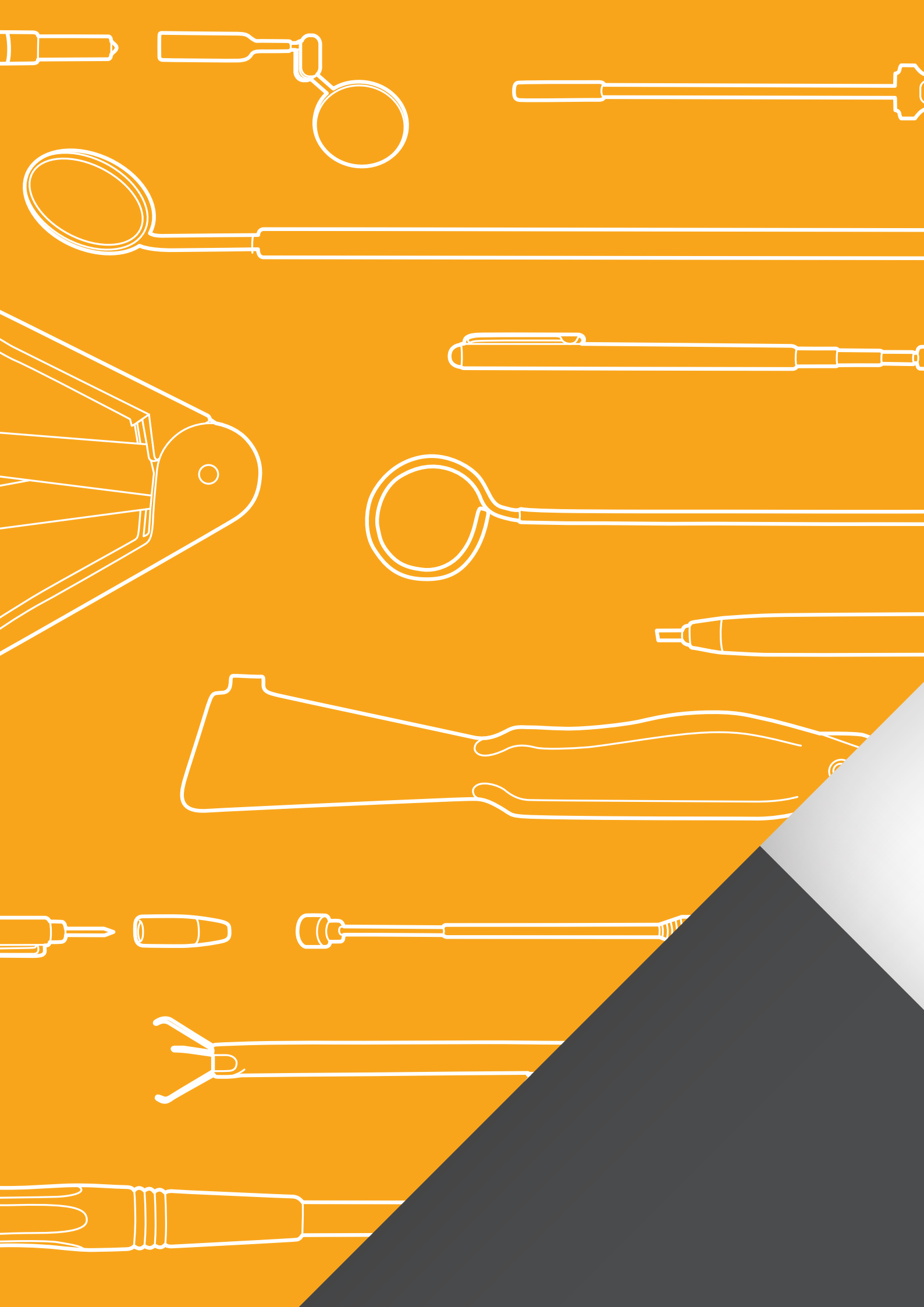
opening tools

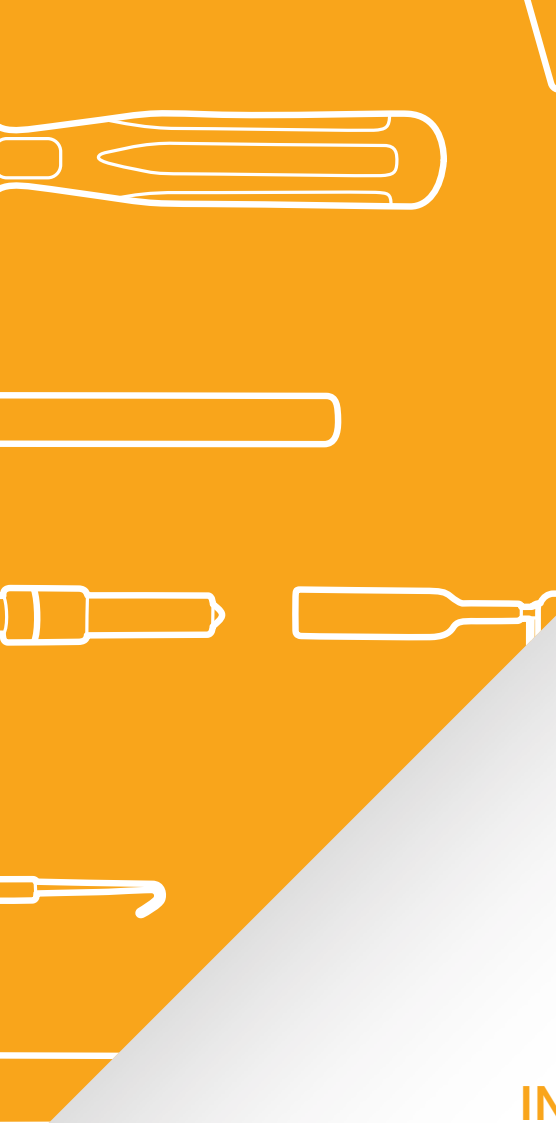
Plastic case, consisting of a black plastic case with foam inlay, suction cup opener, opening tool, conductive ESD tweezers (tip 2.0 mm wide) and a 42 pcs bit set (Art.-No. 6-340-3) with conductive ESD bit screwdriver with rotating cap and 115 mm extension (Art.-No. 6-340-2).

## ► 4-910 ESD screwdriver bit set 47 pcs

Art.-No.	Content
6-340-1	ESD bit holder dissipative for 4 mm (5/32") hex bits ( $10^6 - 10^9$ Ohm)
6-340-2	Bit extension für 4 mm (5/32") hex bits
6-340-3	Screwdriver bit set 42 pcs 4 bit bar 4 mm (5/32") hex bits
2-111	LCD opener suction cup with ring (separable M4 thread)
2-124	Opening tool BERNSTEIN metal opener flat
5-059-13	ESD SMD tweezers 120 mm form 2a stainless steel dissipative ( $10^6 - 10^9$ Ohm)







## INSPECTION, CLEANING AND OPENING TOOLS – TO MAKE LIFE AT THE WORKPLACE EASIER!

To make life at the workplace easier,  
BERNSTEIN also offers little helpers.  
On the following pages, you will find cleaning  
and testing tools as well as opening and  
auxiliary tools.

## CLEANING TOOLS

**Glass-fibre** contact cleaner is a practical helper for users in many areas. They are perfect for cleaning, polishing or sanding the smallest surfaces. These are used in fine work for model building, for example, but the glass-fibre contact cleaner is also ideal for cleaning soldering joints and welds.

**Brass wire brushes** are practical helpers for cleaning, grinding, scratching and deburring. In particular, dirty threads in inaccessible places can be cleaned and derusted with the help of brass wire erasers.

NEW

Art.-No.	Description	Total length in mm	Weight in g
<b>2-162</b>	Glass fibre contact cleaner brush Ø 4mm, plastic body	120	10
<b>2-166</b>	Glass fibre contact cleaner brush Ø 4mm, plastic body with metal tip	120	10
<b>2-167-VE10</b>	Replacement glass fibre 35 mm for 2-166 Ø 4 mm (VE10)	35	11
<b>2-163</b>	Brass contact cleaner brush Ø 4mm, plastic body with metal tip	120	10
<b>2-164-VE24</b>	Replacement brush 33 mm (MS) for 2-163 Ø 4 mm (VE 24)	58	41
<b>2-168</b>	Glass fibre contact cleaner brush Ø 2 mm, with clamp mounting, plastic body with metal tip	140	12
<b>2-169-VE12</b>	Refill glass fibre 112mm for 2-168 Ø 2mm (VE12)	112	6

NEW

NEW

NEW

Art.-No.	Description	Total length in mm	Weight in g
<b>2-126</b>	ESD desoldering lever slotted at one ends	115	10
<b>2-127</b>	ESD tin knife, pointed sharp blade	115	15
<b>2-128</b>	ESD tin scraper, sharp chisel form	115	14
<b>2-101</b>	Tin knife with ceramic blade	105	9

## INSPECTION TOOLS

BERNSTEIN test prods are especially thin, pointed and flexible. The fully insulated and flexible design of the test prods prevents short circuits and damage during testing and measuring, even when contacts are arranged one after another.

Art.-No.	Description	Total length in mm	Weight in g
<b>2-265-1</b>	Test prod red, blade 1 mm, Rated voltage CAT I: 60V (DC/30V CAC)	155	9
<b>2-265-2</b>	Test prod black, blade 1 mm Rated voltage CAT I: 60V (DC/30V CAC)	155	9

Art.-No.	Description	Total length in mm	Weight in g
<b>1-909</b>	Engineer mirror, magnifying, Ø 23 mm, with extension	145-260	9
<b>1-978</b>	Engineer mirror, magnifying, Ø 23 mm, with extension, with 6 mm blade at the end	145-260	9
<b>2-275</b>	Magnifying mirror Ø 21 mm	180	8
<b>2-282</b>	Inspection mirror telescopic rod, 360° rotatable joint	150-610	23
<b>2-292</b>	Magnifier 3.25 x Ø 45 mm with additional lens	70	35
<b>2-293</b>	Hand magnifier 3 x Ø 65 mm antistatic coating	180	54
<b>2-296</b>	Hand magnifier 3x magnification LED light	112 - 172	18
<b>2-656</b>	LED flashlight, waterproof with clip	140	40



2-162



2-166



2-163



2-168



2-126



2-127



2-128



2-101



2-265-1



2-265-2



1-909



1-978



2-275



2-282



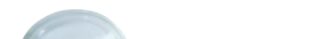
2-292



2-293



2-296



2-656



2-292



2-293

## OPENING TOOLS

Opening tools for opening hard-to-reach electronic devices such as smartphones, tablets, notebooks, and many more.

Art.-No.	Description	Total length in mm	Weight in g
<b>2-113</b>	ESD opening tool	176	22
<b>2-123</b>	ESD crowbar SPUDGER metal opener flat	180	19
<b>2-124</b>	Opening tool BERNSTEIN metal opener flat	120	12
<b>2-129</b>	opening tools synthetic 10 pcs	—	52
<b>2-111-VE3</b>	LCD suction cup with ring (PU 3)	—	50

## AUXILIARY TOOLS

Art.-No.	Description	Total length in mm	Weight in g
<b>2-119</b>	Magnetic mat with pen Rewritable pad for the repair of small electronic devices, smartphones, etc.	250 x 200	200
<b>2-155</b>	claw-type gripper, 3 hardened wire claws	165	50
<b>2-155-13</b>	ESD claw-type gripper, 3 hardened wire claws, dissipative	165	60
<b>2-157</b>	Flexible claw-type gripper with 4 spring claws	600	75
<b>2-161</b>	Scriber, magnetic lifter with telescopic slide-out	145-655	34
<b>2-130</b>	Set of spring pullers 6 pcs	204	39
<b>2-131</b>	Spring puller 205 mm	205	10
<b>2-132</b>	Spring puller 175 mm	175	8
<b>2-133</b>	Spring puller with ring	195	12
<b>2-605</b>	PLCC-puller	135	5
<b>2-620</b>	PLCC-extractor	100	21

### ► 2-130

#### Set of spring pullers 6 pcs

In plastic insert pocket, various shapes for gripping and straightening springs

Weight: 39 g



2-130

### ► 2-800

#### Miniature tap and die set 30 pcs (M1.0 - M2.5 mm)

A tap and die set with a taper and bottoming tap for each size. The set also includes a die holder as well as two matching reducing rings. The reducing rings are used to also mount the taps into the die holder.

Content:

each 2 x hand taps (HGB) M1.0 - 1.1 - 1.2 - 1.4 - 1.6 - 1.8 - 2.0 - 2.2 - 2.5

each 1 x dies M1.0 - 1.1 - 1.2 - 1.4 - 1.6 - 1.8 - 2.0 - 2.2 - 2.5

1 x die holder

2 x tap wrenches

Weight: 199 g



2-800



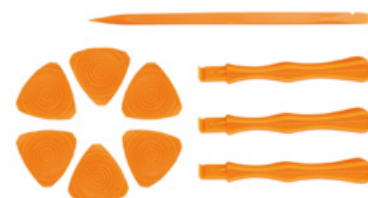
2-113



2-123



2-124



2-129



2-111-VE3



2-119



2-155

NEW



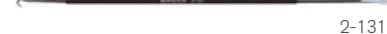
2-155-13



2-157



2-161



2-131



2-131



2-133

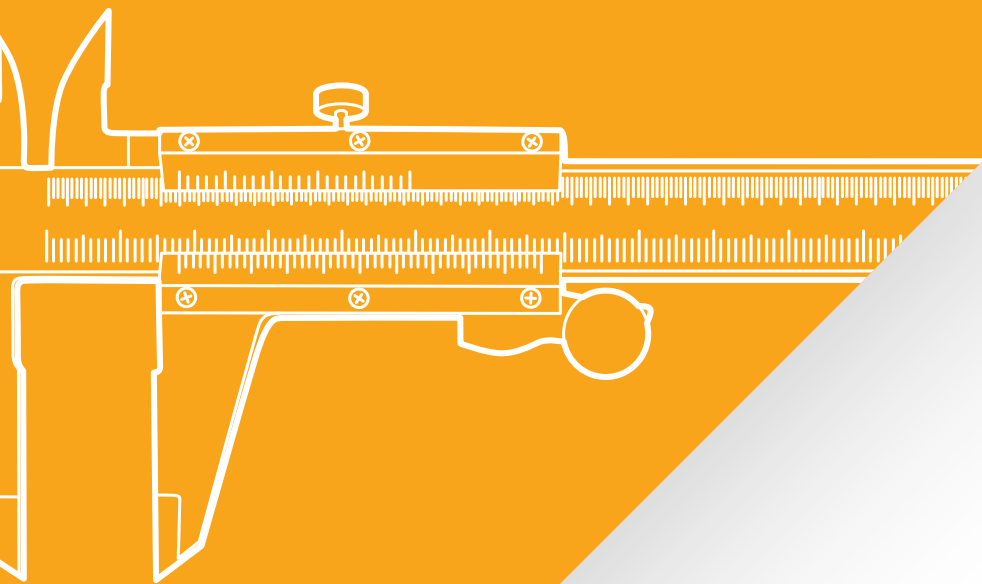


2-605



2-620





## CUTTING AND MEASURING TOOLS

Testing, measuring and cutting tools are the most important tools and a part of the standard equipment of any workbench or toolbox.

Bernstein offers various tools for inspecting, measuring and servicing components or assemblies.

### CLIPPERS AND KNIVES

We selected the geometry of our clippers and knives based on our customers' requirements. You will find the right cutting tool depending on the application.

### CALLIPERS

Callipers can be used to measure internal dimensions, external dimensions and depth dimensions.

### FOLDING RULERS AND MEASURING TAPES

It couldn't be simpler – the folding ruler. One of the oldest measuring tools, but also one of the most important. We offer various measuring equipment in this field – from short to long.

## SCISSORS

p. 123

Stripping tools

### ► 5-161

#### Clamping scissors with teething jaws

for holding and clamping, no cutting function. Serrated on both sides. Jaw length 25 mm

Material high quality steel, stainless

Total length: 130 mm, weight: 80 g



5-161

### ► 5-301

#### Scissors with teething

One blade micro serrated, cutting length 15 mm

Material high quality steel, stainless

Total length: 110 mm, weight: 27 g



5-301

### ► 5-301-13

NEW

#### ESD scissors with teething, dissipative

One blade micro serrated, cutting length 15 mm

Material high quality steel, stainless, dissipative between 10<sup>6</sup> and 10<sup>9</sup> ohm

Total length: 110 mm, weight: 27 g



5-301-13



### ► 5-302

#### Electrician scissors with toothing

stripping function, very stable and robust scissor, cutting length 45 mm

Material high quality steel, stainless

Total length: 130 mm, weight: 67 g



5-302

### ► 5-305

#### Combination scissors, slicer

smooth cutting edge, one-sided external toothing, cutting length 30 mm

Compression spring and lock. Material high quality steel, stainless

Total length: 145 mm, weight: 58 g



5-305

### ► 5-306

#### Scissors, black lacquered, polished head

No ESD! Cutting length 30 mm

Material high quality steel, stainless

Total length: 180 mm, weight: 85 g



5-306

### ► 5-308

#### Scissors with fine teething

Telephone and cable scissors with fine serration on one side on the inside, cutting length 45 mm

Material high quality steel, stainless

Total length: 125 mm, weight: 59 g



5-308

### ► 5-308-13

NEW

#### ESD scissors with fine teething, dissipative

ESD - telephone and cable scissors with fine serration on one side on the inside, cutting length 45 mm

Material high quality steel, stainless, with ESD-coating, dissipative between 10<sup>6</sup> and 10<sup>9</sup> ohm

Total length: 125 mm, weight: 61 g



5-308-13



5-308-13

### ► 5-311

#### Kitchen scissors

very stable and robust scissor, smooth and sharp cutting edges, cutting length 70 mm

Material high quality steel, stainless

Total length: 180 mm, weight: 80 g



5-311

## SCISSORS AND KNIVES

### ► 5-310

#### Scissors with round tips

Smooth precision cutting, cutting length 45 mm  
Material high quality steel, stainless  
Total length: 130 mm, weight: 55 g



5-310

### ► 5-310-13

NEW

#### ESD scissors rounded, dissipative

Material high quality steel, stainless, cutting length 45 mm  
coating dissipative between  $10^6$  and  $10^9$  ohm  
Total length: 130 mm, weight: 58 g



5-310-13



### ► 5-352

#### ESD scissors with dissipative handle

Material high quality steel, cutting length 80 mm, handle dissipative between  $10^6$  to  $10^9$  ohm  
For working in electrostatically protected areas (ESD workplace).  
Total length: 180 mm, weight: 55 g



5-352



### ► 5-353

#### Ceramic scissors with plastic handle

Ceramic cutting edges, for cutting kevlar and aramid fibers, antistatic and electrically insulating,  
black glass-fibre reinforced synthetic handles, cutting length 75 mm  
Total length: 190 mm, weight 80 g



5-353

### ► 5-515

NEW

#### Cutter knife

Blades made of special stainless steel 9 mm, blade strips adjustable and breakable.  
Material metal body, powder coated, replacement blades (VE 10) Art.-Nr. 5-517  
Total length: 140 mm, weight: 10 g



### ► 5-517

NEW

#### Cutter knife

Blades made of special stainless steel 18 mm, blade strips adjustable and breakable.  
Case made from plastic, replacement blades (VE 10) Art.-No. 5-518  
Total length: 160 mm, weight: 55 g



5-517

### ► 5-519

#### ESD cutter knife dissipative

Blades made of special stainless steel 18 mm, blade strips adjustable and breakable.  
For cutting and separation of all materials, for working in electrostatically protected areas  
ABS plastic case, surface resistance:  $10^6$  -  $10^9$  Ohm.  
Replacement blades (VE 10) Art.-Nr. 5-518  
Total length: 140 mm, weight: 39 g



5-519



### ► 2-102

NEW

#### Scalpel handle set with 5 blades

Total length: 125 mm, weight: 3 g

Art.-No.	Content	Art.-No.	Content
2-102-1	Scalpel handle	2-102-4	Blade no. 11 (5 x 42 mm)
2-102-2	Blade no. 10 (7 x 42 mm)	2-102-5	Blade no. 12 (6 x 40 mm)
2-102-3	Blade no. 10 A (8 x 42 mm)	2-102-6	Blade no. 13 (7 x 42 mm)



2-102-2

2-102-1



2-102-3



2-102-4



2-102-5



2-102-6

## MEASURING TOOLS

### ► 7-502

#### Folding rule 2 meters

Material wood

Total length folded 240 x 15 mm, weight: 120 g



7-502

### ► 7-503

#### Folding rule 1 Meter

Material plastic

Total length folded 130 x 13 mm, weight: 60 g



7-503

### ► 7-506

#### Roller tape measure 2 Meter

Shockproof synthetic body

Total length: 55 mm, weight: 70 g



7-506

### ► 7-508

#### Steel tape measure 30 cm

Cross section 13 x 0,5 x 300 mm stainless steel,

Lines and numbers etched and dyed black

Total length: 320 mm, weight: 20 g



7-508

### ► 7-515

#### Feeler gauge 21 blades (0.05 - 2.0 mm)

With conical blades, measuring range 0.05 - 2.0 mm, cover sheet nickel plated with locking screw

Material: INOX stainless steel

T2 TOLERANCES:

Nominal thickness 0.03 / 0.04 / 0.05 / 0.06 +/- 0.004 mm

Nominal thickness 0.07 / 0.08 / 0.09 / 0.10 +/- 0.005 mm

Nominal thickness 0.11 / 0.12 / 0.13 +/- 0.005 mm

Nominal thickness 0.14 / 0.15 +/- 0.006 mm

Nominal thickness 0.16 / 0.18 +/- 0.007 mm

Nominal thickness 0.20 +/- 0.008 mm

Total length: 100 mm, weight: 190 g



7-515

### ► 7-521

#### Scriber 200 mm

For marking, scribing, scoring, engraving, one side bent 90°

Needles hardened and burnished, Ø 2,5 mm

Aluminum handle Ø 6 mm, finely knurled for optimum grip

Material aluminum/tool steel

Total length: 200 mm, weight: 26 g



7-521

### ► 7-535

#### Spirit level 225 mm

Material plastic, with horizontal, vertical and 45° level

Total length: 225 mm, weight: 58 g



7-535

## ► 7-509

**Digital calliper plastic display 100 mm**

Measuring range 100 mm, tolerance 0.001 mm, 5-digit LCD display, with locking screw,  
 Bottom beak 30 mm top 10 mm, pointers, depth rod  
 Material quality steel, hardened, stainless, in a plastic case  
 Total length: 170 mm, weight: 185 g



7-509

## ► 7-511

**Digital calliper DIN862, 150 mm**

Measuring range 150 mm, tolerance 0.001 mm, 5-digit LCD display, with locking screw,  
 Bottom beak 40 mm top 10 mm, pointers, depth rod  
 Material quality steel, hardened, stainless, in a plastic case  
 Total length: 250 mm, weight: 200 g



7-511

## ► 7-512

**Digital calliper MINI steel display 100 mm**

Measuring range 100 mm, tolerance 0.001 mm, 5-digit LCD display, with locking screw,  
 Bottom beak 30 mm top 10 mm, pointers, depth rod  
 Material quality steel, hardened, stainless, in a plastic case  
 Total length: 180 mm, weight: 110 g



7-512

## ► 7-513

**Digital calliper steel display 150 mm**

Measuring range 150 mm, tolerance 0.001 mm, 5-digit LCD display,  
 with locking screw, Bottom beak 40 mm top 10 mm, pointers, depth rod  
 Material quality steel, hardened, stainless, in a plastic case  
 Total length: 235 mm, weight: 200 g



7-513

## ► 7-514

**Digital plastic calliper 100 mm**

Measuring range 100 mm, tolerance 0.001 mm, 5-digit LCD display, with locking screw,  
 Bottom beak 30 mm top 10 mm, pointers, depth rod  
 Material quality steel, hardened, stainless, in a plastic case  
 Total length: 180 mm, weight: 60 g



7-514

## ► 7-516

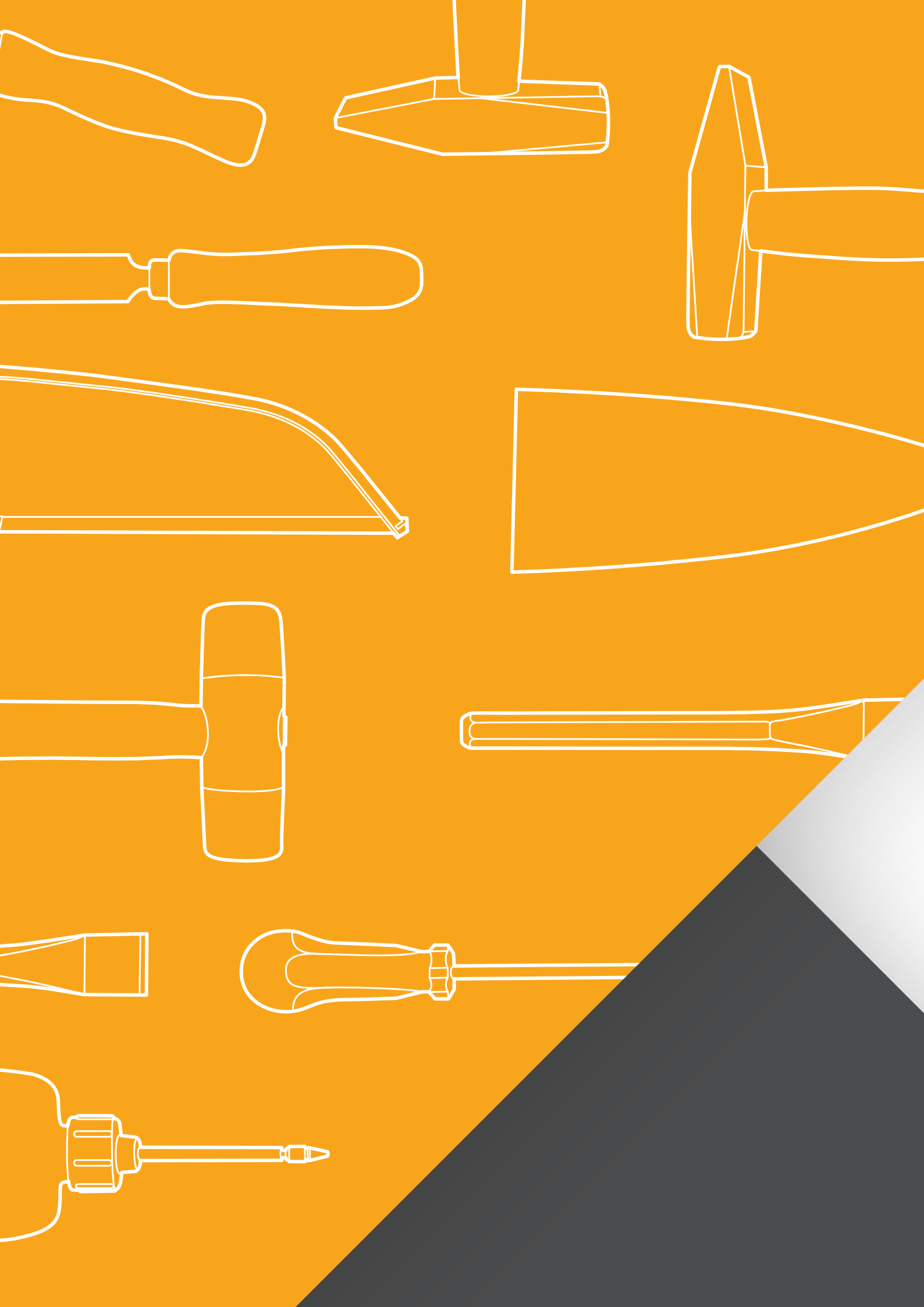
**NEW****Analogue calliper 150 x 0.05 mm**

In a stable plastic box, measuring range 150 mm,  
 Tolerance 0.05 mm, bottom beak 40 mm, top 10 mm  
 Material quality steel, hardened, stainless  
 Total length: 230 mm, weight: 150 g



7-516

Further information about our calipers can be found on our website.





## HAND TOOLS

BERNSTEIN offers different traditional tools for labour-intensive work at the workplace. Whether hammers, files, saws or spatulas – you will find a selection of our popular products in this chapter.

## FILES

### ► 5-210

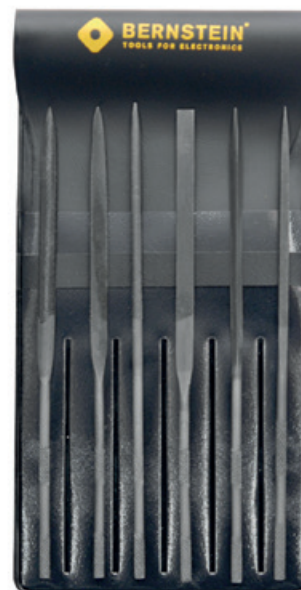
#### Needle files set 6 pcs

24 strokes on 1 cm, in plastic case, without handle

Weight: 50 g

The following types are available, specifications in mm:

Art.-No.	Type	Handle length	Total length	Weight in g
5-201	flat-blunt	100	140	7
5-202	flat-pointed	100	140	6
5-203	round	100	140	6
5-204	half round	100	140	6
5-205	triangular	100	140	6
5-206	square	100	140	6



5-210

### ► 5-240

#### Warding files set 6 pcs

22 strokes on 1 cm, in plastic case, with handle

Weight: 120 g

The following types are available, specifications in mm:

Art.-No.	Type	Handle length	Total length	Weight in g
5-231	flat-blunt	67	170	17
5-232	flat-pointed	67	170	14
5-233	round	67	170	13
5-234	half round	67	170	27
5-235	triangular	67	170	18
5-236	square	67	170	15



5-240

### ► 5-261

#### Contact file

With fine stroke, flat-blunt, 22 strokes on 1 cm

Total length: 150 mm, weight: 9 g



5-261

## HAND TOOLS

### ► Engineer hammer according to DIN 1041

Drop forged, precision ground, tiller and track precision ground, varnished and rust-protected, with double curved ash handle

The following types are available, specifications in mm:

Art.-No.	Total length	Head weight in g	Total weight in g
7-114	280	200	260
7-116	300	300	435



7-112

### ► Plastic hammers

With impact-resistant plastic inserts, lacquered handle

The following types are available, specifications in mm:

Art.-No.	Total length	Head- Ø	Total weight in g
7-121	255	22	130
7-122	270	27	225
7-123	275	32	330



7-122

### ► 7-616

#### PUK saw

In case, with adjustable wooden handle and saw blade for wood and metal

Total length: 245 mm, span width: 150 mm

Weight: 140 g



7-616

### ► 7-617

#### Hack saw blade

Suitable for „PUK“-saws, VE 12

Total length: 150 mm

Weight: 3 g



7-617

### ► 7-405

#### Painter's spatula

With conical forged leaf and wooden handle

Blade width: 50 mm,

Total length: 215 mm, weight: 70 g



7-405

### ► 7-410

#### Slicker trowel

Polished with round stalk, blade width: 16 mm,

Total length: 220 mm, weight: 25 g



7-410

### ► 7-435

#### Oiler, 40 ml

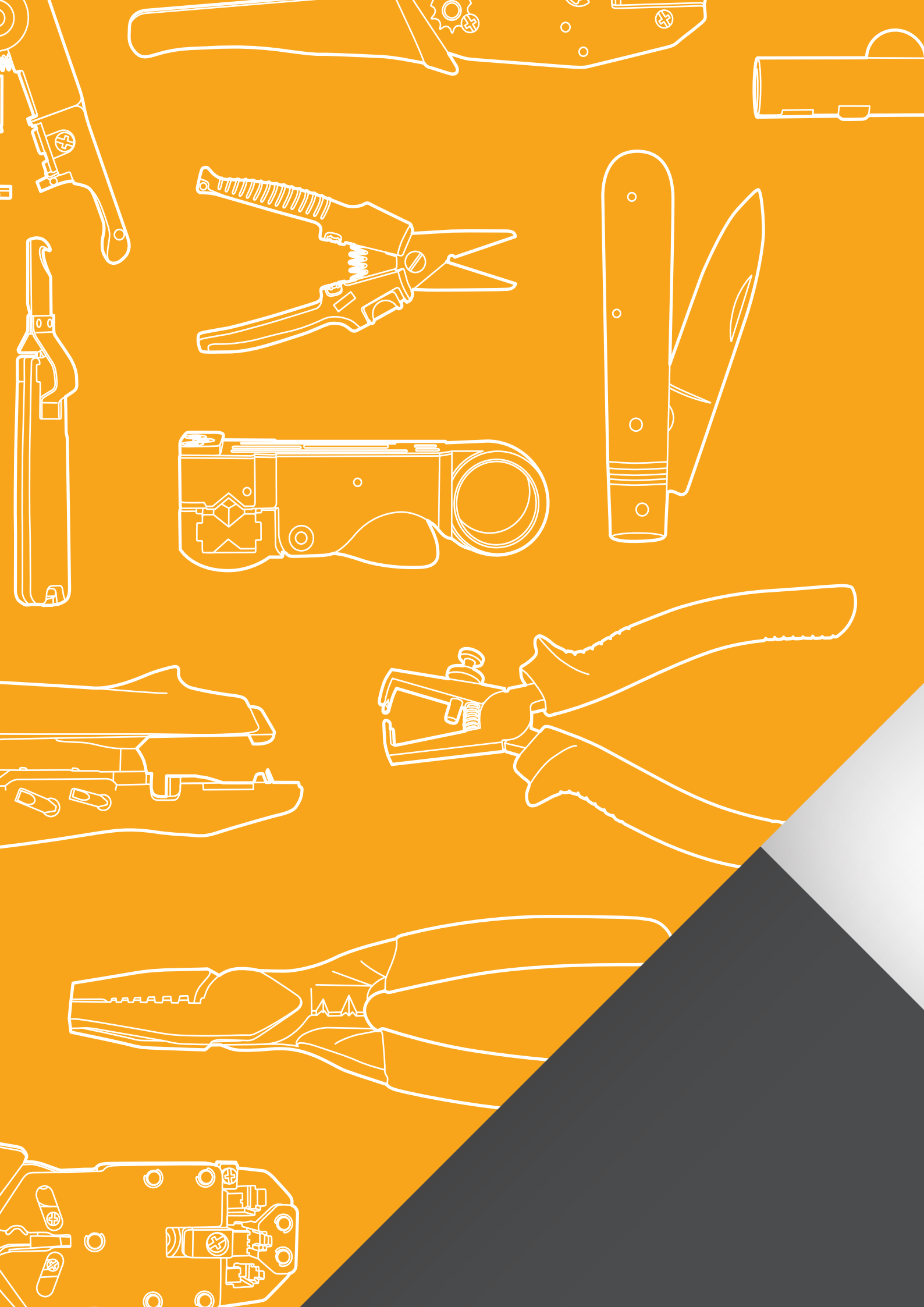
Plastic, captive brass twist lock

Total length: 150 mm

Weight: 15 g



7-435





## STRIPPING AND CRIMPING TOOLS - ALL ABOUT CABLES

Our multifunctional wire strippers are designed with factors of efficiency in mind, as time is money. Cable stripping, round cuts, long cuts, skinning, everything is possible with just one tool and often including an adjustable length stop.

We also offer wire strippers in different models for all common flexible and solid conductors. In addition, we sell all types of cable stripping knives and clippers (see the chapter „Cutting and measuring“) for the reliable, precise and fast stripping of wires.

The pinch-free cut is necessary for effortless crimping in order to assemble conductors with sleeves and connectors. Here, BERNSTEIN offers a comprehensive range of crimping tools to meet various requirements.

## STRIPPING KNIVES

### ► 5-501

#### Cable knife (open 200 mm)

Cable knife with steel blade, wooden shells and wire scraper.

Total length: 200 mm

Weight: 78 g



5-501

### ► 5-503

#### Cable knife Ø 8 - 22 mm

For precise, fast and safe stripping of all common round cables from Ø 8 - 28 mm, cutting depth adjustment by adjusting screw at the handle end, the rotating inner blade automatically switches from round to longitudinal cutting.

Total length: 140 mm

Weight: 68 g



5-503

### ► 5-504

#### Cable knife Ø 4 - 16 mm

For precise, fast and safe stripping of all common round cables from Ø 4 - 16 mm, cutting depth adjustment by adjusting screw at the handle end, the rotating inner blade automatically switches from round to longitudinal cutting.

Total length: 140 mm

Weight: 66 g



5-504

### ► 5-505

#### Stripping knife Ø 4 - 28 mm with hookblade

For precise, fast and safe stripping of all common round cables from Ø 4 - 28 mm, cutting depth adjustment by adjusting screw at the handle end, the rotating inner blade automatically switches from round to longitudinal cutting.

Total length: 185 mm

Weight: 78 g



5-505

### ► 5-506

#### Stripping knife Ø 4 - 28 mm with straight blade

For precise, fast and safe stripping of all common round cables from Ø 4 - 28 mm, cutting depth adjustment by adjusting screw at the handle end, the rotating inner blade automatically switches from round to longitudinal cutting.

Total length: 180 mm

Weight: 82 g

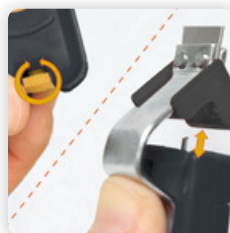


5-506

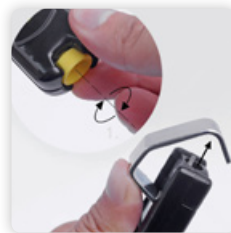
Application pictures:

apply to

5-503, 5-504, 5-505, 5-506



turning out the knife



longitudinal section



cross section

## ESD STRIPPING TOOLS

### ► 5-542

#### ESD precision stripper Ø 0,25 - 0,80 mm (AWG 20 - 30)

Precision Stripper ESD Plus for applications in fields where electrostatic discharge could damage components. Particularly suitable for conductors with external insulation made of PVC, Teflon, KYNAR, TEFZEL, MYLAR. With dissipative plastic body.

Total length: 102 mm

Weight: 28 g



5-542

## STRIPPING TOOLS

### ► 5-532 **NEW**

#### Stripping and crimping tools 0,5 - 6 mm<sup>2</sup> with stop

Stripping and crimping tool for professional stripping, crimping and cutting with only one tool, automatic adjustment to the conductor cross-section, stranded conductors can be twisted afterwards, simple stripping of 0.5 - 6.0 mm<sup>2</sup>.

blades made of special stainless steel, plastic body  
stripping length 5 mm, crimping ranges for terminals: 0.5 - 2.5 und 4.0 - 6.0 mm<sup>2</sup>, cutting capacity of the side cutters max. 6.0 mm<sup>2</sup>, conductors max. 4.0 mm<sup>2</sup>.

Total length: 160 mm

Weight: 114 g



5-532

### ► 5-535 **NEW**

#### Coax cable stripperr Ø 4,8 - 7,5 mm

Coaxial strippers for gradual stripping of all common coaxial cables (for example antennas and transmission cables) and flexible cables Coaxial cables of Ø 4.8 - 7.5 mm. NYM 3 x 0.75 mm<sup>2</sup>, for flexible cables 10 mm<sup>2</sup> and 16 mm<sup>2</sup>. blades made of special stainless steel, plastic body

Total length: 110 mm

Weight: 27 g



5-535

### ► 5-533 **NEW**

#### Stripping tools for data lines

Data-Strip stripping tool for stripping data cables, telephone lines, control cables and special cables.

date cord: Ø 4 - 10 mm control lines: Ø 0,2 - 0,8 mm,

adjustable inner knife 0,2 - 1,4 mm, side cutters, plastic body

Total length: 125 mm

Weight: 62 g



5-533

### ► 5-534 **NEW**

#### Data cable stripper Ø 4,5 - 10 mm

Date cable stripper with ergonomically shaped handles, no adjustment of the cutting depth required, also for hard-to-reach places, e.g. in ceiling and wall areas, in junction and distribution boxes, switch cabinets, etc.

Suitable for u.a. Cat5, Cat6, Cat7, twisted pair cable, Ø 4.5 - 10 mm.

Total length: 125 mm

Weight: 41 g



5-534

### ► 5-536 **NEW**

#### Round cable stripper Ø 8 - 13 mm

Round cable stripper with ergonomically shaped handles, no adjustment of the cutting depth required, also for hard-to-reach places, e.g. in ceiling and wall areas, in junction and distribution boxes, switch cabinets, etc. Blades made of special stainless steel

For all common round and wet room cables 45 from Ø 8 - 13 mm, eg. NYM 3 x 1.5 mm<sup>2</sup> to 5 x 2.5 mm<sup>2</sup>. Plastic body

Total length: 125 mm

Weight: 41 g



5-536



Application example 5-532



Application example 5-535, 5-534, 5-536

### ► 5-0605

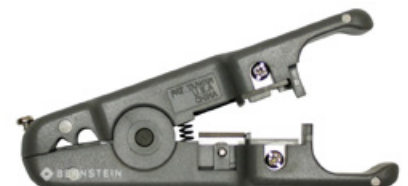
#### Stripping tool with adjustable knives

Universal stripping tools Handy synthetic design with adjustable knives, easy handling.

Blades made of special stainless steel, non-slip

Total length: 100 mm

Weight: 38 g



5-0605

## STRIPPING TOOLS

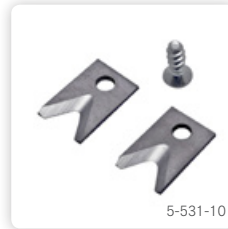
p. 141

VDE  
Cutting tools

### ► 5-531

#### Automatic wire stripper 0.2 - 6 mm<sup>2</sup> mit Anschlag

Automatic stripping pliers for all common flexible and solid conductors from 0.2 - 6.0 mm<sup>2</sup>, adjustable length stop from 5 - 12 mm, if required with removable integrated side cutters up to max. Ø 2 mm. Blades made of special stainless steel, plastic body, non-slip  
Total length: 190 mm  
Weight: 106 g



5-531-10



5-531

### ► 5-531-10

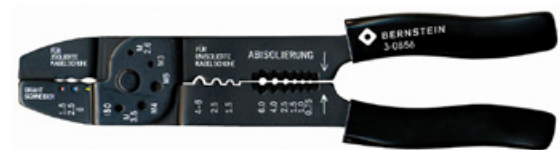
#### Replacement knives for Art.-No. 5-531 (pair)

Blades made of special stainless steel  
Weight: 20 g

### ► 3-0856

#### Crimping pliers/wire stripper

Cable lug pliers for insulated and non-insulated cable lugs. Tool steel (HRC 54 - 56), surface burnished, insulated handle, non-slip.  
Total length: 230 mm  
Weight: 300 g



3-0856

### ► 3-815-16

#### Wire stripper with adjusting screw and opening spring

Inserted joint stripping pliers with adjusting screw for all wire thicknesses, with compression spring high-quality steel (HRC 54 - 56), 2-component plastic ergonomically formed, non-slip.  
Total length: 160 mm  
Weight: 120 g

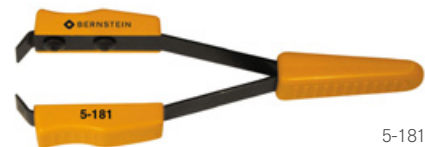


5-815-16

### ► 5-181

#### Wire scraper tweezers 125mm

For removal of varnish insulation on copper wires.  
Weight: 33 g  
Replacement knives: Art.-No. 5-182



5-181

## INSERTION TOOL

### ► 2-701

#### LSA-Plus insertion tool

KRONE LSA-Plus termination tool for non-soldering, non-screwing and non-stripping connection of the wires and at the same time cutting off the remaining lengths, on strips or boxes. For laying data cables on data outlets or patch panels. Application tool for all data, information and telecommunication cabling, applicable for all LSA-PLUS® series as well as RJ45 sockets and highband, for connecting conductor diameters (0.35-0.9mm) and core diameters (0.7-2.6mm).  
Total length: 185 mm  
Weight: 62 g



2-701

### ► 2-702

#### Termination tool for system 71

Termination tool for non-soldering, non-screwing and non-stripping connection of the wires and at the same time cutting off the remaining lengths, on strips or boxes. For laying data cables on data outlets or patch panels. Termination tool for non-soldering, non-screwing and non-stripping connection of the wires and at the same time cutting off the remaining lengths, on strips or boxes. For laying data cables on data outlets or patch panels.  
Total length: 185 mm  
Weight: 62 g

Application advices on our homepage.



2-702

## CRIMPING TOOLS

### ► 3-0601

#### **Crimping pliers for connector types HT-2094C**

Pliers made of solid metal, with interchangeable blades, spring and closed lock, for cutting, cable stripping and crimping of the most common connector types.

Tool steel (HRC 54 - 56), blades made of special stainless steel, plastic handle

Replacement knives: Art.-No. 3-0601-00 (VE6)

Total length: 200 mm, Weight: 320 g



3-0601

### ► 3-0603

#### **Cricrimping pliers for connector types HT-210C**

Crimping pliers, solid metal design, replaceable blades, spring and locking device, for cutting, stripping and crimping of the most common connector types. 8P/8C,

Tool steel (HRC 54 - 56), blades made of special stainless steel, plastic handle

Ersatzmesser: Art.-Nr. 3-0601-00 (VE6)

Total length: 200 mm, Weight: 320 g



3-0603

### ► 3-0605

#### **Combination modular crimping pliers**

Solid metal pliers with interchangeable blades, spring and closed locking mechanism,

for cutting, stripping and crimping the most common connector types. 6P/6C - 6P/4C - 6P/2C - 8P/8C tool steel (HRC 54 - 56), special stainless steel blades, plastic handle

Replacement knives: Art.-No. 3-0605-00

Total length: 200 mm, Weight: 320 g



3-0605

### ► 3-0609

#### **Universal crimping pliers**

Universal crimping pliers, patented design robust metal pliers, for cutting, stripping and crimping, exchangeable knives, spring and locking device, ratchet mechanism.

For 4P4C - 4P2C - 6P6C/RJ - 12 - 6P4C/RJ - 11 - 8P8C/RJ45 - DEC 6P6C,

Tool steel (HRC 54 - 56), Klingen aus rostfreiem Spezialstahl

Replacement knives: Art.-No. 3-0609-00

Total length: 200 mm, Weight: 520 g



3-0609

### ► 3-0611

#### **Crimping pliers for BNC and TNC coaxial connectors**

For BNC and TNC coaxial connectors, with ratchet lock and automatic release, suitable for internal contacts and external receptacles. Tool steel (HRC 54 - 56), surface burnished

Pressing range:

hexagon socket for all inner contacts. Crimp length 2.3 mm inner-Ø (0.068 inch) 1.73 mm.

Small hex for RG 58 crimp length 10.0 mm inner-Ø (0.213 inch) 5.41 mm.

Middle hex for RG 59/62 crimp length 10.0 mm inner-Ø (0.256 inch) 6.50 mm.

Large hex for RG 6 crimp length 10.0 mm inner-Ø (0.319 inch) 8.10 mm.

Replacement knives: Art.-No. 3-0611-00

Total length: 200 mm, Weight: 520 g



3-0611

### ► 3-0612

#### **Automatic crimping pliers**

Automatic crimping pliers ratchet mechanism for crimping insulated terminals. version: 0.5 - 1.0 / 1.5 - 2.5 / 4 - 6 mm<sup>2</sup> (AWG 22 - 18 / 16 - 14 / 12 - 10) tool steel (HRC 54 - 56), surface burnished

Total length: 200 mm, Weight: 520 g



3-0612

### ► 3-871-6

#### **Pressing pliers 155 mm for wire 0.25 - 2.5 mm<sup>2</sup>**

Crimping pliers, for wire end ferrules combined with wire cutters and stripping frames, for various wire thicknesses, for wire end ferrules from 0.25 - 2.5 mm<sup>2</sup> carbon steel.

surface matt chrome plated, high-quality steel (HRC 54 - 56), handle dipped insulation, non-slip

Total length: 155 mm, Weight: 165 g



3-871-6

### ► 3-875-6

#### **Pressing pliers 255 mm for wire 0.5 - 16.0 mm<sup>2</sup>**

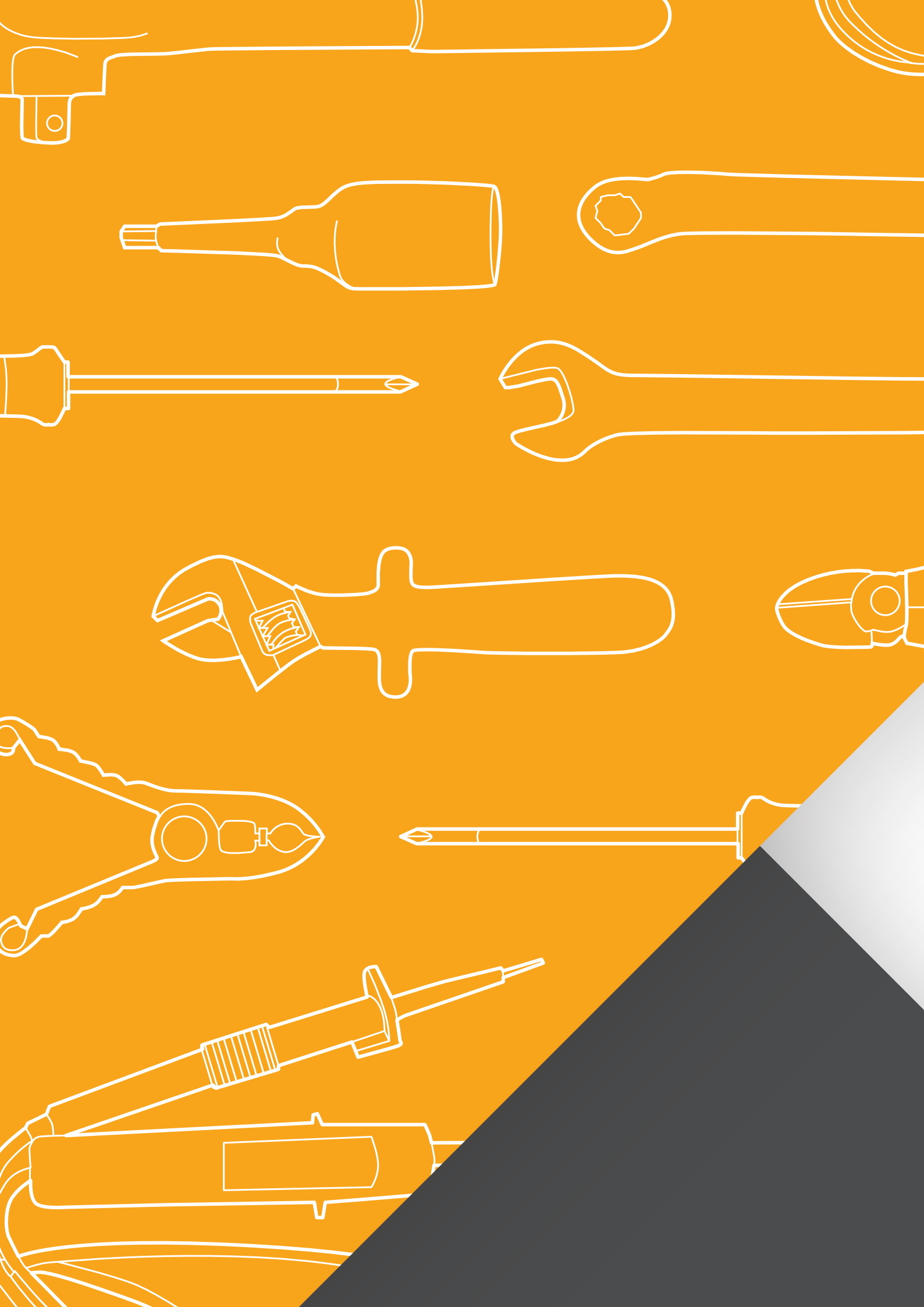
Crimping pliers, for wire end ferrules combined with wire cutters and stripping frames, for various wire thicknesses, for wire end ferrules from 0.50 - 16.0 mm<sup>2</sup> carbon steel.

surface matt chrome plated, high-quality steel (HRC 54 - 56), handle dipped insulation, non-slip

Total length: 226 mm, Weight: 285 g



3-875-6





## VDE TOOLS – WORKING UNDER TENSION

Working under tension is always a highly explosive undertaking. Here it is absolutely necessary safety precautions to be taken into account.

Work under voltage" may only be carried out by appropriately trained electricians.

The skilled personnel can assess the required security precautions. The protective devices (covers, enclosures or insulating sheaths) must be selected and installed in such a way as to eliminate any risk of electrical or mechanical overloading.

All our insulated tools are individually tested according to VDE regulations IEC 60900 / EN 60900 and are therefore approved for work under a voltage of AC 1,000 V and DC 1,500 V.

### UNIT-TESTED SAFETY

#### Voltage test

Unit-tested safety, tested with 10,000 V, approved for 1000 V. This means 10-fold safety.

#### Coating thickness measurement

Load with 20 N. No breakdown shall occur at 70° C when tested with a voltage of 5000 V AC.

#### Withdrawal force check

the adhesion of the PVC coating to 500 N or 50 N after 168 hours of storage at 70° C.

## 8100 VDE TOOL CASE SAFETY

A case full of safety for work under voltage up to 1000 volts.  
The tools have VDE two-colour multilayer immersion insulation or VDE 1- or 2-component grip cover.



and / or



### ► 8100 Werkzeugkoffer SAFETY 35 pcs (incl. case)

### ► 8110 Werkzeugkoffer SAFETY 33 pcs (incl. case), without 17-501 and 17-521

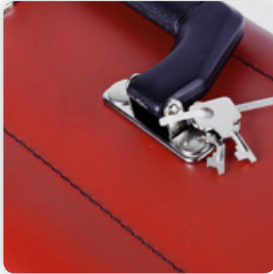
NEW

Art.-No.	Content
8115 VDE	Leather tool case 35 empty pockets
1500-09	Shoulder strap with protection, leather black
4-344 VDE	VDE voltage tester slot blade 3.5 x 0.7 x 110 mm
13-106 VDE	VDE side cutters 165mm
13-207 VDE	VDE telephone pliers 205mm serrated jaws, straight, with wire cutters
13-208 VDE	VDE telephone pliers 205mm serrated jaws, bent, with wire cutters
13-708 VDE	VDE combination pliers 210mm serrated jaws
13-806 VDE	VDE wire strippers 165mm with stop screw
14-652 VDE	VDE screwdriver slot blade 3.5x100mm
14-653 VDE	VDE screwdriver slot blade 4.0 x 100 mm
14-654 VDE	VDE screwdriver slot blade 5.5 x 125 mm
14-656 VDE	VDE screwdriver slot blade 6.5 x 150 mm
14-658 VDE	VDE screwdriver slot blade 8.0 x 175 mm
14-682 VDE	VDE screwdriver cross-recess PH1 Ø 4.5 mm
14-683 VDE	VDE screwdriver cross-recess PH2 Ø 6.0 mm
15-522 VDE	VDE cable dismantling knife with hook blade
16-441 VDE	VDE socket 1/2 inch 10.0mm
16-442 VDE	VDE socket 1/2 inch 11.0 mm
16-443 VDE	VDE socket 1/2 inch 12.0 mm

Art.-No.	Content
16-444 VDE	VDE socket 1/2 inch 13.0 mm
16-445 VDE	VDE socket 1/2 inch 14.0 mm
16-447 VDE	VDE socket 1/2 inch 17.0 mm
16-448 VDE	VDE socket 1/2 inch 19.0 mm
16-449 VDE	VDE socket 1/2 inch 22.0 mm
16-451 VDE	VDE socket 1/2 inch 24.0 mm
16-471 VDE	VDE reversible ratchet 1/2 inch
16-476 VDE	VDE reversible ratchet 1/2 inch
16-503 VDE	VDE single-ended open-end wrench 8.0mm
16-504 VDE	VDE single-ended open-end wrench 9.0 mm
16-505 VDE	VDE single-ended open-end wrench 10.0 mm
16-506 VDE	VDE single-ended open-end wrench 11.0 mm
16-507 VDE	VDE single-ended open-end wrench 12.0 mm
16-508 VDE	VDE single-ended open-end wrench 13.0 mm
16-509 VDE	VDE single-ended open-end wrench 14.0 mm
17-501 VDE	VDE protective gloves size 10 – not included in 8110 –
17-521 VDE	VDE plug-in-grip with leather gauntlet – not included in 8110 –
17-523 VDE	VDE plastic clip with internal spiral spring



## ► 8100 VDE



An incredibly sturdy case made from cowhide in bright red. The front board is hinged, providing quick access to 35 tools which are stored in pockets and in the bottom tray. Behind the tool set there are additional compartments for safety gloves, an NH handle, circuit diagrams or various written documents. The case has two locks and eyelets on the sides for hooking in the carrying strap. A padded shoulder strap is also included.

BERNSTEIN safety tools are insulated and individually tested in accordance with VDE regulations IEC 60900 / EN 60900, guaranteeing maximum safety. The two-colour multilayer immersion insulation makes any damage to the outer red insulation immediately visible due to the yellow insulation underneath. The advantage is that a simple safety check can be carried out at any time.



Outer dimensions: 440 x 175 x 310 mm  
(closed)



Without tools: 3000 g  
With tools: 7500 g



35 tools



**8100 SAFETY** with tools  
**8115 SAFETY** without tools

## 8150 VDE TOOL SET IN PLASTIC CASE

Safety tools in a synthetic case for work with voltages of up to 1000 volts.  
The tools have VDE two-colour multilayer dipped insulation and a VDE 1-component or 2-component grip cover.



and / or



BERNSTEIN safety tools are insulated and individually tested in accordance with VDE regulations IEC 60900 / EN 60900, guaranteeing maximum safety. The two-colour multilayer dip insulated makes any damage to the outer red insulation immediately visible due to the yellow insulation underneath. The advantage is that a simple safety check can be carried out at any time.

### ► 8150 VDE Tool case set 24 pcs (incl. case)

Art.-No.	Content	Art.-No.	Content
<b>8150-10</b>	Plastic case with foam inlay empty	<b>16-445 VDE</b>	VDE socket 1/2 inch 14.0 mm
<b>13-106 VDE</b>	VDE side cutters 165mm	<b>16-447 VDE</b>	VDE socket 1/2 inch 17.0 mm
<b>13-708 VDE</b>	VDE combination pliers 210mm serrated jaws	<b>16-448 VDE</b>	VDE socket 1/2 inch 19.0 mm
<b>14-651 VDE</b>	VDE screwdriver slot blade 2.5 x 75 mm	<b>16-475 VDE</b>	VDE T-socket-wrench 1/2 inch
<b>14-656 VDE</b>	VDE screwdriver slot blade 6.5 x 150 mm	<b>16-505 VDE</b>	VDE single-ended open-end wrench 10.0 mm
<b>14-682 VDE</b>	VDE screwdriver cross-recess PH1 Ø 4.5 mm	<b>16-506 VDE</b>	VDE single-ended open-end wrench 11.0 mm
<b>14-683 VDE</b>	VDE screwdriver cross-recess PH2 Ø 6.0 mm	<b>16-507 VDE</b>	VDE single-ended open-end wrench 12.0 mm
<b>15-521 VDE</b>	VDE cable knife blade length 50mm	<b>16-508 VDE</b>	VDE single-ended open-end wrench 13.0 mm
<b>15-522 VDE</b>	VDE cable dismantling knife with hook blade	<b>16-509 VDE</b>	VDE single-ended open-end wrench 14.0 mm
<b>16-441 VDE</b>	VDE socket 1/2 inch 10.0mm	<b>16-512 VDE</b>	VDE single-ended open-end wrench 17.0 mm
<b>16-442 VDE</b>	VDE socket 1/2 inch 11.0 mm	<b>16-513 VDE</b>	VDE single-ended open-end wrench 19.0 mm
<b>16-443 VDE</b>	VDE socket 1/2 inch 12.0 mm	<b>17-531 VDE</b>	VDE voltage tester Steinel Volt Check 3
<b>16-444 VDE</b>	VDE socket 1/2 inch 13.0 mm		

## 8160 VDE TOOL SET IN PLASTIC CASE

### ► 8160 VDE Tool case set 12 pcs (incl. case)

Art.-No.	Content	Art.-No.	Content
<b>8150-10</b>	Plastic case with foam inlay empty	<b>14-654 VDE</b>	VDE screwdriver slot blade 5.5 x 125 mm
<b>13-106 VDE</b>	VDE side cutters 165mm	<b>14-656 VDE</b>	VDE screwdriver slot blade 6.5 x 150 mm
<b>13-207 VDE</b>	VDE telephone pliers 205mm serrated jaws, straight, with wire cutters	<b>14-682 VDE</b>	VDE screwdriver cross-recess PH1 Ø 4.5 mm
<b>13-708 VDE</b>	VDE combination pliers 210mm serrated jaws	<b>14-683 VDE</b>	VDE screwdriver cross-recess PH2 Ø 6.0 mm
<b>13-806 VDE</b>	VDE wire strippers 165mm with stop screw	<b>15-521 VDE</b>	VDE cable knife blade length 50mm
<b>14-651 VDE</b>	VDE screwdriver slot blade 2.5 x 75 mm	<b>15-522 VDE</b>	VDE cable dismantling knife with hook blade
<b>14-652 VDE</b>	VDE screwdriver slot blade 3.5 x 100 mm		



Outer dimensions: 350 x 310 x 110 mm



3900 g



24 tools



**8150 VDE TOOL SET**



Outer dimensions: 350 x 310 x 110 mm



2800 g



12 tools



**8160 VDE TOOL SET**

## 8200 VDE TOOL CASE PROTECTION

A case containing a basic set of common safety tools.

BERNSTEIN safety tools are insulated and individually tested in accordance with VDE regulations IEC 60900 / EN 60900, guaranteeing maximum safety. The two-colour multilayer dip insulated makes any damage to the outer red insulation immediately visible due to the yellow insulation underneath. The advantage is that a simple safety check can be carried out at any time.



and / or



### ► 8200 VDE Tool case 21 pcs

Art.-No.	Content	Art.-No.	Content
<b>5015</b>	Tool case PERFORMANCE 28 empty pockets	<b>15-521 VDE</b>	VDE cable knife blade length 50mm
<b>13-908 VDE</b>	VDE side cutters 180mm	<b>5-505</b>	Stripping knife Ø 4-28mm with hook blade
<b>13-917 VDE</b>	VDE telephone pliers 200 mm serrated jaws, straight, with wire cutters	<b>15-531 VDE</b>	VDE automatic wire stripper (0.2-6.0mm <sup>2</sup> )
<b>13-937 VDE</b>	VDE combination pliers 185mm with serration	<b>17-523 VDE</b>	VDE plastic clip with internal spiral spring
<b>14-651 VDE</b>	VDE screwdriver slot blade 2.5 x 75 mm	<b>17-541 VDE</b>	VDE metal saw 150mm blade
<b>14-653 VDE</b>	VDE screwdriver slot blade 4.0 x 100 mm	<b>7-116</b>	Engineer's hammer to DIN 1041, 300g
<b>14-654 VDE</b>	VDE screwdriver slot blade 5.5 x 125 mm	<b>7-235</b>	Flat chisel 200 x 14 x 20 mm
<b>14-656 VDE</b>	VDE screwdriver slot blade 6.5 x 150 mm	<b>7-255</b>	Electrician's chisel with safety impact head 200 x 8 x 10 mm
<b>14-682 VDE</b>	VDE screwdriver cross-recess PH1 Ø 4.5 mm	<b>7-405</b>	Painter's spatula 50 mm wide
<b>14-683 VDE</b>	VDE screwdriver cross-recess PH2 Ø 6.0 mm	<b>7-410</b>	Slicker trowel 16 mm wide
<b>14-692 VDE</b>	VDE screwdriver cross-recess PZ1 Ø 4.5 mm		
<b>14-693 VDE</b>	VDE screwdriver cross-recess PZ2 Ø 6.0 mm		

## 8300 VDE TOOL BACKPACK GLOBETROTTER

NEW

A tool kit containing a basic set of VDE tools for mobile use.

BERNSTEIN safety tools are insulated and individually tested in accordance with VDE regulations IEC 60900 / EN 60900, guaranteeing maximum safety. The multilayer dip insulated makes any damage to the outer red insulation immediately visible due to the yellow insulation underneath. The advantage is that a simple safety check can be carried out at any time.

### ► 8300 VDE Tool backpack 22

Art.-No.	Content	Art.-No.	Content
<b>8315</b>	Tool backpack 36 empty pockets	<b>14-693 VDE</b>	VDE screwdriver cross-recess PZ2 Ø 6.0 mm
<b>13-106 VDE</b>	VDE side cutters 165mm	<b>15-521 VDE</b>	VDE cable knife blade length 50mm
<b>13-207 VDE</b>	VDE telephone pliers 205mm serrated jaws, straight, with wire cutters	<b>15-522 VDE</b>	VDE cable dismantling knife with hook blade
<b>13-708 VDE</b>	VDE combination pliers 210mm serrated jaws	<b>15-531 VDE</b>	VDE automatic wire stripper (0.2-6.0mm <sup>2</sup> )
<b>14-651 VDE</b>	VDE screwdriver slot blade 2.5 x 75 mm	<b>16-503 VDE</b>	VDE single-ended open-end wrench 8.0 mm
<b>14-653 VDE</b>	VDE screwdriver slot blade 4.0 x 100 mm	<b>16-504 VDE</b>	VDE single-ended open-end wrench 9.0 mm
<b>14-654 VDE</b>	VDE screwdriver slot blade 5.5 x 125 mm	<b>16-505 VDE</b>	VDE single-ended open-end wrench 10.0 mm
<b>14-656 VDE</b>	VDE screwdriver slot blade 6.5 x 150 mm	<b>16-506 VDE</b>	VDE single-ended open-end wrench 11.0 mm
<b>14-658 VDE</b>	VDE screwdriver slot blade 8.0 x 175 mm	<b>16-507 VDE</b>	VDE single-ended open-end wrench 12.0 mm
<b>14-682 VDE</b>	VDE screwdriver cross-recess PH1 Ø 4.5 mm	<b>16-508 VDE</b>	VDE single-ended open-end wrench 13.0 mm
<b>14-683 VDE</b>	VDE screwdriver cross-recess PH2 Ø 6.0 mm	<b>16-509 VDE</b>	VDE single-ended open-end wrench 14.0 mm
<b>14-692 VDE</b>	VDE screwdriver cross-recess PZ1 Ø 4.5 mm		



#### ► 8200 VDE case

The compact shape and the textured surface give the case a high degree of stability. The use of X-ABS synthetic with an extremely non-slip and scratch-resistant surface makes the case resistant to external influences. The high-impact and unbreakable material also makes the suitcase „airworthy“ and withstands the harsh handling checked luggage is subjected to. An ergonomic handle, sturdy ratchet hinges with a lid lock, tool panels made of moisture-resistant and shatter-proof ConPearl® plastic with sewn-in pockets, two locks and an adaptable bottom shell (height 60 mm) add the finishing touches to this case.



#### ► 8300 VDE backpack

The multifunctional tool backpack made from heavy duty and water-proof black nylon and contrasting white seams offers enough space for your tools with 26 pockets and 37 rubber loops. Thanks to its size-adjustable straps and padded breathable back part, it guarantees excellent carrying comfort – even with very heavy contents. The backpack as a total of three large compartments, each fitted with a high-quality and smooth zip. All the compartments have enough padding to also allow you to carry a tablet or 15" notebook. The detachable front pad is especially nifty and can be used as a knee protector when working on the floor. A ergonomic and very flexible carrying handle, as well as sturdy rubber feet to protect from water-logging add the finishing touches to this very modern-looking and functional backpack.



Outer dimensions: 480 x 350 x 170 mm  
(closed)



Without tools: 3900 g  
With tools: 7100 g



21 tools



**8200 VDE PROTECTION** with tools  
**5015 PERFORMANCE** without tools



Outer dimensions: 350 x 430 x 230 mm  
(closed)



Without tools: 2000 g  
With tools: 4000



22 tools

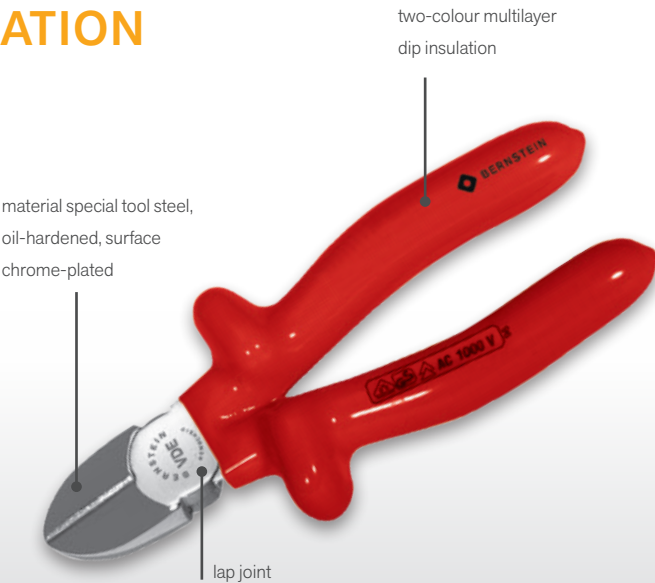


**8300 VDE GLOBETROTTER** with tools  
**8315 VDE GLOBETROTTER** without tools
















VDE PLIERS WITH TWO-COLOUR  
MULTILAYER SAFETY INSULATION

Pliers made from special tool steel, oil-hardened, chrome-plated with two-colour multilayer dipped insulated, outer red, inner yellow. Damage to the outer red insulation is immediately visible due to the yellow insulation. The advantage is that a simple safety check can be carried out at any time.

Insulated in accordance with VDE regulations IEC 60900/ EN 60900, individually tested, permitted voltage, with which insulated pliers can be used:  
1000 V AC voltage or 1500 V DC voltage.



The following types are available, specifications in mm:

Art.-No.	Short description	Type	Cutting values	DIN ISO	Total length	Weight in g	1000 V
13-106 VDE	VDE side cutters	Cutting edges inductively hardened	Steel wire up to Ø 2.0 mm	DIN ISO 5749	165	210	  
13-207 VDE	VDE telephone pliers	serrated jaws	Steel wire up to Ø 2.5 mm	DIN ISO 5749	205	240	  
13-208 VDE	VDE telephone pliers	serrated jaws	Steel wire up to Ø 2.5 mm	DIN ISO 5749	200	250	  
13-708 VDE	VDE combination pliers	serrated jaws	Steel wire up to Ø 2.8 mm	DIN ISO 5746	205	390	  
13-806 VDE	VDE wire strippers	with stop screw	–	DIN ISO 5743	170	200	  

VDE TWEEZERS

p. 56

Tweezers

## VDE PLIERS WITH ONE-COMPONENT PLASTIC HANDLE

Pliers made from special tool steel for hard and soft wires, chrome-plated with one-component plastic grips that are non-slip.

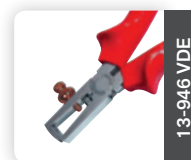
Insulated in accordance with VDE regulations IEC 60900/EN 60900, individually tested, permitted voltage, under which insulated pliers can be used.  
1000 V AC voltage or 1500 V DC voltage.



and / or



1000 V



The following types are available, specifications in mm:

Art.-No.	Short description	Type	Cutting values	DIN ISO	Total length	Weight in g	1000 V
<b>13-906 VDE</b>	VDE side cutters	Cutting edges inductively hardened	Steel wire up to Ø 2.0 mm	DIN ISO 5749 (5238B)	165	210	
<b>13-908 VDE</b>	VDE side cutters	Cutting edges inductively hardened	Steel wire up to Ø 2.5 mm	DIN ISO 5749 (5238B)	180	290	
<b>13-915 VDE</b>	VDE telephone pliers	serrated jaws, wire cutters	Steel wire up to Ø 2.0 mm	DIN ISO 5745 (5236A)	160	150	
<b>13-916 VDE</b>	VDE telephone pliers	serrated jaws, wire cutters	Steel wire up to Ø 2.0 mm	DIN ISO 5745 (5236A)	165	150	
<b>13-917 VDE</b>	VDE telephone pliers	serrated jaws, wire cutters	Steel wire up to Ø 2.5 mm	DIN ISO 5745 (5236A)	205	220	
<b>13-918 VDE</b>	VDE telephone pliers	serrated jaws, wire cutters	Steel wire up to Ø 2.5 mm	DIN ISO 5745 (5236A)	200	220	
<b>13-926 VDE</b>	VDE round nose pliers	serrated jaws	-	DIN ISO 5745 (5249A)	165	165	
<b>13-927 VDE</b>	VDE flat nose pliers	serrated jaws	-	DIN ISO 5745 (52489)	170	175	
<b>13-936 VDE</b>	VDE combination pliers	serrated jaws	Steel wire up to Ø 2.0 mm	DIN ISO 5746 (5244)	170	220	
<b>13-937 VDE</b>	VDE combination pliers	serrated jaws	Steel wire up to Ø 2.3 mm	DIN ISO 5746 (5244)	190	280	
<b>13-938 VDE</b>	VDE combination pliers	serrated jaws	Steel wire up to Ø 2.8 mm	DIN ISO 5746 (5244)	210	350	
<b>13-946 VDE</b>	VDE wire strippers	with stop screw	-	DIN ISO 5743	170	190	

## MULTIFUNCTIONAL PLIERS

Multifunctional power-combination pliers for cutting hard and soft wires as well as stranded copper conductors and aluminium conductors. The pliers are forged from quality tool steel and oil hardened. The cutters are inductively hardened and the surface matt polished.

Insulated in accordance with VDE regulations IEC 60900/EN 60900, individually tested, permitted voltage, with which insulated pliers can be used:  
1000 V AC voltage or 1500 V DC voltage.

### ► VDE combination pliers

**NEW**

45° angled handle for ergonomic working  
Gripping surfaces, serrated for firm hold on workpiece  
With opening spring and safety lock  
Integrated ring spanner up to WAF 18

The following types are available, specifications in mm:

Art.-No.	Handle type	Type	Total length	Weight in g	1000 V
13-704 VDE	two-colour dip insulated	up to Ø 2.5 / 5.9 / 13 mm	200	320	△△
13-934 VDE	one-component plastic handle	up to Ø 2.5 / 5.9 / 13 mm	200	310	△△



13-704 VDE

### ► VDE combination pliers

**NEW**

45° angled handle for ergonomic working  
with stripping function for wires from 1.5 mm<sup>2</sup> - 2.5 mm<sup>2</sup> conductor cross-section  
Gripping surfaces, serrated for firm hold on workpiece  
With opening spring and safety lock  
Integrated ring spanner up to WAF 18

The following types are available, specifications in mm:

Art.-No.	Handle type	Type	Total length	Weight in g	1000 V
13-705 VDE	two-colour dip insulated	up to Ø 2.5 / 5.9 / 13 mm	200	325	△△
13-935 VDE	one-component plastic handle	up to Ø 2.5 / 5.9 / 13 mm	200	315	△△



13-705 VDE

## CABLE CUTTERS

### ► VDE cable cutters with stripping function

NEW

For NYM cables 3 x 1.5 mm<sup>2</sup> to 5 x 2.5 mm<sup>2</sup>, low-deformation cut,  
Universal stripping opening for both cross-sections, short overall length and opening  
spring mechanism for fast and convenient working, safety lock,  
Partially burnished surface, adjustable joint  
Material tool steel



15-902 VDE

Art.-No.	Handle type	Type	Total length	Weight in g	1000 V
15-502 VDE	two-colour dip insulated	up to Ø 12 mm / 35 mm <sup>2</sup>	170	260	⚡
15-902 VDE	one-component plastic handle	up to Ø 12 mm / 35 mm <sup>2</sup>	170	260	⚡

### ► VDE cable cutters, 2 cut

NEW

With 2 cutting edges for a flush cut without crushing.  
Surface matt polished  
Material tool steel



15-503 VDE

Art.-No.	Handle type	Type	Total length	Weight in g	1000 V
15-503 VDE	two-colour dip insulated	up to Ø 10 mm / 25 mm <sup>2</sup>	160	216	⚡
15-903 VDE	one-component plastic handle	up to Ø 10 mm / 25 mm <sup>2</sup>	160	216	⚡

### ► VDE cable cutters, double cut

NEW

With 2 cutting edges for a flush cut without crushing.  
Surface matt polished, adjustment joint  
Material tool steel



15-504 VDE



Art.-No.	Handle type	Type	Total length	Weight in g	1000 V
15-504 VDE	two-colour dip insulated	up to Ø 20 mm / 60 mm <sup>2</sup>	210	362	⚡
15-904 VDE	one-component plastic handle	up to Ø 20 mm / 60 mm <sup>2</sup>	210	362	⚡

### ► Cable cutters

for copper and aluminium cables, two-colour multilayer immersion insulation, adjustment joint  
Material tool steel



15-501 VDE

Art.-No.	Handle type	Type	Total length	Weight in g	1000 V
15-501 VDE	two-colour dip insulated	up to Ø 20 mm / 60 mm <sup>2</sup>	210	360	⚡  

### ► Ratchet cable cutters

for easier cutting of large cross-sections, for copper and aluminium cables, not for armoured cables.



15-506 VDE

Art.-No.	Handle type	Type	Total length	Weight in g	1000 V
15-506 VDE	two-colour dip insulated	up to Ø 32 mm / 240 mm <sup>2</sup>	250	800	⚡

# VDE SCREWDRIVERS

and / or

## ► VDE Screwdrivers

BERNSTEIN VDE screwdrivers are under the control of the VDE test centre. Each screwdriver in this series is individually tested in accordance with VDE guidelines DIN IEC 60900 / EN 60900, IEC 900. The test guarantees the highest level of safety for all work up to 1000 V.w

Blade: hardened over the entire length, burnished with protective coating  
Handle: impact-resistant, two-colour multi-component insulation, with anti-slip protection and practical suspension hole

SLOT  
CROSS-RECESS  
SOCKET WRENCH



The following types are available, specifications in mm:

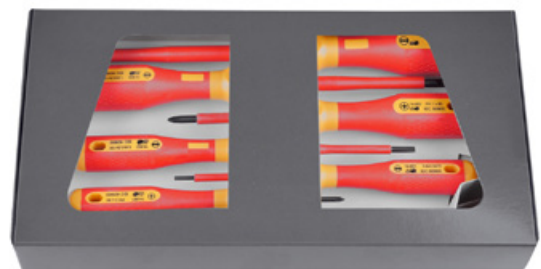
Art.-No.	Symbol	Size / drive	Blade length	Blade width	Blade thickness	Blade diameter	Handle length	Total length	Weight in g
14-651 VDE	⊖	Slot	75	2.5	0.4	–	100 x 21	175	26
14-652 VDE	⊖	Slot	100	3.5	0.6	–	100 x 21	200	34
14-653 VDE	⊖	Slot	100	4	0.8	–	100 x 21	200	37
14-654 VDE	⊖	Slot	125	5.5	1	–	107 x 27	232	75
14-656 VDE	⊖	Slot	150	6.5	1.2	–	114 x 32	264	112
14-658 VDE	⊖	Slot	175	8	1.2	–	121 x 35	296	175
14-681 VDE	⊕	PH0	60	–	–	3	100 x 21	160	27
14-682 VDE	⊕	PH1	80	–	–	4.5	107 x 27	187	57
14-683 VDE	⊕	PH2	100	–	–	6	114 x 32	214	92
14-684 VDE	⊕	PH3	150	–	–	8	121 x 35	271	166
NEW 14-685 VDE	⊕	PH/S1	80	–	–	4.5	107 x 27	187	57
NEW 14-686 VDE	⊕	PH/S2	100	–	–	6	114 x 32	214	92
14-692 VDE	⊗	PZ1	80	–	–	4.5	107 x 27	187	57
14-693 VDE	⊗	PZ2	100	–	–	6	114 x 32	214	92
14-694 VDE	⊗	PZ3	150	–	–	8	121 x 35	271	166
NEW 14-695 VDE	⊗	PZ/S1	80	–	–	4.5	107 x 27	187	57
NEW 14-696 VDE	⊗	PZ/S2	100	–	–	6	114 x 32	214	92
16-298 VDE	⦶	3	125	–	–	–	100 x 21	225	40
16-299 VDE	⦶	4	125	–	–	–	100 x 21	225	45
16-301 VDE	⦶	5	125	–	–	–	100 x 21	225	55
16-302 VDE	⦶	5.5	125	–	–	–	107 x 27	232	85

## ► 14-650 VDE

### VDE screwdriver set 7 pcs

Weight: 450 g

Art.-No.	Content
14-651 VDE	⊖ VDE screwdriver slot blade 2.5 x 75 mm
14-652 VDE	⊖ VDE screwdriver slot blade 3.5 x 100 mm
14-654 VDE	⊖ VDE screwdriver slot blade 5.5 x 125 mm
14-656 VDE	⊖ VDE screwdriver slot blade 6.5 x 150 mm
14-681 VDE	⊕ VDE screwdriver cross-recess PH0 Ø 3.0 mm
14-682 VDE	⊕ VDE screwdriver cross-recess PH1 Ø 4.5 mm
4-343 VDE	⊖ VDE voltage tester slot blade 3.0 x 0.7 x 60 mm



14-650 VDE

## VDE WRENCHES AND SOCKETS



## ► VDE open-end wrench

Chrome vanadium, chrome-plated, according to DIN 7446, jaw position 15°  
Two-colour multilayer dip insulation, 1000 V

Art.-No.	WAF	Weight in g	1000 V
16-501 VDE	6	24	
16-502 VDE	7	25	
16-503 VDE	8	26	
16-504 VDE	9	38	
16-505 VDE	10	42	
16-506 VDE	11	48	
16-507 VDE	12	58	
16-508 VDE	13	68	
16-509 VDE	14	75	
16-511 VDE	15	88	
16-512 VDE	17	120	
16-513 VDE	19	160	
16-514 VDE	21	210	
16-515 VDE	24	300	
16-517 VDE	26	340	



## ► VDE single-ended ring wrench

Chrome vanadium, chrome-plated, according to DIN 7447,  
Two-colour multilayer dip insulation, 1000 V

Art.-No.	WAF	Weight in g	1000 V
16-531 VDE	6	50	
16-533 VDE	8	65	
16-535 VDE	10	80	
16-536 VDE	11	100	
16-537 VDE	12	110	
16-538 VDE	13	120	
16-539 VDE	14	150	
16-541 VDE	15	155	
16-542 VDE	16	170	
16-543 VDE	17	180	
16-544 VDE	18	240	
16-545 VDE	19	245	
16-547 VDE	21	317	
16-548 VDE	22	353	
16-551 VDE	24	357	



## ► VDE sockets

Chrome vanadium, chrome-plated, according to DIN 7448 with square drive,  
Two-colour multilayer dip insulation

Art.-No.	Inch	WAF	Weight in g	1000 V
16-441 VDE	1/2	10	60	
16-442 VDE	1/2	11	63	
16-443 VDE	1/2	12	64	
16-444 VDE	1/2	13	64	
16-445 VDE	1/2	14	67	
16-446 VDE	1/2	15	68	
16-447 VDE	1/2	17	74	
16-448 VDE	1/2	19	83	
16-449 VDE	1/2	22	114	
16-451 VDE	1/2	24	117	
16-452 VDE	1/2	27	181	
16-453 VDE	1/2	30	195	
16-454 VDE	1/2	32	200	
16-481 VDE	3/8	6	23	
16-482 VDE	3/8	7	28	
16-483 VDE	3/8	8	29	
16-484 VDE	3/8	9	31	
16-485 VDE	3/8	10	31	
16-486 VDE	3/8	11	33	
16-487 VDE	3/8	12	33	
16-488 VDE	3/8	13	34	
16-489 VDE	3/8	14	36	
16-491 VDE	3/8	15	44	
16-492 VDE	3/8	16	50	
16-493 VDE	3/8	17	54	
16-494 VDE	3/8	19	58	
16-495 VDE	3/8	19	70	
16-496 VDE	3/8	20	72	
16-497 VDE	3/8	21	77	
16-498 VDE	3/8	22	94	

## ► VDE reversible ratchet

According to DIN 7449, two-colour multilayer dip insulation  
Hold or release the inserts at the push of a button; right/left by turning the lever.



16-471 VDE

Art.-No.	Type	Total length	Weight in g	1000 V
16-471 VDE	1/2" square drive	260	668	
16-472 VDE	3/8" square drive	200	356	

## ► Extension

DIN 7434, two-colour multilayer dip insulation  
Cannulated, locking with screw, with locking device



16-476 VDE

Art.-No.	Type	Total length	Weight in g	1000 V
16-476 VDE	1/2" square drive	125	206	
16-478 VDE	3/8" square drive	125	154	

- other dimensions on request -  
(minimum purchase 5 pieces)

## VDE TOOLS

### ▶ Adjustable spanner

According to DIN 3117, IEC 60900:2004, two-colour multilayer dip insulation, 1000 V, jaw position 15°, with scale graduation

Art.-No.	Width across flats	Weight in g	1000 V
16-773 VDE	0-26	300	
16-774 VDE	0-30	500	
16-775 VDE	0-35	800	



### ▶ Insulating protective gloves

for work under voltage up to 1000 Volt, made of natural latex high elasticity piece tested according to DIN EN 60903, VDE 0682-part 311, test voltage 5000 Volt

Art.-No.	Type	Thickness	Length	Weight in g	1000 V
17-501 VDE	Größe 10	1.6 mm	360 ± 15 mm	175	KL. 0



17-501 VDE

### ▶ NH plug-in-grip

with leather cuff 380 x 220 mm for inserting or removing NH fuse links

Art.-No.	Type	Weight in g	1000 V
17-521 VDE	Siemens-handle for NH fuses 00-3, protection of forearm at higher currents (arc fault due to system)	450	



17-521 VDE

### ▶ Rubber cover, red

DIN EN 61112 / VDE 0682-511, smooth surface, for work on electrical installations

Art.-No.	Type	Thickness	Weight in g	1000 V
17-702 VDE	500 x 500 mm	1.6 mm	590	
17-703 VDE	1000 x 1000 mm	1.6 mm	1936	



17-703 VDE

### ▶ VDE rubber mat / floor mat, grey

Surface one side smooth and one side slip-resistant, frost-resistant, according to REACH, free of nitrosamine and PAH.

For the removal and installation of side insulation in electrical systems.

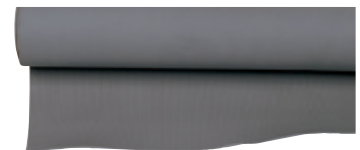
**Not for mobile use as PSA accessory!**

Art.-No.	Type	Weight in g	1000 V
17-707 VDE	1000 x 1000 x 4,5 mm DIN VDE 0303	5400	–

To be used for mobile side insulation according to BGR A3!

**Not to be used as flooring material!**

Art.-No.	Type	Weight in g	1000 V
17-706 VDE	1500 x 1000 x 3,0 mm DIN 6111 / VDE 0680	4850	



17-706 VDE

### ▶ Plastic clip

for fixing cover cloths, made of sturdy plastic with concealed spring and rubber web to prevent slipping

Art.-No.	Type	Length	Weight in g	1000 V
17-523 VDE	Clamping width 15 mm, opening width 40 mm	160 mm	60	



17-523 VDE

### ▶ Self-clamping sleeves

Protect against contact with a live cable end

Art.-No.	Type	Weight in g	1000 V
17-551 VDE	Ø 10 x 80 mm	20	
17-552 VDE	Ø 20 x 85 mm	30	
17-553 VDE	Ø 30 x 100 mm	60	



17-552 VDE

NEW

## VOLTAGE TESTER

### ► 17-531 VDE

#### VDE voltage tester Steinel Volt Check 3

DIN EN 61243-3, DIN CDE 0682, Teil 401, IEC 61010

This voltage tester can be used universally and is built according to the latest safety regulations and guarantees safe and reliable operation. The voltage tester features the following functions: Voltage testing up to 690 V AC/DC phase - phase, automatic AC/DC detection, bright LED display, robust, ergonomically shaped housing for good handling, captive measuring tip shoe.

Weight: 110 g



17-531 VDE

### ► 4-344 VDE

#### VDE voltage tester slot blade 3.5 x 0.7 x 110 mm

VDE voltage tester 220 - 250 V, according to DIN VDE 0680 part 6: 1977-04.

Blade: chrome vanadium, nickel-plated, fully insulated, handle: transparent plastic.

Length: 196 mm, weight: 31 g



4-344 VDE

### ► 4-343 VDE

#### VDE voltage tester slot blade 3.0 x 0.7 x 60 mm

VDE voltage tester 220 - 250 V, according to DIN VDE 0680 part 6: 1977-04.

Blade: chrome vanadium, nickel-plated, fully insulated, handle: transparent plastic.

Length: 136 mm, weight: 20 g



4-343 VDE

## VDE CABLE CUTTING TOOLS

### ► Cable knives, dismanteling knives

Stainless steel blade, with protective blade cap, impact-resistant plastic handle

Art.-No.	Type	Blade length	Total length	Weight in g	1000 V
15-521 VDE	Straight blade	50 mm	180	66	
15-522 VDE	Hook blade	35 mm	180	66	
15-523 VDE	Special blade + slide foot	35 mm	180	73	



15-521 VDE



15-522 VDE



15-523 VDE

### ► Automatic wire stripper with stop screw

For common flexible and solid conductors (von 0,2 - 6,0 mm²)

Adjustable, removable length stop from 5 - 12 mm

Art.-No.	Type	Total length	Weight in g	1000 V
15-531 VDE	glass fibre reinforced plastic, fully insulated	200	110	



15-531 VDE

### ► Metal saw bow

Strong die-cast aluminium frame, two-colour multilayer dip insulation

Art.-No.	Type	Total length	Weight in g	1000 V
17-541 VDE	Saw blade (150 mm) interchangeable	270	180	
17-547 VDE	Saw blade (300 mm) interchangeable hardened teeth	460	580	



17-541 VDE



## CASES AND SETS – MORE SKILLS INSIDE OUR TOOLCASES!

More than 50 years of practical experience in designing and equipping service cases and service sets can be found once again in our series of cases. The case housing and tool panels are characterised by a particularly high degree of stability and an unmistakable BERNSTEIN design.

With a practical selection of high-grade quality and special tools, the range is equipped for many different applications.

## ESD TOOL SET

ESD tools for various jobs in ESD areas. The tools are stored in handy ESD-conductive plastic cases and clearly arranged in customised recesses made from conductive rigid foam. For the assembly of circuit boards and working on electronic assemblies in accordance with DIN EN 61340-5-1.

The five tweezers allow for precise gripping, inserting and desoldering of small electronic components. They are equipped with level, smooth and bent gripping surfaces.

The pliers feature a particularly narrow and pointed head for precise snipping of soft and semi-hard wires.

### 2210 ESD tool set PRECISE 6 pcs

Art.-No.	Content
2211	ESD conductive synthetic case with foam insert empty
3-653-15	ESD mini side cutters EUROline flush 120 mm
5-055-13	ESD SMD tweezers 120 mm form 7a stainless steel angle 40° dissipative
5-062-13	ESD SMD tweezers 115 mm form 59 stainless steel, dissipative
5-065-13	ESD SMD tweezers 120 mm form 50 stainless steel dissipative
5-066-13	ESD SMD tweezers 120 mm form 8b stainless steel, dissipative
5-068-13	ESD tweezers 120 mm form 13 stainless steel, dissipative



2210

### 2212 ESD tool set PRECISE C 6 pcs

Art.-No.	Content
2211	ESD conductive synthetic case with foam insert empty
3-602-15	ESD side cutters CLASSICline flush 115 mm
5-055-13	ESD SMD tweezers 120 mm form 7a stainless steel angle 40° dissipative
5-062-13	ESD SMD tweezers 115 mm form 59 stainless steel, dissipative
5-065-13	ESD SMD tweezers 120 mm form 50 stainless steel dissipative
5-066-13	ESD SMD tweezers 120 mm form 8b stainless steel, dissipative
5-068-13	ESD tweezers 120 mm form 13 stainless steel, dissipative



2212



Outer dimensions (closed):  
178 x 160 x 42 mm



390 g



6 tools



**2210** ESD tool set PRECISE

**2212** ESD tool set PRECISE C

## ELECTRONIC TOOL SET

Elegant zip bag made of black, dissipative synthetic leather, also with dissipative pockets for 13 ESD tools and a foldable ESD work mat with accessories.

EPA suitable for electrostatically protected areas (ESD workplaces/ESD protected zones). The perfect companion for repairing and servicing electrostatically sensitive components. The workplace pad made from soft ESD material offers the option to even work safely while out and about. A large number of different screwdrivers and pliers means that the user is prepared for every situation.

### ► 2220 ESD tool set ANTISTATIC 17 pcs

Art.-Nr.	Content
2221	ESD dissipative zipper bag 14 empty pockets
2-620	PLCC-extractor
3-601-15	ESD side cutters CLASSICline semi flush 115 mm
3-632-15	ESD flat nose pliers CLASSICline not serrated jaws 120 mm
3-633-15	ESD snipe nose pliers CLASSICline not serrated jaws 120 mm
4-603	ESD screwdriver slot blade 1.5 x 0.25 x 40 mm
4-605	ESD screwdriver slot blade 2.0 x 0.40 x 40 mm
4-606	ESD screwdriver slot blade 2.5 x 0.4 x 50 mm
4-621	ESD screwdriver cross-recess PH000
4-622	ESD screwdriver cross-recess PH00
4-623	ESD screwdriver cross-recess PH0
5-191	ESD plastic tweezers 120 mm form 2a tips 2 mm wide
5-192	ESD plastic tweezers 120 mm form F tips 3 mm wide
9-354-100	ESD table mat 500 x 400 x 0,5 mm
9-342-1	ESD contact bracelet*
9-342-2	ESD spiral cord for bracelet 2.5 m*
9-343-1	ESD grounding cable 1 MOhms, 1500 mm 2 press-studs 10/10 mm
9-353	ESD crocodile clip

\*LGA tested BGI 818 (ZH1/267). Therefore fulfilling safety-related requirements for wrist ground in accordance with BGFE (German employers' liability insurance association for precision mechanics and electrical engineering).



Outer dimensions (closed):  
320 x 250 x 50 mm



without tools: 520 g  
with tools: 1050 g



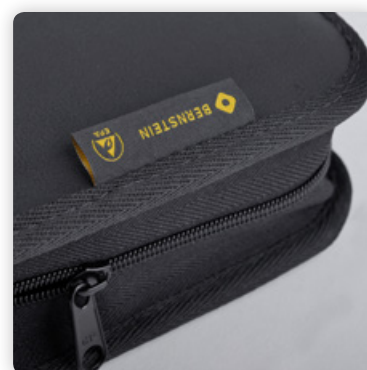
17 tools



**2220** ESD tool set ANTISTATIC with tools  
**2221** ESD tool set ANTISTATIC without tools



2220



## ESD TOOL SETS

### ► 2230 ESD tool set ELITE 20 pcs

Art.-No.	Content
2231	ESD conductive synthetic case with foam insert empty
3-651-15	ESD mini side cutters EUROline flush 120 mm
3-672-15	ESD end cutters EUROline flush 130 mm
3-682-15	ESD flat nose pliers EUROline not serrated jaws 130 mm
3-683-15	ESD snipe nose pliers EUROline not serrated jaws 130 mm
4-901	ESD interchangeable handle
4-905	interchangeable blades slot 1.5 / 3.0 mm
4-906	interchangeable blades slot 2.0 / 3.5 mm
4-907	interchangeable blades slot 2.5 / 4.0 mm
4-911	interchangeable blades PH00/PH000
4-912	interchangeable blades PH0/PH1
4-921	interchangeable blades TORX T5/T6
4-922 L	interchangeable blades TORX T7/T8
4-923 L	interchangeable blades TORX T9/T10
5-049-13	ESD SMD tweezers 110 mm form 4 stainless steel dissipative
5-055-13	ESD SMD tweezers 120 mm form 7a stainless steel angle 40° dissipative
5-059-13	ESD SMD tweezers 120 mm form 2a stainless steel dissipative
5-067-13	ESD SMD tweezers 120 mm form 12 stainless steel, dissipative
5-068-13	ESD tweezers 120 mm form 13 stainless steel, dissipative
5-078-13	ESD SMD universal tweezers 130 mm stainless steel dissipative
7-422	ESD brush bristles width 20 mm



2230



Outer dimensions (closed):  
250 x 210 x 60 mm



850 g



20 tools



**2230** ESD tool set ELITE

ESD tools for various jobs in ESD areas. The tools are stored in handy ESD-safe plastic cases and clearly arranged in customised recesses made from conductive rigid foam.

ESD tool set for working on electronic assemblies and equipment in accordance with DIN EN 61340-5-1. The five tweezers allow for precise gripping, inserting and holding of small electronic components. They are equipped with level, smooth and bent gripping surfaces. The pliers have particularly narrow and pointed heads for precise work in tight places. The side cutters are suitable for the precise snipping of soft and semi-hard wires. The quality interchangeable blades (HRC 56-58) are easy to clamp in a dissipative ESD interchangeable grip. The dissipative brush is used to clean statically sensitive components.

## ESD TOOL SETS

### ► 2240 ESD tool set ELITE C 20 pcs

Art.-No.	Content
2231	ESD conductive synthetic case with foam insert empty
3-604-15	ESD side cutters CLASSICline flush 115 mm
3-606-15	ESD side cutters CLASSICline flush 120 mm
3-632-15	ESD flat nose pliers CLASSICline not serrated jaws 120 mm
3-633-15	ESD snipe nose pliers CLASSICline not serrated jaws 120 mm
4-901	ESD interchangeable handle
4-905	interchangeable blades slot 1.5/3.0 mm
4-906	interchangeable blades slot 2.0/3.5 mm
4-907	interchangeable blades slot 2.5/4.0 mm
4-911	interchangeable blades PH00/PH000
4-912	interchangeable blades PH0/PH1
4-921	interchangeable blades TORX T5/T6
4-922 L	interchangeable blades TORX T7/T8
4-923 L	interchangeable blades TORX T9/T10
5-049-13	ESD SMD tweezers 110 mm form 4 stainless steel dissipative
5-055-13	ESD SMD tweezers 120 mm form 7a stainless steel angle 40° dissipative
5-059-13	ESD SMD tweezers 120 mm form 2a stainless steel dissipative
5-067-13	ESD SMD tweezers 120 mm form 12 stainless steel, dissipative
5-068-13	ESD tweezers 120 mm form 13 stainless steel, dissipative
5-078-13	ESD SMD universal tweezers 130 mm stainless steel dissipative
7-422	ESD brush bristles width 20 mm



2240



Outer dimensions (closed):  
250 x 210 x 60 mm



850 g



20 tools



**2240** ESD tool set ELITE C

ESD tools for various jobs in ESD areas. The tools are stored in handy ESD-safe plastic cases and clearly arranged in customised recesses made from conductive rigid foam.

ESD tool set for working on electronic assemblies and equipment in accordance with DIN EN 61340-5-1. The five tweezers allow for precise gripping, inserting and holding of small electronic components. They are equipped with level, smooth and bent gripping surfaces. The pliers have particularly narrow and pointed heads for precise work in tight places. The side cutters are suitable for the precise snipping of soft and semi-hard wires. The quality interchangeable blades (HRC 56-58) are easy to clamp in a dissipative ESD interchangeable grip. The dissipative brush is used to clean statically sensitive components.

## ELECTRONIC TOOL SETS

Special service sets for servicing and repairing mobile telephone devices and other highly sensitive electronic components.  
The tools are packed in a handy zip case made from black dissipative synthetic leather.

### ► 2250 ESD tool set CARAT 9 pcs

Art.-No.	Content
2251	ESD dissipative zipper bag 9 empty pockets
3-672-15	ESD end cutters EUROline flush 130 mm
3-683-15	ESD snipe nose pliers EUROline not serrated jaws 130 mm
4-603	ESD screwdriver slot blade 1.5 x 0.25 x 40 mm
4-605	ESD screwdriver slot blade 2.0 x 0.40 x 40 mm
4-621	ESD screwdriver cross-recess PH000
4-623	ESD screwdriver cross-recess PH0
5-191	ESD plastic tweezers 120 mm form 2a tips 2 mm wide
6-661	ESD torx screwdriver T5
6-663 L	ESD torx screwdriver T7



2250

### ► 2252 ESD tool set CARAT C 9 pcs

Art.-No.	Content
2251	ESD dissipative zipper bag 9 empty pockets
3-606-15	ESD side cutters CLASSICline flush 120 mm
3-633-15	ESD snipe nose pliers CLASSICline not serrated jaws 120 mm
4-603	ESD screwdriver slot blade 2.0 x 0.40 x 40 mm
4-605	ESD screwdriver slot blade 1.5 x 0.25 x 40 mm
4-621	ESD screwdriver cross-recess PH000
4-623	ESD screwdriver cross-recess PH0
5-191	ESD plastic tweezers 120 mm form 2a tips 2 mm wide
6-661	ESD torx screwdriver T5
6-663 L	ESD torx screwdriver T7



2252

### ► 2270 ESD tool set ACCENT 9 pcs

Art.-No.	Content
2251	ESD dissipative zipper bag 9 empty pockets
3-601-15	ESD side cutters CLASSICline semi flush 115 mm
3-633-15	ESD snipe nose pliers CLASSICline not serrated jaws 120 mm
4-603	ESD screwdriver slot blade 1.5 x 0.25 x 40 mm
4-605	ESD screwdriver slot blade 2.0 x 0.40 x 40 mm
4-621	ESD screwdriver cross-recess PH000
4-623	ESD screwdriver cross-recess PH0
5-191	ESD plastic tweezers 120 mm form 2a tips 2 mm wide
6-661	ESD torx screwdriver T5
6-663 L	ESD torx screwdriver T7



2270

Outer dimensions (closed):  
190 x 135 x 35 mm



360 g



9 tools



ESD tool set CARAT **2250**  
ESD tool set CARAT C **2252**  
ESD tool set ACCENT **2270**





**BERNSTEIN**  
TOOLS FOR ELECTRONICS

**NEW**

**1,2,3,4...**  
**GOOD REASONS**  
**TO GO BACK!**

All information about our new  
SPANNFIX 4.0 – THE NEXT GENERATION  
are on the pages 16-17.



## ESD PROFI SET

Selected ESD tools in a handy plastic case made from a conductive material. The tools are clearly arranged in customised recesses made from conductive rigid foam. One or two compartments are empty for individual needs.

EPA suitable for electrostatically protected areas (ESD workplaces/ESD protected zones). Professional tool set for repairing and servicing complex electronic components and assemblies.

### ► 2280 ESD tool set TRENDY 23 pcs

### ► 2285 ESD tool set TRENDY 18 pcs (without ESD handling set)

Art.-No.	Content
2281	ESD conductive synthetic case with foam insert empty
2-620	PLCC-extractor
3-133-13	ESD side cutters 145 mm dissipative
3-651-15	ESD mini side cutters EUROline flush 120 mm
3-682-15	ESD flat nose pliers EUROline not serrated jaws 130 mm
3-683-15	ESD snipe nose pliers EUROline not serrated jaws 130 mm
4-603	ESD screwdriver slot blade 1.5 x 0.25 x 40 mm
4-605	ESD screwdriver slot blade 2.0 x 0.40 x 40 mm
4-606	ESD screwdriver slot blade 2.5 x 0.4 x 50 mm
4-621	ESD screwdriver cross-recess PH000
4-622	ESD screwdriver cross-recess PH00
4-623	ESD screwdriver cross-recess PH0
5-049-13	ESD SMD tweezers 110 mm form 4 stainless steel dissipative
5-055-13	ESD SMD tweezers 120 mm form 7a stainless steel angle 40° dissipative
5-059-13	ESD SMD tweezers 120 mm form 2a stainless steel dissipative
6-661	ESD torx screwdriver T5
6-662	ESD torx screwdriver T6
6-663 L	ESD torx screwdriver T7
7-422	ESD brush bristles width 20mm
9-354-100	ESD table mat 500 x 400 x 0.5 mm
9-342-1	ESD contact bracelet blue
9-342-2	ESD spiral cord for bracelet 2.5 m black
9-343-1	ESD grounding cable 1 MOhms, 1500 mm 2 press-studs 10/10mm
9-353	ESD crocodile clip



2280

handling set

### ► 9-354 ESD handling set 5 pcs

Art.-No.	Content
9-354-100	ESD table mat 500 x 400 x 0.5 mm
9-342-1	ESD contact bracelet blue
9-342-2	ESD spiral cord for bracelet 2.5 m black
9-343-1	ESD grounding cable 1 MOhms, 1500mm 2 press-studs 10/10 mm
9-353	ESD crocodile clip

Outer dimensions (closed):  
350 x 310 x 65 mm



2280: 1500 g  
2285: 1250 g



2280: 23 tools  
2285: 18 tools



ESD tool set TRENDY **2280**  
ESD tool set TRENDY **2285**



## ESD PROFI SET

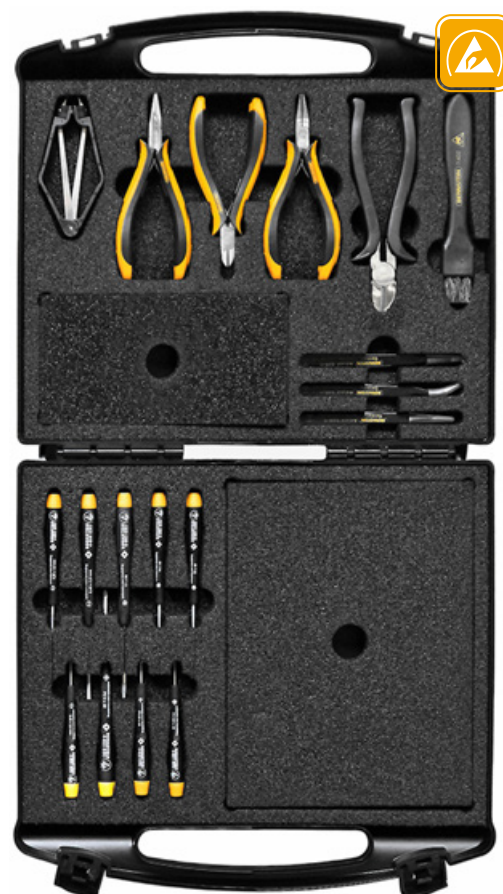
Selected ESD tools in a handy plastic case made from a conductive material. The tools are clearly arranged in customised recesses made from conductive rigid foam. One or two compartments are empty for individual needs.

EPA suitable for electrostatically protected areas (ESD workplaces/ESD protected zones). Professional tool set for repairing and servicing complex electronic components and assemblies.

### ► 2282 ESD tool set TRENDY C 23 pcs

### ► 2286 ESD tool set TRENDY C 18 set (without ESD handling set)

Art.-No.	Content
2281	ESD conductive synthetic case with foam insert empty
2-620	PLCC-extractor
3-133-13	ESD side cutters 145 mm dissipative
3-602-15	ESD side cutters CLASSICline flush 115 mm
3-632-15	ESD flat nose pliers CLASSICline not serrated jaws 120 mm
3-633-15	ESD snipe nose pliers CLASSICline not serrated jaws 120 mm
4-603	ESD screwdriver slot blade 1.5 x 0.25 x 40 mm
4-605	ESD screwdriver slot blade 2.0 x 0.40 x 40 mm
4-606	ESD screwdriver slot blade 2.5 x 0.4 x 50 mm
4-621	ESD screwdriver cross-recess PH000
4-622	ESD screwdriver cross-recess PH00
4-623	ESD screwdriver cross-recess PH0
5-049-13	ESD SMD tweezers 110 mm form 4 stainless steel dissipative
5-055-13	ESD SMD tweezers 120 mm form 7a stainless steel angle 40° dissipative
5-059-13	ESD SMD tweezers 120 mm form 2a stainless steel dissipative
6-661	ESD torx screwdriver T5
6-662	ESD torx screwdriver T6
6-663 L	ESD torx screwdriver T7
7-422	ESD brush bristles width 20 mm



2286

### ► 9-354 ESD Handling Set pcs

Art.-No.	Content
9-354-100	ESD table mat 500 x 400 x 0.5 mm
9-342-1	ESD contact bracelet blue
9-342-2	ESD spiral cord for bracelet 2.5 m black
9-343-1	ESD grounding cable 1 MOhms, 1500mm 2 press-studs 10/10 mm
9-353	ESD crocodile clip

Outer dimensions (closed):  
350 x 310 x 65 mm



2282: 1500 g  
2286: 1250 g



2282: 23 tools  
2286: 18 tools



ESD tool set TRENDY C **2282**  
ESD tool set TRENDY C **2286**



## ESD REPAIR SET

### ► 2290 ESD tool set PROFI repair set 28 pcs

Handy tool flap bag made from dissipative synthetic leather. The bag has a total of 24 rubber loops for holding tools and other parts. Thanks to its design, the tool area can be set up with a Velcro loop, which significantly improves access to the tools. The bag has two press studs that can be connected to a wrist strap and a earthing cable (included), which allows each workstation to be converted to an ESD workstation.

The large support surface (480 x 340 mm) offers enough space to safely handle sensitive electronic components. For transport, the bag can be quickly folded to a handy size and closed with a rubber band.

EPA suitable for electrostatically protected areas (ESD workplaces/ESD protected zones).

Art.-No.	Content
<b>2291</b>	ESD dissipative folding bag 22 empty pockets
<b>4-603</b>	ESD screwdriver slot blade 1.5 x 0.25 x 40 mm
<b>4-605</b>	ESD screwdriver slot blade 2.0 x 0.40 x 40 mm
<b>4-621</b>	ESD screwdriver cross-recess PH000
<b>4-622</b>	ESD screwdriver cross-recess PH00
<b>9-342-1</b>	ESD contact bracelet blue
<b>9-342-2</b>	ESD spiral cord for bracelet 2.5 m black
<b>9-353</b>	ESD crocodile clip
<b>9-343-1</b>	ESD grounding cable 1 MOhms, 1500 mm 2 press-studs 10/10 mm
<b>2-124</b>	opening tool BERNSTEIN metal opener flat
<b>2-123</b>	ESD crowbar SPUDGER metal opener flat

Art.-No.	Content
<b>2-111</b>	LCD suction cup with ring
<b>5-059-13</b>	ESD SMD tweezers 120 mm form 2a stainless steel dissipative
<b>5-055-13</b>	ESD SMD tweezers 120 mm stainless steel angle 40° dissipative
<b>2-129-1</b>	opening tool triangle orange (6 pcs)
<b>2-129-2</b>	opening tool darts orange (3 pcs)
<b>2-129-3</b>	opening tool pen pointed orange
<b>6-611</b>	ESD socket wrench 1.5 mm
<b>6-661</b>	ESD torx screwdriver T5
<b>6-662</b>	ESD torx screwdriver T6
<b>6-721</b>	ESD screwdriver pentalobe TS1
<b>6-724</b>	ESD screwdriver pentalobe TS4





tool folder (closed)  
270 x 160 x 60 mm



without tools: 480 g  
with tools: 740 g



28 tools



ESD tool set PROFI Repair with tools **2290**  
ESD tool set PROFI Repair without tools **2291**



## ELECTRONIC TOOL SET

### ► 2300 ESD tool set PROFI repair set 21 pcs

The foldable tool folder made from ESD material also serves as an electrically dissipative workplace pad and, when unfolded, is 680 x 660 x 35 mm. The bleeder resistance is approx. 108 ohms in accordance with DIN 53482. The workplace pad is equipped with three press studs for connecting a contact wrist band and an earthing cable. The tool folder can be closed with two additional press studs and used as a tool wallet. The contact wristband and the earthing cable are located in the two attached pockets.

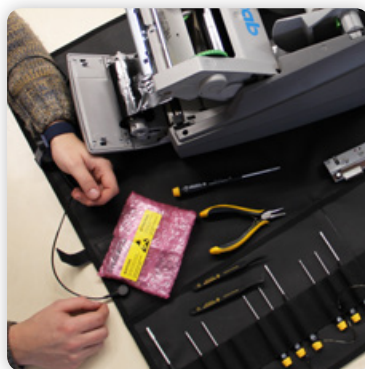
In addition, 16 dissipative tools are stored close at hand in plug-in compartments.

The large support surface (660 x 435 mm) offers enough space to handle sensitive electronic components safely. For transport, the bag can be quickly folded to a handy size.

EPA suitable for electrostatically protected areas (ESD workplaces/ESD protected zones).

Art.-No.	Content
<b>2301</b>	ESD dissipative folding bag 20 empty pockets
<b>2-166</b>	glass fibre contact cleaner brush Ø 4 mm
<b>2-620</b>	PLCC-extractor
<b>4-605</b>	ESD screwdriver slot blade 2.0 x 0.40 x 40 mm
<b>4-606</b>	ESD screwdriver slot blade 2.5 x 0.4 x 50 mm
<b>4-621</b>	ESD screwdriver cross-recess PH000
<b>4-622</b>	ESD screwdriver cross-recess PH00
<b>4-623</b>	ESD screwdriver cross-recess PH0
<b>5-191</b>	ESD plastic tweezers 120 mm form 2a tips 2mm wide
<b>5-194</b>	ESD plastic tweezers 120 mm form 6
<b>6-611</b>	ESD socket wrench 1.5 mm
<b>6-616</b>	ESD socket wrench 3.5 mm

Art.-No.	Content
<b>6-661</b>	ESD torx screwdriver T5
<b>6-664 L</b>	ESD torx screwdriver T8
<b>6-666 L</b>	ESD torx screwdriver T10 with hole
<b>3-601-15</b>	ESD side cutters CLASSICline semi flush 115 mm
<b>3-633-15</b>	ESD snipe nose pliers CLASSICline not serrated jaws 120 mm
<b>4-603</b>	ESD screwdriver slot blade 1.5 x 0.25 x 40 mm
<b>9-342-1</b>	ESD contact bracelet blue
<b>9-342-2</b>	ESD spiral cord for bracelet 2.5 m black
<b>9-343-1</b>	ESD grounding cable 1 MOhms, 1500 mm 2 press-studs 10/10mm
<b>9-353</b>	ESD crocodile clip





Outer dimensions (closed):  
345 x 230 x 30 mm



without tools: 525 g  
with tools: 870 g



21 tools



ESD tool set PROFI Repair with tools **2300**  
ESD tool set PROFI Repair without tools **2301**



► 2302

NEU

### ESD tool set OPERATOR KIT 5 pcs

The compact and robust bag made of dissipative imitation leather fits well into any work coat bag. Injuries caused by pointed and loosely inserted tools can thus be prevented. All tools are conductive. With their particularly slim design, the screwdrivers are ideal for narrow spaces and very practical thanks to the swivel cap. Scissors and tweezers are coated with a dissipative powder coating and can therefore also be used on sensitive components without any problems. The brush consists of dissipative plastic up to the bristles and is also particularly slim and handy.



Dimension: 65 x 340 x 270 mm



190 g



5 tools



ESD tool set OPERATOR KIT **2302**



Art.-No.	Content
5-060-0-ESD	ESD dissipative bag 6 empty pockets
4-607	ESD screwdriver slot blade 3.0 x 0.5 x 50 mm
4-623	ESD screwdriver cross-recess PH0
5-078-13	ESD SMD universal tweezers 130 mm form PSF stainless steel dissipative
7-421-1	ESD/EGB brush
5-310-13	ESD scissors rounded dissipative

## ELECTRONIC TOOL CASE

### ► 6900 ESD tool case EPA 33 pcs

A dissipative ESD tool case with an extensive array of ESD special tools. Ideal for electrostatically sensitive components and systems. This is the only dissipative tool case in a large size that is made completely of dissipative materials! This high-quality ESD case also offers all the advantages of a standard tool case

The case shells, tool boards and the dividable bottom shell are made of dissipative material and comply with DIN EN IEC Standard 10 00 15 Part 5. The tools have been successfully tested by several test laboratories in accordance with DIN EN 61340-5-1,

61340-2-1 and 61340-2-3 for work in ESD protected areas. The sturdy case shells are pressed with a sturdy double aluminium frame. 32 tools are stored close to hand in insertable compartments on two panels, one of which can be fitted on both sides. The lid of the case contains a document compartment for storing written documents. The dividable tray in the bottom of the case allows additional tools and instruments to be stored. The case has two locks and a combination lock.

Art.-No.	Content
<b>6915</b>	ESD dissipative tool case EPA 42 empty pockets
<b>2-101</b>	tin knife with ceramic blade
<b>2-265-1</b>	test prod red blade 1 mm
<b>2-265-2</b>	test prod black blade 1 mm
<b>2-620</b>	PLCC-extractor
<b>3-654-15</b>	ESD side cutters EUROLline semi flush 125 mm
<b>3-672-15</b>	ESD end cutters EUROLline flush 130 mm
<b>3-682-15</b>	ESD flat nose pliers EUROLline not serrated jaws 130 mm
<b>3-133-13</b>	ESD side cutters 14 5mm dissipative
<b>3-245-13</b>	ESD telephone pliers serrated jaws 200 mm dissipative
<b>3-732-13</b>	ESD combination pliers with serration dissipative
<b>4-603</b>	ESD screwdriver slot blade 1.5 x 0.25 x 40 mm
<b>4-605</b>	ESD screwdriver slot blade 2.0 x 0.40 x 40 mm
<b>4-606</b>	ESD screwdriver slot blade 2.5 x 0.4 x 50 mm
<b>4-621</b>	ESD screwdriver cross-recess PH000
<b>4-622</b>	ESD screwdriver cross-recess PH00
<b>4-623</b>	ESD screwdriver cross-recess PH0

Art.-No.	Content
<b>4-632</b>	ESD screwdriver slot blade 4.0 x 0.8 x 100 mm
<b>4-633</b>	ESD screwdriver slot blade 5.5 x 1.0 x 125 mm
<b>4-652</b>	ESD screwdriver cross-recess PH1
<b>4-653</b>	ESD screwdriver cross-recess PH2
<b>5-191</b>	ESD plastic tweezers 120 mm form 2a tips 2 mm wide
<b>5-192</b>	ESD plastic tweezers 120 mm form F tips 3 mm wide
<b>5-194</b>	ESD plastic tweezers 120 mm form 6
<b>6-611</b>	ESD socket wrench 1.5 mm
<b>6-612</b>	ESD socket wrench 2.0 mm
<b>6-617</b>	ESD socket wrench 4.0 mm
<b>6-621</b>	ESD socket wrench 5.5 mm
<b>6-659</b>	ESD torx screwdriver T4
<b>6-661</b>	ESD torx screwdriver T5
<b>6-662</b>	ESD torx screwdriver T6
<b>6-663 L</b>	ESD torx screwdriver T7
<b>6-665 L</b>	ESD torx screwdriver T9 with hole
<b>7-422</b>	ESD brush bristles width 20 mm





Outer dimension : 500 x 370 x 210 mm  
Inner dimension: 480 x 320 x 190 mm



without tools: 5800 g  
with tools: 6900 g



33 tools



**6900** ESD tool case EPA with tools  
**6915** ESD tool case EPA without tools



## SERVICE SET NETWORK

### ► 2700 tool zipper case NETWORK 23 pcs

Special tools set for building and servicing networks. 23 special tools are clearly stored and close at hand in the rugged, black nylon zip case. On the back of the middle flap is a clamp compartment for documents.

Art.-No.	Content
<b>2701</b>	zipper bag 28 empty pockets
<b>2-601</b>	IC-tweezers 125 mm
<b>3-603-15</b>	ESD side cutters CLASSICline semi flush 115 mm
<b>3-235-16</b>	telephone pliers 160 mm with serration jaws length 55 mm
<b>3-815-16</b>	wire stripper with adjusting screw and opening spring
<b>3-0605</b>	combination crimping pliers
<b>3-0611</b>	crimping pliers for BNC and TNC coaxial connectors
<b>4-522</b>	screwdriver EUROline-Power slot blade 3.0 x 0.5 x 75 mm
<b>4-504</b>	screwdriver EUROline-Power slot blade 5.5 x 1.0 x 100 mm
<b>4-532</b>	screwdriver EUROline Power cross-recess PH0
<b>4-533</b>	screwdriver EUROline Power cross-recess PH1
<b>4-534</b>	screwdriver EUROline Power cross-recess PH2

Art.-No.	Content
<b>5-161</b>	clamping scissors with teething jaws
<b>5-535</b>	coax cable stripper Ø 4.8 - 7.5 mm
<b>4-775</b>	socket wrenches handle plastic spring-haft
<b>6-203</b>	socket wrench 6.0 mm without handle
<b>6-205</b>	socket wrench 8.0 mm without handle
<b>6-207</b>	socket wrench 10.0 mm without handle
<b>6-772</b>	adjustable wrench 0 - 19mm
<b>6-985 L</b>	screwdriver EUROline-Power TORX T10 with hole
<b>6-986 L</b>	screwdriver EUROline-Power TORX T15 with hole
<b>6-987 L</b>	screwdriver EUROline-Power TORX T20 with hole
<b>8-390</b>	desoldering suction pump PRAKTIK 20 mm diameter RD-7376
<b>8-376</b>	gas soldering iron Independent 75





Outer dimensions (closed):  
320 x 250 x 100 mm



without tools: 890 g  
with tools: 2700 g



23 tools



tool zipper case NETWORK with tools **2700**  
tool zipper case NETWORK without tools **2701**



## ELECTRONIC SERVICE CASE

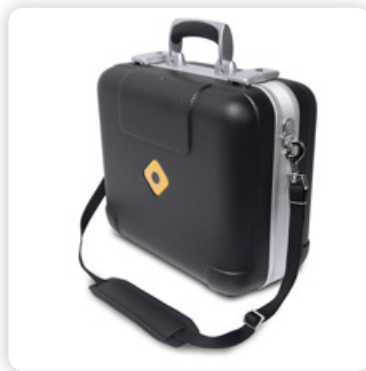
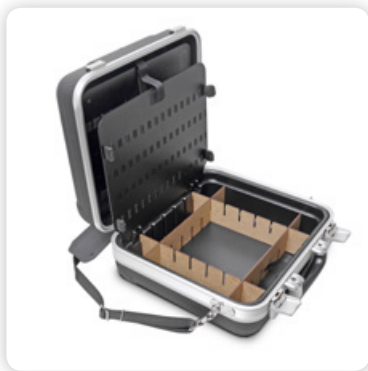
### ► 1500 tool case HANDY 45 pcs

The housing made from a black-grained X-ABS plastic shell is rainproof, non-slip and shock-resistant. A sturdy aluminium profile frame provides extra stability. 45 special tools held in rubber loops are close at hand on two swivelling, perforated flaps. Regular perforation of the tool panels allows you to choose how to arrange the tools.

There is a sturdy plastic insert in the bottom of the case for spare parts, measuring or soldering devices, which can be subdivided with bars. The case has two locks and an ergonomically shaped handle as well as a padded shoulder strap.

Art.-No.	Content
<b>1515</b>	tool case HANDY flexible organization
<b>1500-09</b>	shoulder strap with protection leather black
<b>1-152</b>	plastic adjusting screwdriver slot blade 4x0.5x40mm
<b>2-126</b>	ESD desoldering lever slotted at one ends
<b>2-127</b>	ESD tin knife pointed sharp blade
<b>2-132</b>	spring puller 175 mm
<b>2-166</b>	glass fibre contact cleaner brush Ø 4 mm
<b>2-265-1</b>	test prod red blade 1 mm
<b>2-265-2</b>	test prod black blade 1 mm
<b>2-275</b>	magnifying mirror Ø 21 mm 180 mm long
<b>2-601</b>	IC-tweezers 125 mm
<b>2-620</b>	PLCC-extractor
<b>3-603-15</b>	ESD side cutters CLASSICline semi flush 115 mm
<b>3-132-16</b>	side cutters 130 mm
<b>3-632-15</b>	ESD flat nose pliers CLASSICline not serrated jaws 120 mm
<b>3-634-15</b>	ESD snipe nose pliers CLASSICline not serrated jaws 120 mm
<b>4-523</b>	screwdriver EUROline-Power slot blade 4.0 x 0.8 x 100 mm
<b>4-542</b>	screwdriver EUROline Power cross-recess PZ0

Art.-No.	Content
<b>4-543</b>	screwdriver EUROline Power cross-recess PZ1
<b>4-301</b>	Liliput screwdriver slot blade 2.0 x 0.65 x 40 mm
<b>4-311</b>	screwdriver slot blade 2.8 x 0.6 x 80 mm
<b>4-343 VDE</b>	VDE voltage tester slot blade 3.0 x 0.7 x 60 mm
<b>4-366-AL</b>	watchmaker screwdriver cross-recess PH00
<b>4-392</b>	watchmaker screwdriver magazin 6 pcs (1.5 - 2.0 - 2.5 - 3.0 - PH0 + handle)
<b>5-006</b>	component tweezers 145 mm jaws insulated
<b>5-107</b>	anatomical tweezers 150 mm form 22b
<b>5-181</b>	wire scraper tweezers 125 mm
<b>5-301</b>	scissors with teething
<b>5-515</b>	cutter knife 140 mm
<b>4-775</b>	socket wrenches handle plastic spring-haft
<b>6-202</b>	socket wrench 5.5 mm without handle
<b>6-204</b>	socket wrench 7.0 mm without handle
<b>6-771</b>	adjustable wrench 0 - 13 mm
<b>6-820</b>	wrench key set 8 pcs (1.5 - 2.0 - 2.5 - 3.0 - 4.0 - 5.0 - 5.5 - 6.0)
<b>7-425</b>	dust brush bristles width 25 mm





Inner dimension:  
320 x 295 x 160 mm



without tools: 2700 g  
with tools: 3900 g



45 tools



**1500** tool case HANDY with tools  
**1515** tool case HANDY without tools



## TOOL BAG

### ► 5750 tool shoulder bag FACILITY 41 pcs

The ideal companion for the mobile use of tools. It can be carried in a practical way, leaving the hands free for other tasks. Thanks to its compact design, the bag can also be used on ladders, for example. The tool set contains the most important tools, making it suitable for many service cases.

The compact shoulder bag made of genuine cowhide is equipped with an adjustable shoulder strap and shoulder pad.

The bag body is reinforced with aluminium corners and is closed with the patented magnetic twist lock (one-handed operation). The front, rear and centre walls have a total of 20 pockets for tools of all kinds. The transparent clamping compartment offers space for documents.

Art.-No.	Content
<b>5755</b>	tool case shoulder bag 20 empty pockets
<b>13-906 VDE</b>	VDE side cutters 160 mm
<b>13-915 VDE</b>	VDE telephone pliers 160 mm serrated jaws straight with wire cutters
<b>13-936 VDE</b>	VDE combination pliers 160 mm with serration
<b>14-651 VDE</b>	VDE screwdriver slot blade 2.5 x 75 mm
<b>14-652 VDE</b>	VDE screwdriver slot blade 3.5 x 100 mm
<b>14-654 VDE</b>	VDE screwdriver slot blade 5.5 x 125 mm
<b>14-682 VDE</b>	VDE screwdriver cross-recess PH1 Ø 4.5 mm
<b>14-683 VDE</b>	VDE screwdriver cross-recess PH2 Ø 6.0 mm
<b>3-575-6</b>	water pump pliers 240 mm
<b>3-601-15</b>	ESD side cutters CLASSICline semi flush 115 mm
<b>4-343 VDE</b>	VDE voltage tester slot blade 3.0 x 0.7 x 60 mm

Art.-No.	Content
<b>4-393</b>	watchmaker screwdriver magazin 6 pcs (1.5 - 2.0 - 2.5 - PH00 - PH000 + handle)
<b>5-121</b>	anatomical tweezers 120 mm form 16 serrated
<b>5-274</b>	engineer file 200 mm half round wooden handle
<b>5-517</b>	cutter knife 160 mm
<b>6-500</b>	double open-ended wrench set 8 pcs (6 x 7 - 8 x 9 - 10 x 11 - 12 x 13 - 14 x 15 - 16 x 17 - 18 x 19 - 20 - 22)
<b>6-820</b>	wrench key set 8 pcs (1.5 - 2.0 - 2.5 - 3.0 - 4.0 - 5.0 - 5.5 - 6.0)
<b>7-114</b>	engineer hammer to DIN 1041, 200 g
<b>7-316</b>	punch blade Ø 6 mm blade length 100 mm
<b>7-502</b>	folding rule 2 meter wood
<b>7-535</b>	spirit level 225 mm
<b>7-616</b>	PUK saw in case





5755



Outer dimension: 325 x 250 x 160 mm  
Inner dimension: 300 x 230 x 140 mm



without tools: 1500 g  
with tools: 4200 g



41 tools



**5750** tool shoulder bag FACILITY with tools  
**5755** tool shoulder bag FACILITY without tools



# TOOL CASE

# PERFORMANCE

## JUST DIFFERENT



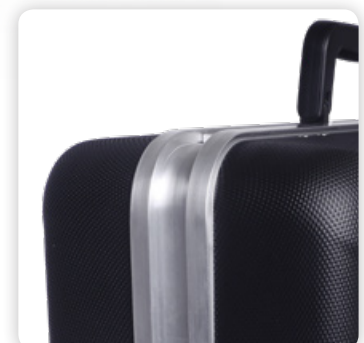
## OUTSIDE

The PERFORMANCE case strikes a good balance between price and performance. Reduced to the most important functions, it represents an inexpensive alternative to the PROTECTION.

The use of X-ABS plastic with an extremely non-slip surface makes the case more resistant to external influences. The impact resistant and break-proof material also makes the suitcase „airworthy“ as it withstands the harsh handling checked luggage is subjected to.

The sturdy aluminium frame and ratchet hinges with a case lid locking add the finishing touches to the look of this high-quality and functional tool case.

Case shell made of robust X-ABS plastic and stable aluminum profile frame



**The PERFORMANCE case includes the following:**

The lid has a built-in tool panel with 22 compartments on the front and back. The bottom shell is available in two designs:



**4415**

Floor panel with 32 compartments, optimal for many small tools  
54 insertion options



**5015**

Floor panel with 6 compartments,  
28 insertion options

## INSIDE

stable handle



The tool panels made from CONPEARL® with stitched fabric pockets are sturdy and washable. The base tray is divided with removable partitions.



divisible bottom shell



tilt locks



Outer dimension: 480 x 350 x 190 mm  
Inner dimension: 460 x 320 x 180 mm



**4415:** 3900 g  
**5015:** 3900 g

## TOOL SET PC-CONTACT

### ► 4100 tool case PC-CONTACT 61 pcs

A service case with tools for installing and servicing computers and peripheral equipment.

The PERFORMANCE case strikes a good balance between price and performance. Reduced to the most important functions, it represents an inexpensive alternative to PROTECTION. The use of X-ABS plastic with an extremely non-slip surface makes the case resistant to external influences.

The impact resistant and break-proof material also makes the suitcase „airworthy“ as it withstands the harsh handling checked luggage is subjected to. The sturdy aluminium frame and ratchet hinges with case lid locking add the finishing touches to the look of this high-quality and functional tool case.

Art.-No.	Content
<b>4415</b>	tool case PERFORMANCE 54 empty pockets
<b>2-127</b>	ESD tin knife pointed sharp blade
<b>2-132</b>	spring puller 175mm
<b>2-161</b>	scriber, magnetic lifter with telescopic slide-out
<b>2-166</b>	glass fibre contact cleaner brush Ø 4 mm
<b>2-265-1</b>	test prod red blade 1 mm
<b>2-265-2</b>	test prod black blade 1 mm
<b>2-275</b>	magnifying mirror Ø 21 mm 180 mm
<b>2-601</b>	IC-tweezers 125 mm
<b>2-620</b>	PLCC-extractor
<b>3-601-15</b>	ESD side cutters CLASSICline semi flush 115 mm
<b>3-606-15</b>	ESD side cutters CLASSICline flush 120 mm
<b>3-632-15</b>	ESD flat nose pliers CLASSICline not serrated jaws 120 mm
<b>3-633-15</b>	ESD snipe nose pliers CLASSICline not serrated jaws 120 mm
<b>4-331</b>	screwdriver slot blade 6.0 x 1.0 x 65 mm
<b>4-343 VDE</b>	VDE voltage tester slot blade 3.0 x 0.7 x 60 mm
<b>4-522</b>	screwdriver EUROline-Power slot blade 3.0 x 0.5 x 75 mm
<b>4-523</b>	screwdriver EUROline-Power slot blade 4.0 x 0.8 x 100 mm
<b>4-533</b>	screwdriver EUROline Power cross-recess PH1
<b>4-542</b>	screwdriver EUROline Power cross-recess PZ0
<b>4-543</b>	screwdriver EUROline Power cross-recess PZ1
<b>4-603</b>	ESD screwdriver slot blade 1.5 x 0.25 x 40 mm
<b>4-607</b>	ESD screwdriver slot blade 3.0 x 0.5 x 50 mm
<b>4-621</b>	ESD screwdriver cross-recess PH000
<b>4-622</b>	ESD screwdriver cross-recess PH00

Art.-No.	Content
<b>4-623</b>	ESD screwdriver cross-recess PH0
<b>5-107</b>	anatomical tweezers 150 mm form 22b
<b>5-117</b>	anatomical tweezers 145 mm form 40 serrated
<b>5-210</b>	needle files set 6 pcs (flat, round, blunt, pointed, 3-edge, 4-edge)
<b>5-305</b>	scissors 140 mm
<b>4-775</b>	socket wrenches handle plastic spring-haft
<b>6-201</b>	socket wrench 4.0 mm without handle
<b>6-202</b>	socket wrench 5.5 mm without handle
<b>6-203</b>	socket wrench 6.0 mm without handle
<b>6-204</b>	socket wrench 7.0 mm without handle
<b>6-205</b>	socket wrench 8.0 mm without handle
<b>6-206</b>	socket wrench 9.0 mm without handle
<b>6-207</b>	socket wrench 10.0 mm without handle
<b>6-661</b>	ESD torx screwdriver T5
<b>6-663 L</b>	ESD torx screwdriver T7
<b>6-750-3</b>	double open-ended wrench 3 x 3.5 mm
<b>6-750-4</b>	double open-ended wrench 4 x 4.5 mm
<b>6-750-5</b>	double open-ended wrench 5 x 5.5 mm
<b>6-750-6</b>	double open-ended wrench 6 x 6.5 mm
<b>6-771</b>	adjustable wrench 0 - 13 mm
<b>6-820</b>	wrench key set 8 pcs (1.5 - 2.0 - 2.5 - 3.0 - 4.0 - 5.0 - 5.5 - 6.0)
<b>6-984 L</b>	screwdriver EUROline-Power TORX T9 with hole
<b>6-985 L</b>	screwdriver EUROline-Power TORX T10 with hole
<b>6-986 L</b>	screwdriver EUROline-Power TORX T15 with hole
<b>7-425</b>	dust brush bristles width 25mm



Outer dimension: 480 x 350 x 190 mm  
Inner dimension: 460 x 320 x 180 mm



without tools: 3900 g  
with tools: 5400 g



62 tools



**4100** tool case PC-CONTACT with tools  
**4415** tool case PC-CONTACT without tools



## TOOL SET TECHNIC

### ► 4400 tool case TECHNIC 69 pcs

A toolbox for technicians. All the tools are clearly arranged on two tool panels.

The PERFORMANCE case strikes a good balance between price and performance. Reduced to the most important functions, it represents an inexpensive alternative to PROTECTION. The use of X-ABS plastic with an extremely non-slip surface makes

the case resistant to external influences. The impact resistant and break-proof material also makes the suitcase „airworthy“ as it withstands the harsh handling checked luggage is subjected to. The sturdy aluminium frame and ratchet hinges with case lid locking add the finishing touches to the look of this high-quality and functional tool case.

Art.-No.	Content
<b>4415</b>	tool case PERFORMANCE 54 empty pockets
<b>1-909</b>	engineer mirror with extension Ø 23 mm
<b>2-126</b>	ESD desoldering lever slotted at one ends
<b>2-127</b>	ESD tin knife pointed sharp blade
<b>2-128</b>	ESD tin scraper sharp chisel form
<b>2-132</b>	spring puller 175 mm
<b>2-161</b>	scriber, magnetic lifter with telescopic slide-out
<b>2-265-1</b>	test prod red blade 1 mm
<b>2-265-2</b>	test prod black blade 1 mm
<b>2-601</b>	IC-tweezers 125 mm
<b>3-132-16</b>	side cutters 130 mm
<b>3-601-15</b>	ESD side cutters CLASSICline semi flush 115 mm
<b>3-632-15</b>	ESD flat nose pliers CLASSICline not serrated jaws 120 mm
<b>3-634-15</b>	ESD snipe nose pliers CLASSICline not serrated jaws 120 mm
<b>3-732-16</b>	combinations pliers 165 mm with serration
<b>4-301</b>	Liliput screwdriver slot blade 2.0 x 0.65 x 40 mm
<b>4-311</b>	screwdriver slot blade 2.8 x 0.6 x 80 mm
<b>4-343 VDE</b>	VDE voltage tester slot blade 3.0 x 0.7 x 60 mm
<b>4-351</b>	offset screwdriver slot blade 4.5 x 0.65 x 100 mm
<b>4-393</b>	watchmaker screwdriver magazin 6 pcs (1.5 - 2.0 - 2.5 - PH00 - PH000 + handle)
<b>5-006</b>	component tweezers 145 mm jaws insulated
<b>5-049</b>	SMD tweezers 110 mm form 4 stainless steel
<b>5-107</b>	anatomical tweezers 150 mm form 22b
<b>5-115</b>	thermal tweezers 165 mm form R30 cross tweezers
<b>5-117</b>	anatomical tweezers 145 mm form 40 serrated
<b>5-161</b>	clamping scissors with teething jaws
<b>5-181</b>	wire scraper tweezers 125 mm

Art.-No.	Content
<b>5-210</b>	needle files set 6 pcs (flat, round, blunt, pointed, 3-edge, 4-edge)
<b>5-301</b>	scissors with teething
<b>5-501</b>	cable knife (open 200 mm)
<b>5-531</b>	automatic wire stripper 0.2 - 6 mm <sup>2</sup> with stop
<b>4-775</b>	socket wrenches handle plastic spring-haft
<b>6-201</b>	socket wrench 4.0 mm without handle
<b>6-202</b>	socket wrench 5.5 mm without handle
<b>6-203</b>	socket wrench 6.0 mm without handle
<b>6-204</b>	socket wrench 7.0 mm without handle
<b>6-205</b>	socket wrench 8.0 mm without handle
<b>6-206</b>	socket wrench 9.0 mm without handle
<b>6-207</b>	socket wrench 10.0 mm without handle
<b>6-750-3</b>	double open-ended wrench 3 x 3.5 mm
<b>6-750-4</b>	double open-ended wrench 4 x 4.5 mm
<b>6-750-5</b>	double open-ended wrench 5 x 5.5 mm
<b>6-750-6</b>	double open-ended wrench 6 x 6.5 mm
<b>6-820</b>	wrench key set 8 pcs (1.5 - 2.0 - 2.5 - 3.0 - 4.0 - 5.0 - 5.5 - 6.0)
<b>7-425</b>	dust brush bristles width 25 mm
<b>7-508</b>	steel tape measure 30 cm
<b>7-511</b>	digital caliper DIN862 precision 150 mm
<b>7-616</b>	PUK saw in case
<b>14-651 VDE</b>	VDE screwdriver slot blade 2.5 x 75 mm
<b>14-653 VDE</b>	VDE screwdriver slot blade 4.0 x 100 mm
<b>14-654 VDE</b>	VDE screwdriver slot blade 5.5 x 125 mm
<b>14-681 VDE</b>	VDE screwdriver cross-recess PH0 Ø 3.0 mm
<b>14-692 VDE</b>	VDE screwdriver cross-recess PZ1 Ø 4.5 mm



Outer dimension: 480 x 350 x 190 mm  
Inner dimension: 460 x 320 x 180 mm



without tools: 3900 g  
with tools: 6300 g



69 tools



**4400** tool case TECHNIC with tools  
**4415** tool case TECHNIC without tools

## TOOL SET TELEDATA

### ► 4700 tool case TELEDATA 56 pcs

The case with special tools for installing and servicing telecommunication systems, data networks and for working with VDE-insulated tools.

The PERFORMANCE case strikes a good balance between price and performance. Reduced to the most important functions, it represents an inexpensive alternative to PROTECTION. The use of X-ABS plastic with an extremely non-slip surface makes

the case resistant to external influences. The impact resistant and break-proof material also makes the suitcase „airworthy“ as it withstands the harsh handling checked luggage is subjected to. The sturdy aluminium frame and ratchet hinges with case lid locking add the finishing touches to the look of this high-quality and functional tool case.

Art.-No.	Content
<b>5015</b>	tool case PERFORMANCE 28 empty pockets
<b>2-265-1</b>	test prod red blade 1 mm
<b>2-265-2</b>	test prod black blade 1 mm
<b>2-601</b>	IC-tweezers 125 mm
<b>2-620</b>	PLCC-extractor
<b>2-701</b>	LSA-Plus insertion tool
<b>3-573</b>	water pump pliers 180 mm with push-button
<b>3-601-15</b>	ESD side cutters CLASSICline semi flush 115 mm
<b>3-0605</b>	combination crimping pliers
<b>5-107</b>	anatomical tweezers 150 mm form 22b
<b>5-117</b>	anatomical tweezers 145 mm form 40 serrated
<b>5-240</b>	warding files set 6 pcs (flat, round, blunt, pointed, 3-edge, 4-edge)
<b>5-505</b>	stripping knife Ø 4 - 28 mm with hook blade
<b>6-500</b>	double open-ended wrench set 8 pcs (6 x 7 - 8 x 9 - 10 x 11 - 12 x 13 - 14 x 15 - 16 x 17 - 18 x 19 - 20 - 22)
<b>6-820</b>	wrench key set 8 pcs (1.5-2.0-2.5-3.0-4.0-5.0-5.5-6.0)
<b>6-995</b>	TORX wrench key set with hole 8 pcs (T9 - T10 - T15 - T20 - T25 - T27 - T30 - T40)

Art.-No.	Content
<b>7-425</b>	dust brush bristles width 25 mm
<b>7-502</b>	folding rule 2 meter wood
<b>7-616</b>	PUK saw in case
<b>13-906 VDE</b>	VDE side cutters 16 0mm
<b>13-915 VDE</b>	VDE telephone pliers 160 mm serrated jaws straight with wire cutters
<b>13-927 VDE</b>	VDE flat nose pliers 160 mm with serration
<b>14-651 VDE</b>	VDE screwdriver slot blade 2.5 x 75 mm
<b>14-652 VDE</b>	VDE screwdriver slot blade 3.5 x 100 mm
<b>14-653 VDE</b>	VDE screwdriver slot blade 4.0 x 100 mm
<b>14-681 VDE</b>	VDE screwdriver cross-recess PH0 Ø 3.0 mm
<b>14-682 VDE</b>	VDE screwdriver cross-recess PH1 Ø 4.5 mm
<b>14-683 VDE</b>	VDE screwdriver cross-recess PH2 Ø 6.0 mm
<b>16-299 VDE</b>	VDE socket wrench 4.0 mm
<b>16-301 VDE</b>	VDE socket wrench 5.0 mm
<b>16-302 VDE</b>	VDE socket wrench 5.5 mm



5015

13-16

1-2

3

7-9

6

5



Outer dimension: 480 x 350 x 190 mm  
Inner dimension: 460 x 320 x 180 mm



without tools: 3900 g  
with tools: 6800 g



56 tools



**4700** tool case TELEDATA with tools  
**5015** tool case TELEDATA without tools

## TOOL SET SECURITY

### ► 4750 tool case SECURITY 54 pcs

A tool box with the basic array of special tools for installing and servicing complex security and alarm systems, as well as for working with VDE-insulated tools and soldering with mains-independent gas soldering irons.

The PERFORMANCE case strikes a good balance between price and performance. Reduced to the most important functions, it represents an inexpensive alternative to PROTECTION.

The use of X-ABS plastic with an extremely non-slip surface makes the case resistant to external influences. The impact resistant and break-proof material also makes the suitcase „airworthy“ as it withstands the harsh handling checked luggage is subjected to. The sturdy aluminium frame and ratchet hinges with case lid locking add the finishing touches to the look of this high-quality and functional tool case.

Art.-No.	Content
<b>5015</b>	tool case PERFORMANCE 28 empty pockets
<b>2-265-1</b>	test prod red blade 1 mm
<b>2-265-2</b>	test prod black blade 1 mm
<b>2-701</b>	LSA-Plus insertion tool
<b>3-601-15</b>	ESD side cutters CLASSICline semi flush 115 mm
<b>3-0611</b>	crimping pliers for BNC and TNC coaxial connectors
<b>4-343 VDE</b>	VDE voltage tester slot blade 3.0 x 0.7 x 60 mm
<b>5-505</b>	stripping knife Ø 4 - 28 mm with hook blade
<b>5-515</b>	cutter knife 140 mm
<b>5-531</b>	automatic wire stripper 0.2 - 6 mm <sup>2</sup> with stop
<b>5-535</b>	coax cable stripper Ø 4.8 - 7.5 mm
<b>6-500</b>	double open-ended wrench set 8 pcs (6 x 7 - 8 x 9 - 10 x 11 - 12 x 13 - 14 x 15 - 16 x 17 - 18 x 19 - 20 - 22)
<b>6-820</b>	wrench key set 8 pcs (1.5 - 2.0 - 2.5 - 3.0 - 4.0 - 5.0 - 5.5 - 6.0)
<b>6-995</b>	TORX wrench key set with hole 8 pcs (T9 - T10 - T15 - T20 - T25 - T27 - T30 - T40)
<b>7-114</b>	engineer hammer to DIN 1041, 200 g
<b>7-425</b>	dust brush bristles width 25 mm
<b>7-502</b>	folding rule 2 meter wood

Art.-No.	Content
<b>7-535</b>	spirit level 225 mm
<b>7-616</b>	PUK saw in case
<b>8-376</b>	gas soldering iron Independent 75
<b>8-390</b>	desoldering suction pump PRAKTIK 20 mm diameter RD-7376
<b>13-906 VDE</b>	VDE side cutters 160 mm
<b>13-915 VDE</b>	VDE telephone pliers 160 mm serrated jaws straight with wire cutters
<b>13-927 VDE</b>	VDE flat nose pliers 160 mm with serration
<b>13-936 VDE</b>	VDE combination pliers 160 mm with serration
<b>14-651 VDE</b>	VDE screwdriver slot blade 2.5 x 75 mm
<b>14-652 VDE</b>	VDE screwdriver slot blade 3.5 x 100 mm
<b>14-653 VDE</b>	VDE screwdriver slot blade 4.0 x 100 mm
<b>14-681 VDE</b>	VDE screwdriver cross-recess PH0 Ø 3.0 mm
<b>14-682 VDE</b>	VDE screwdriver cross-recess PH1 Ø 4.5 mm
<b>14-683 VDE</b>	VDE screwdriver cross-recess PH2 Ø 6.0 mm
<b>16-299 VDE</b>	VDE socket wrench 4.0 mm
<b>16-301 VDE</b>	VDE socket wrench 5.0 mm
<b>16-302 VDE</b>	VDE socket wrench 5.5 mm



Outer dimension: 480 x 350 x 190 mm  
Inner dimension: 460 x 320 x 180 mm



without tools: 3900 g  
with tools: 7500 g



54 tools



**4700** tool case SECURITY with tools  
**5015** tool case SECURITY without tools

## TOOL SET BASIC, ADVANCED AND COMPLETE

### ► 5000 BAS tool case BASIC 51 pcs

Basic equipment with the most important tools (BASIC), expanded basic equipment with additional crimping/pressing pliers and other important screwdrivers (ADVANCED), expanded basic equipment with supplementary equipment for mobile soldering (COMPLETE).

The PERFORMANCE case strikes a good balance between price and performance. Reduced to the most important functions, it represents an inexpensive alternative to PROTECTION.

basic equipment:

Art.-No.	Content
<b>5015</b>	tool case PERFORMANCE 28 empty pockets
<b>3-0856</b>	crimping pliers/wire stripper
<b>3-575-6</b>	water pump pliers 240 mm
<b>3-601-15</b>	ESD side cutters CLASSICline semi flush 115 mm
<b>4-343 VDE</b>	VDE voltage tester slot blade 3.0 x 0.7 x 60 mm
<b>4-392</b>	watchmaker screwdriver magazin 6 pcs (1.5 - 2.0 - 2.5 - 3.0 - PH0 + handle)
<b>4-508</b>	screwdriver EUROline-Power slot blade 8.0 x 1.2 x 150 mm
<b>4-524</b>	screwdriver EUROline-Power slot blade 5.0 x 1.0 x 150 mm
<b>5-107-6</b>	tweezers 150 mm form 22b teething,insulated
<b>5-240</b>	warding files set 6 pcs (flat, round, blunt, pointed, 3-edge, 4-edge)
<b>5-505</b>	stripping knife Ø 4 - 28 mm with hook blade
<b>6-500</b>	double open-ended wrench set 8 pcs (6 x 7 - 8 x 9 - 10 x 11 - 12 x 13 - 14 x 15 - 16 x 17 - 18 x 19 - 20 - 22)
<b>6-820</b>	wrench key set 8 pcs (1.5 - 2.0 - 2.5 - 3.0 - 4.0 - 5.0 - 5.5 - 6.0)
<b>7-116</b>	engineer hammer to DIN 1041, 300 g

The use of X-ABS plastic with an extremely non-slip surface makes the case resistant to external influences. The impact resistant and break-proof material also makes the suitcase „airworthy“ as it withstands the harsh handling checked luggage is subjected to. The sturdy aluminium frame and ratchet hinges with case lid locking add the finishing touches to the look of this high-quality and functional tool case.

Art.-No.	Content
<b>7-235</b>	flat chisel 200 x 14 x 20 mm
<b>7-255</b>	electrician's chisel with safety impact head 200 x 8 x 10 mm
<b>7-316</b>	punch blade Ø 6mm blade length 100 mm
<b>7-502</b>	folding rule 2 meter wood
<b>7-535</b>	spirit level 225 mm
<b>7-616</b>	PUK saw in case
<b>13-906 VDE</b>	VDE side cutters 160 mm
<b>13-915 VDE</b>	VDE telephone pliers 160 mm serrated jaws straight with wire cutters
<b>13-936 VDE</b>	VDE combination pliers 160 mm with serration
<b>14-653 VDE</b>	VDE screwdriver slot blade 4.0 x 100 mm
<b>14-651 VDE</b>	VDE screwdriver slot blade 2.5 x 75 mm
<b>14-652 VDE</b>	VDE screwdriver slot blade 3.5 x 100 mm
<b>14-682 VDE</b>	VDE screwdriver cross-recess PH1 Ø 4.5 mm
<b>14-683 VDE</b>	VDE screwdriver cross-recess PH2 Ø 6.0 mm

### ► 5000 ADV tool case ADVANCED 67 pcs

Extension of tool case BASIC

Art.-No.	Content
<b>5000 BAS</b>	Basic equipment
<b>3-0612</b>	automatic crimping pliers 0,5 - 1,0 / 1,54 - 2,5 / 4 - 6 mm <sup>2</sup>
<b>3-871-6</b>	pressing pliers 155 mm for wire 0.25-2.5 mm <sup>2</sup>
<b>6-200</b>	socket wrench set 8 pcs (4 - 5.5 - 6 - 7 - 8 - 9 - 10 + handle)
<b>6-995</b>	TORX wrench key set with hole 8 pcs (T9 - T10 - T15 - T20 - T25 - T27 - T30 - T40)

### ► 5000 COM tool case COMPLETE 72 pcs

Extension of tool case BASIC including soldering tools

Art.-No.	Content
<b>5000 BAS</b>	Basic equipment
<b>3-0612</b>	automatic crimping pliers 0,5 - 1,0 / 1,54 - 2,5 / 4 - 6 mm <sup>2</sup>
<b>3-871-6</b>	pressing pliers 155 mm for wire 0.25-2.5 mm <sup>2</sup>
<b>6-200</b>	socket wrench set 8 pcs (4 - 5.5 - 6 - 7 - 8 - 9 - 10 + handle)
<b>6-995</b>	TORX wrench key set with hole 8 pcs (T9 - T10 - T15 - T20 - T25 - T27 - T30 - T40)
<b>7-429</b>	insulating tape 25mm wide, 25 m (12 mm core)
<b>8-390</b>	desoldering suction pump PRAKTIK 20 mm diameter RD-7376
<b>8-376</b>	gas soldering iron Independent 75 (replacement tips on request)



5015



Outer dimension: 480 x 350 x 190 mm  
Inner dimension: 460 x 320 x 180 mm



without tools: 3900 g  
5000 BAS: 7400 g  
5000 ADV: 8500 g  
5000 COM: 8700 g



**5000** BAS tool case BASIC 51 pcs  
**5000** ADV tool case ADVANCED 67 pcs  
**5000** COM tool case COMPLETE 72 pcs  
**5015** tool case PERFORMANCE without tools



# TOOL CASE

# PROTECTION

## BE WELL CARED!



ergonomic handle



## OUTSIDE

The compact shape and the textured surface provide the case with a high degree of stability and give it its unmistakable BERNSTEIN design.

The use of X-ABS plastic with an extremely non-slip surface makes the case more resistant to external influences. The impact resistant and break-proof material also makes the suitcase „airworthy“ as it withstands the harsh handling checked luggage is subjected to.

The ergonomically shaped handle with a recess and ratchet hinges with case lid locking add the finishing touches to the look of this highly functional and modern tool case.

Case shell made of robust X-ABS plastic



### The PROTECTION case includes the following:

A document compartment is located in the lid as well as a removable tool panel with 26 compartments on the front and back. The bottom shell is available in two designs:



**6415**  
Floor panel with  
32 compartments, optimal for many  
small tools  
58 insertion options



**6755**  
Floor panel with  
16 compartments  
42 insertion options

Document compartment  
in case lid



**OPTIONAL:**  
additional tool  
board with 10  
compartments



divisible bottom tray

## INSIDE

The tool panels made from CONPEARL® with stitched fabric pockets are sturdy, washable and interchangeable. The bottom tray can be divided with removable partitions.



Outer dimension: 480 x 350 x 190 mm  
Inner dimension: 460 x 320 x 180 mm



6415: 4400 g  
6755: 4300 g

tilt locks

on request with  
TSA-LOCK- (for USA travellers)  
or combination locks available



## TOOL SET PC CONTACT

### ► 6100 tool case PC-CONTACT 65 pcs

A service case with tools for installing and servicing computers and peripheral equipment.

The compact shape and the textured surface provide the case with a high degree of stability and give it its unmistakable BERNSTEIN design. The use of X-ABS plastic with an extremely non-slip surface makes the case resistant to external influences. The impact resistant and break-proof material also makes the

suitcase „airworthy“ as it withstands the harsh handling checked luggage is subjected to. The ergonomically shaped handle with recessed grips and ratchet hinges with case lid locking add the finishing touches to the look of this highly functional and modern tool case.

Art.-No.	Content
<b>6415</b>	tool case PROTECTION 58 empty pockets
<b>2-127</b>	ESD tin knife pointed sharp blade
<b>2-132</b>	spring puller 175 mm
<b>2-161</b>	scriber, magnetic lifter with telescopic slide-out
<b>2-166</b>	glass fibre contact cleaner brush Ø 4 mm
<b>2-265-1</b>	test prod red blade 1 mm
<b>2-265-2</b>	test prod black blade 1 mm
<b>2-275</b>	magnifying mirror Ø 21 mm 180 mm long
<b>2-601</b>	IC-tweezers 125 mm
<b>2-620</b>	PLCC-extractor
<b>3-601-15</b>	ESD side cutters CLASSICline semi flush 115 mm
<b>3-606-15</b>	ESD side cutters CLASSICline flush 120 mm
<b>3-632-15</b>	ESD flat nose pliers CLASSICline not serrated jaws 120 mm
<b>3-633-15</b>	ESD snipe nose pliers CLASSICline not serrated jaws 120 mm
<b>3-634-15</b>	ESD snipe nose pliers CLASSICline not serrated jaws 120 mm
<b>4-331</b>	screwdriver slot blade 6.0 x 1.0 x 65 mm
<b>4-343 VDE</b>	VDE voltage tester slot blade 3.0 x 0.7 x 60 mm
<b>4-522</b>	screwdriver EUROline-Power slot blade 3.0 x 0.5 x 75 mm
<b>4-523</b>	screwdriver EUROline-Power slot blade 4.0 x 0.8 x 100 mm
<b>4-533</b>	screwdriver EUROline Power cross-recess PH1
<b>4-542</b>	screwdriver EUROline Power cross-recess PZ0
<b>4-543</b>	screwdriver EUROline Power cross-recess PZ1
<b>4-603</b>	ESD screwdriver slot blade 1.5 x 0.25 x 40 mm
<b>4-607</b>	ESD screwdriver slot blade 3.0 x 0.5 x 50 mm

Art.-No.	Content
<b>4-621</b>	ESD screwdriver cross-recess PH000
<b>4-622</b>	ESD screwdriver cross-recess PH00
<b>4-623</b>	ESD screwdriver cross-recess PH0
<b>4-624</b>	ESD screwdriver cross-recess PH1
<b>5-107</b>	anatomical tweezers 150 mm form 22b
<b>5-117</b>	anatomical tweezers 145 mm form 40 serrated
<b>5-210</b>	needle files set 6 pcs (flat, round, blunt, pointed, 3-edge, 4-edge)
<b>5-305</b>	scissors 140 mm
<b>6-200</b>	socket wrench set 8 pcs (4 - 5.5 - 6 - 7 - 8 - 9 - 10 + handle)
<b>6-661</b>	ESD torx screwdriver T5
<b>6-663 L</b>	ESD torx screwdriver T7
<b>6-750-3</b>	double open-ended wrench 3 x 3.5 mm
<b>6-750-4</b>	double open-ended wrench 4 x 4.5 mm
<b>6-750-5</b>	double open-ended wrench 5 x 5.5 mm
<b>6-750-6</b>	double open-ended wrench 6 x 6.5 mm
<b>6-750-7</b>	double open-ended wrench 7 x 8 mm
<b>6-750-9</b>	double open-ended wrench 9 x 10 mm
<b>6-771</b>	adjustable wrench 0 - 13 mm
<b>6-820</b>	wrench key set 8 pcs (1.5 - 2.0 - 2.5 - 3.0 - 4.0 - 5.0 - 5.5 - 6.0)
<b>6-984 L</b>	screwdriver EUROline-Power TORX T9 with hole
<b>6-985 L</b>	screwdriver EUROline-Power TORX T10 with hole
<b>6-986 L</b>	screwdriver EUROline-Power TORX T15 with hole
<b>7-425</b>	dust brush bristles width 25 mm



Outer dimension: 480 x 350 x 190 mm  
Inner dimension: 460 x 320 x 180 mm



without tools: 4400 g  
with tools: 6100 g



65 tools



**6100** tool case PC-CONTACT with tools  
**6415** tool case PC-CONTACT without tools

## TOOL SET TECHNIC

### ► 6400 tool case TECHNIK 78 pcs

A toolbox for technicians. All the tools are clearly arranged on two tool panels.

The compact shape and the textured surface provide the case with a high degree of stability and give it its unmistakable BERNSTEIN design. The use of X-ABS plastic with an extremely non-slip surface makes the case resistant to external influences. The impact resistant and break-proof material also makes the

suitcase „airworthy“ as it withstands the harsh handling checked luggage is subjected to. The ergonomically shaped handle with recessed grips and ratchet hinges with case lid locking add the finishing touches to the look of this highly functional and modern tool case.

Art.-No.	Content
<b>6415</b>	tool case PROTECTION 58 empty pockets
<b>1-909</b>	engineer mirror with extension Ø 23 mm
<b>2-126</b>	ESD desoldering lever slotted at one ends
<b>2-127</b>	ESD tin knife pointed sharp blade
<b>2-128</b>	ESD tin scraper sharp chisel form
<b>2-132</b>	spring puller 175 mm
<b>2-145</b>	screwdriver with guide sleeve
<b>2-161</b>	scriber, magnetic lifter with telescopic slide-out
<b>2-265-1</b>	test prod red blade 1 mm
<b>2-265-2</b>	test prod black blade 1 mm
<b>2-601</b>	IC-tweezers 125 mm
<b>3-132-16</b>	side cutters 130 mm
<b>3-601-15</b>	ESD side cutters CLASSICline semi flush 115 mm
<b>3-606-15</b>	ESD side cutters CLASSICline flush 120 mm
<b>3-631-15</b>	ESD round nose pliers CLASSICline not serrated jaws 120 mm
<b>3-632-15</b>	ESD flat nose pliers CLASSICline not serrated jaws 120 mm
<b>3-634-15</b>	ESD snipe nose pliers CLASSICline not serrated jaws 120 mm
<b>3-732-16</b>	combinations pliers 165 mm with serration
<b>4-261</b>	screwdriver short cross-recess PH1
<b>4-301</b>	Liliput screwdriver slot blade 2.0 x 0.65 x 40 mm
<b>4-311</b>	screwdriver slot blade 2.8 x 0.6 x 80 mm
<b>4-321</b>	screwdriver short slot blade 4.0 x 0.8 x 25 mm
<b>4-343 VDE</b>	VDE voltage tester slot blade 3.0 x 0.7 x 60 mm
<b>4-351</b>	offset screwdriver slot blade 4.5 x 0.65 x 100 mm
<b>4-366-AL</b>	watchmaker screwdriver cross-recess PH00
<b>4-392</b>	watchmaker screwdriver magazin 6 pcs (1.5 - 2.0 - 2.5 - 3.0 - PH0 + handle)
<b>5-006</b>	component tweezers 145 mm jaws insulated
<b>5-049</b>	SMD tweezers 110 mm form 4 stainless steel

Art.-No.	Content
<b>5-107</b>	anatomical tweezers 150 mm form 22b
<b>5-115</b>	thermal tweezers 165 mm form R30 cross tweezers
<b>5-117</b>	anatomical tweezers 145 mm form 40 serrated
<b>5-161</b>	clamping scissors with teething jaws
<b>5-181</b>	wire scraper tweezers 125 mm
<b>5-210</b>	needle files set 6 pcs (flat, round, blunt, pointed, 3-edge, 4-edge)
<b>5-301</b>	scissors with teething
<b>5-501</b>	cable knife (open 200 mm)
<b>6-200</b>	socket wrench set 8 pcs (4 - 5.5 - 6 - 7 - 8 - 9 - 10 + handle)
<b>6-750-3</b>	double open-ended wrench 3 x 3.5 mm
<b>6-750-4</b>	double open-ended wrench 4 x 4.5 mm
<b>6-750-5</b>	double open-ended wrench 5 x 5.5 mm
<b>6-750-6</b>	double open-ended wrench 6 x 6.5 mm
<b>6-750-7</b>	double open-ended wrench 7 x 8 mm
<b>6-750-9</b>	double open-ended wrench 9 x 10 mm
<b>6-820</b>	wrench key set 8 pcs (1.5 - 2.0 - 2.5 - 3.0 - 4.0 - 5.0 - 5.5 - 6.0)
<b>7-425</b>	dust brush bristles width 25 mm
<b>7-435</b>	oilier with brass rotating seal 40 ml
<b>7-508</b>	steel tape measure 30 cm
<b>7-511</b>	digital caliper DIN862 precision 150 mm
<b>7-616</b>	PUK saw in case
<b>14-651 VDE</b>	VDE screwdriver slot blade 2.5 x 75 mm
<b>14-653 VDE</b>	VDE screwdriver slot blade 4.0 x 100 mm
<b>14-654 VDE</b>	VDE screwdriver slot blade 5.5 x 125 mm
<b>14-681 VDE</b>	VDE screwdriver cross-recess PH0 Ø 3.0 mm
<b>15-531 VDE</b>	VDE automatic wire stripper (0.2 - 6.0 mm <sup>2</sup> ) with stop screw
<b>14-692 VDE</b>	VDE screwdriver cross-recess PZ1 Ø 4.5 mm



6415



Outer dimension: 480 x 350 x 190 mm  
Inner dimension: 460 x 320 x 180 mm



without tools: 4400 g  
with tools: 7100 g



78 tools



**6400** tool case TECHNIK with tools  
**6415** tool case TECHNIK without tools

## TOOL SET TELEDATA

### ► 6700 tool case TELEDATA 75 pcs

The case with special tools for installing and servicing telecommunication systems, data networks and for working with VDE-insulated tools.

The compact shape and the textured surface provide the case with a high degree of stability and give it its unmistakable BERNSTEIN design. The use of X-ABS plastic with an extremely non-slip surface makes the case resistant to external influences.

The impact resistant and break-proof material also makes the suitcase „airworthy“ as it withstands the harsh handling checked luggage is subjected to. The ergonomically shaped handle with recessed grips and ratchet hinges with case lid locking add the finishing touches to the look of this highly functional and modern tool case.

Art.-No.	Content
<b>6755</b>	tool case PROTECTION 52 empty pockets
<b>2-265-1</b>	test prod red blade 1 mm
<b>2-265-2</b>	test prod black blade 1 mm
<b>2-601</b>	IC-tweezers 125 mm
<b>2-620</b>	PLCC-extractor
<b>2-701</b>	LSA-Plus insertion tool
<b>3-573</b>	water pump pliers 180 mm with push-button
<b>3-601-15</b>	ESD side cutters CLASSICline semi flush 115 mm
<b>3-0605</b>	combination crimping pliers
<b>5-107</b>	anatomical tweezers 150 mm form 22b
<b>5-117</b>	anatomical tweezers 145 mm form 40 serrated
<b>5-240</b>	warding files set 6 pcs (flat, round, blunt, pointed, 3-edge, 4-edge)
<b>5-505</b>	stripping knife Ø 4 - 28 mm with hook blade
<b>6-500</b>	double open-ended wrench set 8 pcs (6 x 7 - 8 x 9 - 10 x 11 - 12 x 13 - 14 x 15 - 16 x 17 - 18 x 19 - 20 - 22)
<b>6-600</b>	combination wrench set 12 pcs (6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 - 17 - 19 - 22)
<b>6-950</b>	ballpoint wrench key set 9 pcs (1.5 - 2.0 - 2.5 - 3.0 - 4.0 - 5.0 - 6.0 - 8.0 - 10.0)
<b>6-995</b>	TORX wrench key set with hole 8 pcs (T9 - T10 - T15 - T20 - T25 - T27 - T30 - T40)

Art.-No.	Content
<b>7-425</b>	dust brush bristles width 25 mm
<b>7-506</b>	tape measure 2 m
<b>7-616</b>	PUK saw in case
<b>9-316</b>	ESD chip-container 57 x 36 x 17 mm
<b>13-906 VDE</b>	VDE side cutters 160 mm
<b>13-915 VDE</b>	VDE telephone pliers 160 mm serrated jaws straight with wire cutters
<b>13-927 VDE</b>	VDE flat nose pliers 160 mm with serration
<b>13-936 VDE</b>	VDE combination pliers 160 mm with serration
<b>14-651 VDE</b>	VDE screwdriver slot blade 2.5 x 75 mm
<b>14-652 VDE</b>	VDE screwdriver slot blade 3.5 x 100 mm
<b>14-653 VDE</b>	VDE screwdriver slot blade 4.0 x 100 mm
<b>14-681 VDE</b>	VDE screwdriver cross-recess PH0 Ø 3.0 mm
<b>14-682 VDE</b>	VDE screwdriver cross-recess PH1 Ø 4.5 mm
<b>14-683 VDE</b>	VDE screwdriver cross-recess PH2 Ø 6.0 mm
<b>14-684 VDE</b>	VDE screwdriver cross-recess PH3 Ø 8.0 mm
<b>16-299 VDE</b>	VDE socket wrench 4.0 mm
<b>16-301 VDE</b>	VDE socket wrench 5.0 mm
<b>16-302 VDE</b>	VDE socket wrench 5.5 mm



6755

ARTIKEL-  
GRUPPEN

13-16

7-9

+6

+9

9

1-2

3



Outer dimension: 480 x 350 x 190 mm  
Inner dimension: 460 x 320 x 180 mm



without tools: 4300 g  
with tools: 8600 g



75 tools



**6700** tool case TELEDATA with tools  
**6755** tool case TELEDATA without tools



## TOOL SET SECURITY

### ► 6750 tool case SECURITY 60 pcs

The case with special tools for installing and servicing telecommunication systems, data networks and for working with VDE-insulated tools.

The compact shape and the textured surface provide the case with a high degree of stability and give it its unmistakable BERNSTEIN design. The use of X-ABS plastic with an extremely non-slip surface makes the case resistant to external influences.

The impact resistant and break-proof material also makes the suitcase „airworthy“ as it withstands the harsh handling checked luggage is subjected to. The ergonomically shaped handle with recessed grips and ratchet hinges with case lid locking add the finishing touches to the look of this highly functional and modern tool case.

Art.-No.	Content
<b>6755</b>	tool case PROTECTION 52 empty pockets
<b>2-265-1</b>	test prod red blade 1 mm
<b>2-265-2</b>	test prod black blade 1 mm
<b>2-701</b>	LSA-Plus insertion tool
<b>3-601-15</b>	ESD side cutters CLASSICline semi flush 115 mm
<b>3-0611</b>	crimping pliers for BNC and TNC coaxial connectors
<b>4-343 VDE</b>	VDE voltage tester slot blade 3.0 x 0.7 x 60 mm
<b>5-505</b>	stripping knife Ø 4 - 28 mm with hook blade
<b>5-515</b>	cutter knife 140 mm
<b>5-535</b>	coax cable stripper Ø 4.8 - 7.5 mm
<b>6-600</b>	combination wrench set 12 pcs (6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 - 17 - 19 - 22)
<b>6-950</b>	ballpoint wrench key set 9 pcs (1.5 - 2.0 - 2.5 - 3.0 - 4.0 - 5.0 - 6.0 - 8.0 - 10.0)
<b>6-995</b>	TORX wrench key set with hole 8 pcs (T9 - T10 - T15 - T20 - T25 - T27 - T30 - T40)
<b>7-116</b>	engineer hammer to DIN 1041, 300 g
<b>7-425</b>	dust brush bristles width 25 mm
<b>7-506</b>	tape measure 2 m
<b>7-535</b>	spirit level 225 mm

Art.-No.	Content
<b>7-616</b>	PUK saw in case
<b>8-376</b>	gas soldering iron Independent 75
<b>8-390</b>	desoldering suction pump PRAKTIK 20 mm diameter RD-7376
<b>13-906 VDE</b>	VDE side cutters 160 mm
<b>13-915 VDE</b>	VDE telephone pliers 160 mm serrated jaws straight with wire cutters
<b>13-927 VDE</b>	VDE flat nose pliers 160 mm with serration
<b>13-936 VDE</b>	VDE combination pliers 160 mm with serration
<b>14-651 VDE</b>	VDE screwdriver slot blade 2.5 x 75 mm
<b>14-652 VDE</b>	VDE screwdriver slot blade 3.5 x 100 mm
<b>14-653 VDE</b>	VDE screwdriver slot blade 4.0 x 100 mm
<b>14-681 VDE</b>	VDE screwdriver cross-recess PH0 Ø 3.0 mm
<b>14-682 VDE</b>	VDE screwdriver cross-recess PH1 Ø 4.5 mm
<b>14-683 VDE</b>	VDE screwdriver cross-recess PH2 Ø 6.0 mm
<b>14-684 VDE</b>	VDE screwdriver cross-recess PH3 Ø 8.0 mm
<b>15-531 VDE</b>	VDE automatic wire stripper (0.2 - 6.0 mm <sup>2</sup> ) with stop screw
<b>16-299 VDE</b>	VDE socket wrench 4.0 mm
<b>16-301 VDE</b>	VDE socket wrench 5.0 mm
<b>16-302 VDE</b>	VDE socket wrench 5.5 mm



6755

13-16

7-9

6

+6

+9

1-2

3

4

5



Outer dimension: 480 x 350 x 190 mm  
Inner dimension: 460 x 320 x 180 mm



without tools: 4300 g  
with tools: 8600 g



60 tools



**6750** tool case SECURITY with tools  
**6755** tool case SECURITY without tools



# SERVICE CASE

## PROTECTION XL

**THE BIG ONE -  
WITH AND  
WITHOUT  
WHEELS**



### OUTSIDE

The rigid and robust roller case for heavy loads. With a double aluminium frame and the break-resistant X-ABS case shells, the case can carry loads of up to 40 kg and is also airworthy. The 4-fold telescopic pull-out is powder-coated and has an ergonomic handle that is form-fitting with the case handle. The wide wheelbase and the rubberised and mounted rollers allow the PROTECTION XL to also master uneven paths. The ratchet hinges with case lid lock come as standard with our tool cases.



handle and  
pull-out closed  
in one

The PROTECTION XL case is available with or without wheels. Both versions can be supplied with the following interior equipment:

A document compartment is located in the lid. The bottom panel is securely fixed to the dividable bottom shell.



**6515 / 6515 R**  
the mobile workshop in a case with 90 compartments, optimal for many small tools



**6615 / 6615 R**  
equipment with 42 compartments



**7015 / 7015 OR**  
equipment with 58 compartments, optimal for many small tools

## INSIDE

The tool panels made from CONPEARL® with stitched fabric pockets are sturdy, washable and interchangeable. The bottom tray can be divided with removable partitions.



4-fold  
telescopic pull-out  
1020 mm  
pull-out height

rubberized,  
stored  
wheels



88 mm high  
and divisible  
bottom tray



**OPTIONAL:**  
additional tool board with  
10 compartments



Document  
compartment  
in case lid



Outer dimension:  
480 x 350 x 190 mm  
Inner dimension:  
460 x 320 x 180 mm



6515:	5800 g
6515R:	8200 g
6615:	4900 g
6615R:	7350 g
7015:	7400 g
7015OR:	12500 g

tilt locks

on request with  
**TSA-LOCK-** (for USA travellers)  
or combination locks available



## TOOL SET BOSS

### ► 6500 tool case BOSS 113 pcs

### ► 6500R tool case BOSS with wheels 113 pcs

The mobile workshop in a case

The rigid and robust roller case for heavy loads. With a double aluminium frame and the break-resistant X-ABS case shells, the case can carry loads of up to 40 kg and is also airworthy. The 4-fold telescopic pull-out is powder-coated and has an ergonomic handle that is form-fitting with the case handle.

The wide wheelbase and the rubberised and mounted rollers allow the PROTECTION XL to also master uneven paths. The ratchet hinges with case lid lock come as standard with our tool cases.

Art.-No.	Content
<b>6515</b>	tool case PROTECTION XL BOSS 90 empty pockets
<b>1-151</b>	plastic adjusting screwdriver slot blade 3 x 0.5 x 40 mm
<b>1-153</b>	plastic adjusting screwdriver slot blade 2 x 0.7 x 130 mm
<b>1-155</b>	plastic adjusting screwdriver slot blade 3.5 x 0.7 x 130 mm
<b>1-909</b>	engineer mirror with extension Ø 23 mm
<b>2-126</b>	ESD desoldering lever slotted at one ends
<b>2-127</b>	ESD tin knife pointed sharp blade
<b>2-128</b>	ESD tin scraper sharp chisel form
<b>2-132</b>	spring puller 175 mm
<b>2-155</b>	claw-type gripper with 3 hardened wire claws
<b>2-161</b>	scriber, magnetic lifter with telescopic slide-out
<b>2-166</b>	glass fibre contact cleaner brush Ø 4mm
<b>2-265-1</b>	test prod red blade 1 mm
<b>2-265-2</b>	test prod black blade 1 mm
<b>2-296</b>	hand magnifier 3 x magnification LED light
<b>2-601</b>	IC-tweezers 125 mm
<b>2-620</b>	PLCC-extractor
<b>2-656</b>	LED flashlight 143 x 19 mm
<b>3-0856</b>	crimping pliers wire stripper
<b>3-132-16</b>	side cutters 130 mm
<b>3-235-16</b>	telephone pliers 160 mm with serration jaws length 55 mm
<b>3-601-15</b>	ESD side cutters CLASSICline semi flush 115 mm
<b>3-603-15</b>	ESD side cutters CLASSICline semi flush 115 mm
<b>3-606-15</b>	ESD side cutters CLASSICline flush 120 mm
<b>3-632-15</b>	ESD flat nose pliers CLASSICline not serrated jaws 120 mm
<b>3-633-15</b>	ESD snipe nose pliers CLASSICline not serrated jaws 120 mm
<b>3-634-15</b>	ESD snipe nose pliers CLASSICline not serrated jaws 120 mm
<b>3-732-16</b>	combinations pliers 165 mm with serration
<b>3-815-16</b>	wire stripper with adjusting screw and opening spring
<b>3-871-6</b>	pressing pliers 155 mm for wire 0.25-2.5 mm <sup>2</sup>
<b>4-301</b>	Liliput screwdriver slot blade 2,0 x 0.65 x 40 mm
<b>4-343 VDE</b>	VDE voltage tester slot blade 3.0 x 0.7 x 60 mm
<b>4-351</b>	offset screwdriver slot blade 4.5 x 0.65 x 100 mm

Art.-No.	Content
<b>4-392</b>	watchmaker screwdriver magazin 6 pcs (1.5 - 2.0 - 2.5 - 3.0 - PH0 + handle)
<b>4-504</b>	screwdriver EUROline-Power slot blade 5.5 x 1.0 x 100 mm
<b>4-523</b>	screwdriver EUROline-Power slot blade 4.0 x 0.8 x 100 mm
<b>4-543</b>	screwdriver EUROline Power cross-recess PZ1
<b>4-603</b>	ESD screwdriver slot blade 1.5 x 0.25 x 40 mm
<b>4-605</b>	ESD screwdriver slot blade 2.0 x 0.40 x 40 mm
<b>4-606</b>	ESD screwdriver slot blade 2.5 x 0.4 x 50 mm
<b>4-607</b>	ESD screwdriver slot blade 3.0 x 0.5 x 50 mm
<b>4-608</b>	ESD screwdriver slot blade 3.5 x 0.6 x 60 mm
<b>4-621</b>	ESD screwdriver cross-recess PH000
<b>4-622</b>	ESD screwdriver cross-recess PH00
<b>4-623</b>	ESD screwdriver cross-recess PH0
<b>4-624</b>	ESD screwdriver cross-recess PH1
<b>5-006</b>	component tweezers 145 mm jaws insulated
<b>5-049</b>	SMD tweezers 110 mm form 4 stainless steel
<b>5-107</b>	anatomical tweezers 150 mm form 22b
<b>5-107-6</b>	tweezers 150 mm form 22b teething,insulated
<b>5-115</b>	thermal tweezers 165 mm form R30 cross tweezers
<b>5-117</b>	anatomical tweezers 145 mm form 40 serrated
<b>5-161</b>	clamping scissors with teething jaws
<b>5-181</b>	wire scraper tweezers 125 mm
<b>5-191</b>	ESD plastic tweezers 120 mm form 2a tips 2 mm wide
<b>5-194</b>	ESD plastic tweezers 120 mm form 6
<b>5-210</b>	needle files set 6 pcs (flat, round, blunt, pointed, 3-edge, 4-edge)
<b>5-301</b>	scissors with teething
<b>5-305</b>	scissors 140 mm
<b>5-501</b>	cable knife (open 200 mm)
<b>5-515</b>	cutter knife 140 mm
<b>4-775</b>	socket wrenches handle plastic spring-haft
<b>6-201</b>	socket wrench 4.0 mm without handle
<b>6-202</b>	socket wrench 5.5 mm without handle
<b>6-203</b>	socket wrench 6.0 mm without handle

Art.-No.	Content
6-204	socket wrench 7.0 mm without handle
6-205	socket wrench 8.0 mm without handle
6-206	socket wrench 9.0 mm without handle
6-207	socket wrench 10.0 mm without handle
6-611	ESD socket wrench 1.5 mm
6-631	ESD wrench key 0.7 mm
6-632	ESD wrench key 0.9 mm
6-633	ESD wrench key 1.3 mm
6-634	ESD wrench key 1.5 mm
6-635	ESD wrench key 2.0 mm
6-658	ESD torx screwdriver T3
6-659	ESD torx screwdriver T4
6-661	ESD torx screwdriver T5
6-662	ESD torx screwdriver T6
6-663 L	ESD torx screwdriver T7
6-664 L	ESD torx screwdriver T8
6-750-3	double open-ended wrench 3 x 3.5 mm
6-750-4	double open-ended wrench 4 x 4.5 mm
6-750-5	double open-ended wrench 5 x 5.5 mm
6-750-6	double open-ended wrench 6 x 6.5 mm
6-750-7	double open-ended wrench 7 x 8 mm
6-750-9	double open-ended wrench 9 x 10 mm
6-771	adjustable wrench 0 - 13 mm
6-820	wrench key set 8 pcs (1.5 - 2.0 - 2.5 - 3.0 - 4.0 - 5.0 - 5.5 - 6.0)

Art.-No.	Content
6-984 L	screwdriver EUROLiNE-Power TORX T9 with hole
6-985 L	screwdriver EUROLiNE-Power TORX T10 with hole
6-986 L	screwdriver EUROLiNE-Power TORX T15 with hole
7-425	dust brush bristles width 25 mm
7-506	tape measure 2 m
7-508	steel tape measure 30 cm
7-511	digital caliper DIN862 precision 150 mm
7-616	PUK saw in case



Inner dimension: 470 x 360 x 210 mm



with tools, portable: 10400 g  
with tools, rollable: 11900 g



113 tools



**6500 R** BOSS with tools, rollable  
**6515 R** BOSS without tools, rollable  
**6500** BOSS with tools, portable  
**6515** BOSS without tools, portable

## TOOL SET TELECOM

### ► 6600 tool case TELECOM 124 pcs

### ► 6600 R tool case TELECOM with wheels 12 pcs

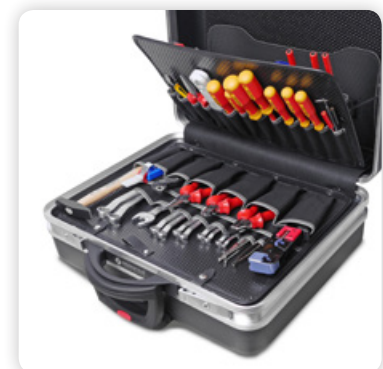
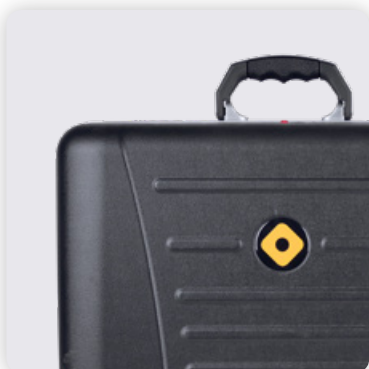
The case with special tools and test equipment for the installation and maintenance of complex telecommunications systems as well as for working with VDE-insulated tools.

The rigid and robust roller case for heavy loads. With a double aluminium frame and the break-resistant X-ABS case shells, the case can carry loads of up to 40 kg and is also airworthy. The 4-fold telescopic pull-out is powder-coated and has an

ergonomic handle that complements the case handle in a form-fit manner. The wide wheelbase and the rubberised and mounted rollers allow the PROTECTION XL to also master uneven paths. The ratchet hinges with case lid lock come as standard with our tool cases.

Art.-No.	Content
<b>6615</b>	tool case PROTECTION XL 42 empty pockets
<b>13-906 VDE</b>	VDE side cutters 160 mm
<b>13-915 VDE</b>	VDE telephone pliers 160 mm serrated jaws straight with wire cutters
<b>13-927 VDE</b>	VDE flat nose pliers 160 mm with serration
<b>13-936 VDE</b>	VDE combination pliers 160 mm with serration
<b>14-651 VDE</b>	VDE screwdriver slot blade 2.5 x 75 mm
<b>14-652 VDE</b>	VDE screwdriver slot blade 3.5 x 100 mm
<b>14-653 VDE</b>	VDE screwdriver slot blade 4.0 x 100 mm
<b>14-654 VDE</b>	VDE screwdriver slot blade 5.5 x 125 mm
<b>14-681 VDE</b>	VDE screwdriver cross-recess PH0 Ø 3.0 mm
<b>14-682 VDE</b>	VDE screwdriver cross-recess PH1 Ø 4.5 mm
<b>14-683 VDE</b>	VDE screwdriver cross-recess PH2 Ø 6.0 mm
<b>16-299 VDE</b>	VDE socket wrench 4.0 mm
<b>16-301 VDE</b>	VDE socket wrench 5.0 mm
<b>16-302 VDE</b>	VDE socket wrench 5.5 mm
<b>2-265-1</b>	test prod red blade 1 mm
<b>2-265-2</b>	test prod black blade 1 mm
<b>2-275</b>	magnifying mirror Ø 21 mm 180 mm
<b>2-601</b>	IC-tweezers 125 mm
<b>2-656</b>	PLCC-extractor
<b>2-620</b>	LED flashlight 143 x 19 mm
<b>2-701</b>	LSA-Plus insertion tool
<b>3-0605</b>	combination crimping pliers
<b>3-573</b>	water pump pliers 180mm with push-button

Art.-No.	Content
<b>3-601-15</b>	ESD side cutters CLASSICline semi flush 115 mm
<b>4-360-E03</b>	watchmakers screwdriver set 6pcs (slot 0.6 - 1.0 - 1.5 - 2.0 - 2.5 - 3.0)
<b>5-107</b>	anatomical tweezers 150 mm form 22b
<b>5-117</b>	anatomical tweezers 145 mm form 40 serrated
<b>5-240</b>	warding files set 6 pcs (flat, round, blunt, pointed, 3-edge, 4-edge)
<b>5-505</b>	stripping knife Ø 4 - 28 mm with hook blade
<b>5-535</b>	coax cable stripper Ø 4.8 - 7.5 mm
<b>6-320</b>	socket wrench set 36 pcs with ratchet+extension
<b>6-500</b>	double open-ended wrench set 8 pcs (6 x 7 - 8 x 9 - 10 x 11 - 12 x 13 - 14 x 15 - 16 x 17 - 18 x 19 - 20 - 22)
<b>6-600</b>	combination wrench set 12 pcs (6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 - 17 - 19 - 22)
<b>6-950</b>	ballpoint wrench key set 9 pcs (1.5 - 2.0 - 2.5 - 3.0 - 4.0 - 5.0 - 6.0 - 8.0 - 10.0)
<b>6-995</b>	TORX wrench key set with hole 8 pcs (T9 - T10 - T15 - T20 - T25 - T27 - T30 - T40)
<b>7-114</b>	engineer hammer to DIN 1041, 200 g
<b>7-425</b>	dust brush bristles width 25 mm
<b>7-429</b>	insulating tape 25 mm wide, 25 m (12 mm core)
<b>7-506</b>	tape measure 2 m
<b>7-616</b>	PUK saw in case
<b>8-376</b>	gas soldering iron Independent 75
<b>8-390</b>	desoldering suction pump PRAKTIK 20 mm diameter RD-7376
<b>9-316</b>	ESD chip-container 57 x 36 x 17 mm





Inner dimension: 470 x 360 x 210 mm



with tools, portabel: 11900 g  
with tools, rollable: 13500 g



124 tools



**6600 R** tool case TELECOM with tools, rollable  
**6615 R** tool case TELECOM without tools, rollable  
**6600** tool case TELECOM with tools,  
**6615** tool case TELECOM without tools



## TOOL SETS COMPACT MOBIL

### ► 7000 tool case COMPACT-MOBIL with wheels 61 pcs

### ► 7000 OR tool case COMPACT-MOBIL without wheels 61 pcs

The case with special tools for assembling and servicing electronic equipment. If you need more tools, this case is ideal for transporting them. Up to 61 tools can be clearly stored here. Thanks to the high-quality rollers and the wide wheelbase, this case also lies well in the curve and annoying dragging is a thing of the past. The rigid and robust roller case for heavy loads. With a double aluminium frame and the break-resistant X-ABS case shells, the case can carry loads of up to 40 kg and is also airworthy.

The 4-fold telescopic pull-out is powder-coated and has an ergonomic handle that complements the case handle in a form-fit manner. The wide wheelbase and the rubberised and mounted rollers allow the PROTECTION XL to also master uneven paths. The ratchet hinges with a case lid lock come as standard with our tool cases.

Art.-No.	Content
<b>7015</b>	tool case PROTECTION XL with wheels 58 empty pockets
<b>1-735</b>	adjusting screwdriver-handle double-ended 100 mm plastic
<b>1-738</b>	hard plastic blade (Bit) slot blade 1.5 x 0.5 x 32 mm
<b>1-739</b>	hard plastic blade (Bit) slot blade 3 x 0.5 x 32 mm
<b>1-909</b>	engineer mirror with extension Ø 23 mm
<b>2-126</b>	ESD desoldering lever slotted at one ends
<b>2-127</b>	ESD tin knife pointed sharp blade
<b>2-132</b>	spring puller 175 mm
<b>2-155</b>	claw-type gripper with 3 hardened wire claws
<b>2-161</b>	scriber, magnetic lifter with telescopic slide-out
<b>2-166</b>	glass fibre contact cleaner brush Ø 4mm
<b>2-265-1</b>	test prod red blade 1 mm
<b>2-265-2</b>	test prod black blade 1 mm
<b>2-296</b>	hand magnifier 3x magnification LED light
<b>2-601</b>	IC-tweezers 125 mm
<b>2-620</b>	PLCC-extractor
<b>2-656</b>	LED flashlight 143 x 19 mm
<b>3-133-16</b>	side cutters 145 mm
<b>3-235-16</b>	telephone pliers 160 mm with serration jaws length 55 mm
<b>3-601-15</b>	ESD side cutters CLASSICline semi flush 115 mm
<b>3-606-15</b>	ESD side cutters CLASSICline flush 120 mm
<b>3-632-15</b>	ESD flat nose pliers CLASSICline not serrated jaws 120 mm
<b>3-633-15</b>	ESD snipe nose pliers CLASSICline not serrated jaws 120 mm
<b>3-732-16</b>	combinations pliers 165 mm with serration
<b>4-344 VDE</b>	VDE voltage tester slot blade 3.5 x 0.7 x 110 mm
<b>4-351</b>	offset screwdriver slot blade 4.5 x 0.65 x 100 mm
<b>4-504</b>	screwdriver EUROline-Power slot blade 5.5 x 1.0 x 100 mm
<b>4-506</b>	screwdriver EUROline-Power slot blade 6.5 x 1.2 x 125 mm
<b>4-508</b>	screwdriver EUROline-Power slot blade 8.0 x 1.2 x 150 mm
<b>4-522</b>	screwdriver EUROline-Power slot blade 3.0 x 0.5 x 75 mm
<b>4-523</b>	screwdriver EUROline-Power slot blade 4.0 x 0.8 x 100 mm
<b>4-533</b>	screwdriver EUROline Power cross-recess PH1

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<b>4-542</b>	screwdriver EUROline Power cross-recess PZ0
<b>4-543</b>	screwdriver EUROline Power cross-recess PZ1
<b>4-603</b>	ESD screwdriver slot blade 1.5 x 0.25 x 40 mm
<b>4-605</b>	ESD screwdriver slot blade 2.0 x 0.40 x 40 mm
<b>4-606</b>	ESD screwdriver slot blade 2.5 x 0.4 x 50 mm
<b>4-607</b>	ESD screwdriver slot blade 3.0 x 0.5 x 50 mm
<b>4-608</b>	ESD screwdriver slot blade 3.5 x 0.6 x 60 mm
<b>4-621</b>	ESD screwdriver cross-recess PH000
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<b>5-0605</b>	stripping tool with adjustable knives
<b>5-107</b>	anatomical tweezers 150 mm form 22b
<b>5-115</b>	thermal tweezers 165 mm form R30 cross tweezers
<b>5-117</b>	anatomical tweezers 145 mm form 40 serrated
<b>5-161</b>	clamping scissors with teething jaws
<b>5-191</b>	ESD plastic tweezers 120 mm form 2a tips 2mm wide
<b>5-194</b>	ESD plastic tweezers 120 mm form 6
<b>5-301</b>	scissors with teething
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<b>6-105</b>	socket wrench EUROline-Power hex 5.5 mm
<b>6-107</b>	socket wrench EUROline-Power hex 7.0 mm
<b>6-771</b>	adjustable wrench 0 - 13 mm
<b>6-984 L</b>	screwdriver EUROline-Power TORX T9 with hole
<b>6-985 L</b>	screwdriver EUROline-Power TORX T10 with hole
<b>6-986 L</b>	screwdriver EUROline-Power TORX T15 with hole
<b>7-425</b>	dust brush bristles width 25 mm



Inner dimension: 470 x 360 x 210 mm



with tools, portable: 8100 g  
with tools, rollable: 9900 g



61 tools



**7000** tool case COMPACT MOBIL with tools, rollable  
**7015** tool case COMPACT MOBIL without tools, rollable  
**7000 OR** tool case COMPACT MOBIL with tools  
**7015 OR** tool case COMPACT MOBIL without tools



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## TERMS OF SALE AND DELIVERY

### GENERAL

The nature and scope of delivery are specified in the order confirmation. The following delivery terms shall apply to all deliveries to be carried out by us. Purchasing conditions of the customer do not oblige us, even if we do not expressly contradict this. Verbal or by intercom agreements made require our written confirmation. Obvious mistakes in offers, order confirmations, etc. are expressly reserved and can be considered at any time. We are entitled to process any data relating to the business relationship or in connection with the same concerning buyers, whether the buyer itself or third parties, within the framework of the Federal Data Protection Act.

### OFFER

Our offers are permissive, an order is deemed to be granted if confirmed by us in writing. **PRICES, DELIVERY BASIS AND PACKAGING** Unless otherwise agreed, the prices in Euros, ex works, are exclusive packaging. In the case of special packaging regulations of the customer, the additional costs involved are invoiced. Packaging is not accepted.

### DELIVERY

The delivery takes place at the expense and risk of the buyer without regard to who bears the freight costs. We reserve the right to place orders in partial deliveries. For custom-made products, excess or short deliveries of up to 10% are permitted.

### DELIVERY TIME

The delivery time begins upon receipt of all information required for the execution of the order. We endeavor to comply with the delivery time specified in the order confirmation. No claims of any kind can be asserted from a delayed delivery.

### COMPLAINTS

Complaints can only be accepted within 8 days after receiving of the goods.

The shape and colour of the tool may differ from the item shown in the catalogue.

### GUARANTEE

For all BERNSTEIN tools, which are unusable due to proven material or manufacturing defects, we deliver within one year after deliver a replacement. This free replacement service is excluded if the tools have become unusable due to natural wear or improper handling.

### DISCLAIMER

We do not assume any guarantee for the suitability of our products for the intended purpose of the customer. For damages caused by unsuitable or improper use, commissioning by the customer or third parties, and for the natural wear and tear we assume no guarantee. Any claims for damages, irrespective of the legal basis, as well as, in particular, the liability by tort (product liability) are excluded to the extent permitted by law.

### PAYMENT

Our invoices are payable within 10 days of the invoice date with 2% discount or in 30 days net, unless otherwise agreed in the order confirmation.

### RESERVATION OF TITLE

We reserve the title to all goods delivered by us until the buyer has paid all claims arising from the business relationship. The buyer is entitled to resell the reserved goods in ordinary business transactions. In the case of resale, the buyer has to reserve the ownership of the sold goods on the same terms as his customer. The purchaser hereby assigns to us the purchase price claim against the buyer from the resale.

### FULFILLMENT AND JURISDICTION

Place of performance and jurisdiction for delivery and payment is Remscheid. In any case, only German law shall apply, with the exclusion of any foreign law.

### ONLINE DISPUTE RESOLUTION

The European Commission provides a platform for online dispute resolutions (ODR) which can be accessed at

<https://ec.europa.eu/consumers/odr/>.

In order to settle dispute arising from a contractual relationship with a consumer or from whether such a contractual relationship exists at all, we will participate in dispute settlement proceedings before a consumer dispute resolution body. Consumers can contact their national European Consumer Centre in this regard. The respective contact details of the individual ECCs can be found at

<https://www.evz.de/en/alternative-dispute-resolution/adr-in-europe/>.

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## **BERNSTEIN**

### **Werkzeugfabrik Steinrücke GmbH**

Industriehof Trecknase 1  
42897 Remscheid

Tel. + 49 (0) 2191 - 9650 - 0  
Fax + 49 (0) 2191 - 9650 - 30

[verkauf@bernstein-werkzeuge.de](mailto:verkauf@bernstein-werkzeuge.de)  
[www.bernstein-werkzeuge.de](http://www.bernstein-werkzeuge.de)