



**BERNSTEIN**<sup>®</sup>  
TOOLS FOR ELECTRONIC

## GENERAL CATALOGUE BERNSTEIN TOOLS

TOOLKITS



ELECTRONIC  
TOOLS



ESD TOOLS



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# HAND TOOLS AND SPECIAL TOOLS FOR THE ELECTRICAL INDUSTRY AND FOR THE ELECTRICAL HANDCRAFT

## BERNSTEIN TOOLS

Daily industry and handcraft trusts in the reliability, the safety and the precision of hand tools from Bernstein. The wide range of special hand tools for applications in the mechanical and electrical field are characterised by highest quality and permanent optimising.

The assortment covers among others

-  Side cutters, combination pliers, telephone pliers etc., with Bernstein hand guards or with safety isolation
-  Wire strippers and crimping pliers for different wire diameters and connectors
-  Screwdrivers, wrench keys, socket wrenches, open-ended wrenches and ring wrenches, partly alternative with safety isolation
-  Tool sets and precision tools for working on ESD-sensitive components
-  Special tools and accessories for mechanics and installation works, as well as works up to 1.000 voltage
-  Service cases with tailored tool equipment for different applications, also with VDE tools
-  SMD tweezers, ESD tweezers, mechanics tweezers

The safety isolated electrician's tools for works under current up to 1.000 voltage are piece checked on electric strength up to 10.000 voltage. The result is documented in a corresponding test report.

With it Bernstein guarantees highest safety standards including the rules and instructions of VDE and IEC.

## YOUR HIGH STANDARDS ARE OUR MOTIVATION

### QUALITY MANAGEMENT

Our quality management system comprises all steps of production starting with the right material decision and ends with the final check of each product.





## OUR CASES ARE MORE THAN A SIMPLE TOOL CASE

More than 50 years practical experience are the proof for an optimal design and output of service cases and service sets. Case body as well tool trays are featured by highest stability distinctive „BERNSTEIN“ Design.

The tool sets in the cases are composed with high quality tools and special tools for different applications.

# ONE CASE, MANY OPPORTUNITIES!

The unique design of this case caused by the compact shape and the structured surface guarantees a solution of highest sturdiness.

The case body is made of X-ABS plastic which is covered by an extreme antislip and scratch-resistant lamination as an excellent protection against external influences. The ergonomical shaped handle together with the special hinges with topcase look completes the picture of a high functional and modern tool case.



The new tool Trays made from ConPearl® with sticked imitation leather ponches are sturdy, washable and replaceable.



AVAILABLE  
ALSO AS  
TROLLEY

Following **TOOL SETS** are in the new designed Bernstein case.

- 6100** (see page 16)
- 6400** (see page 18)
- 6700** (see page 24)
- 6750** (see page 26)

## HANDY 1500 ELECTRONIC SERVICE CASE

The small and very handy service case with big space inside

The case body made from grained black X-ABS plastic shells is rainproof as well as skidproof and impact resistant. The stable profile frame increases the sturdiness at all. Two self blocking hinges installed in the bottom of the case keep the case top in the individual position. Fixed by stretch-ribbons 41 special tools are clearly arranged on two swivel-tool-trays. A special pocket in the case lid offers space for documents, pencils oder tablet. The bottom contains a stable plastic insert for spare parts, measuring instruments and soldering irons. Adjustable partitions allow a flexible division. The case is equipped with two key-locks and an ergonomical formed handle.

Outside dimensions: 355 x 355 x 175 mm (closed)  
Weight without tools: ca. 2.700 kg  
Weight with tools: ca. 3.730 kg



- 1500** **BERNSTEIN** **HANDY** with tool set
- 1515** **BERNSTEIN** **HANDY** without tool set

No.	Description of individual tools	No.	Description of individual tools
1-152	Adjusting screwdriver, blade 40 x 4 mm	4-366	Cross-recess watchmaker's screwdriver, size 00
2-126	Desoldering lever, slotted at one end, with plastic handle	4-391	Watchmaker's screwdriver, nickel-plated, with 4 interchangeable blades, 1.5, 2.0, 2.5 and 3.0 mm
2-127	Tin knife, with plastic handle, 115 mm	4-407	Retaining screwdriver, 110 x 4 mm
2-132	Spring hook, nickel-plated and insulated, 175 mm	4-523	Electrician's screwdriver, with multicomponent handle, blade made from chrom vanadium, matt chrome-plated, with black tip, 100x4 mm
2-166	Contact cleaner, made from glass fibre	4-542	Cross-recess screwdriver, with multicomponent handle, blade made from chrom vanadium, matt chrome-plated, with black tip, PZ 0
2-620	PLCC extractor	4-543	Cross-recess screwdriver, with multicomponent handle, blade made from chrom vanadium, matt chrome-plated, with black tip, PZ 1
2-265	2 Test prods, red and black, extremely slim, pointed and flexible, blade made from 1 mm steel wire	4-775	Plastic handle, 6 mm, for socket wrenches
2-275	Repair mirror, 21 mm Ø	5-006	Component tweezers, nickel-plated, with insulated jaws, for easy insertion and removal of plug-in transistors of various sizes
2-601	IC-tweezers, nickel-plated, 125 mm, for gripping, inserting and removing IC's	5-107	Engineer's tweezers made from steel, with bent tips, 150 mm, nickel-plated
3-127-2	„Slimline“ side cutters, 115 mm, for soft wire up to 1.0 mm, extremely slim head, box joint, compression spring, chrome-plated, with transparent insulation	5-181	Wire scraper, for wires 0.6 mm Ø, interchangeable cutter
3-132-16	Side cutters, 130 mm, for hard wire up to 1.0 mm, for soft wire up to 2.0 mm, chrome-plated, with bicoloured hand guard	5-301	Special scissors, for cutting sheet-metal and wires, with serrations, extremely slim, 110 mm, nickel-plated
3-445-2	Micro flat nose pliers, 120 mm, extremely slim, box joint, chrome-plated, with transparent insulation	5-515	Universal blade knife, with adjustable blade
3-481-2	Snipe nose pliers, 120 mm, angular, box joint, compression spring, chrome-plated, with transparent insulation	6-202	Socket wrench, C.V. nickel-plated, 5.5 mm A/F, without handle
4-301	Miniature screwdriver, with plastic handle, blade nickel-plated 40 x 1.8 mm	6-204	Socket wrench, C.V. nickel-plated, 7.0 mm A/F, without handle
4-311	Screwdriver for headless screws, with plastic handle, blade made from chrome vanadium, nickel-plated, 80 x 2.8 mm	6-771	Adjustable wrench, jaws opening 0 - 12 mm, total length 100 mm
4-343	Voltage tester, blade 60 x 3 mm	6-820	Set of wrench keys, 8 pieces, in plastic wallet, 1.5, 2.0, 2.5, 3.0, 4.0, 5.0, 5.5 and 6.0 mm
VDE		7-425	Dust brush

## NETWORK 2700 SERVICE SET

The set with all essential tools for the assembly and maintenance of networks



Outside dimensions: 320 x 250 x 100 mm (closed)  
Weight with tools: ca. 2,750 kg

**2700**  **BERNSTEIN** NETWORK with tool set

**2701**  **BERNSTEIN** NETWORK without tool set

In an elegant black nylon case with zip fastener and velvet grey lining 23 special tools are clearly arranged in pockets.

No.	Description of individual tools	No.	Description of individual tools
2-601	IC-tweezers, nickel-plated, 125 mm, for gripping, inserting and removing IC's	4-534	Cross-recess screwdriver, as above, blade length 100 mm, size 2
3-125-2	Micro side cutters, 110 mm, for soft wire up to 0.8 mm and hard wire up to 0.3 mm, chrome-plated, with transparent insulation	4-775	Plastic sprung handle for socket wrenches
3-235-16	Telephon pliers, 160 mm, chrome-plated, with bicoloured hand guard	5-161	Clamping scissors, 130 mm, stainless, with serrated gripping jaws
3-815-16	Wire strippers, 155 mm, with adjusting screw for all wire thicknesses, chrome-plated, with bicoloured hand guard	5-0601	Rotary coaxial cable stripper for cable types RG 58, RG 59 and RG 62
3-0605	Combination-crimping pliers for connector types, 6P/6C, 6P/4C, 6P/2C, 8P/8C	6-203	Socket wrench, 6.0 mm, chrome vanadium, nickel plated, without handle
3-0611	Crimping pliers for BNC- and TNC-coaxial connectors	6-205	Socket wrench, 8.0 mm, chrome vanadium, nickel plated, without handle
4-504	Workshop screwdriver with multi component handle, blade made from chrome vanadium, chrome-plated, with black tip, 100 x 5.5 mm	6-207	Socket wrench, 10.0 mm, chrome vanadium, nickel plated, without handle
4-522	Electrician screwdriver as above, chrome-plated, with black tip, 100 x 3.0 mm	6-772	Adjustable wrench, chrome vanadium, 150 mm, jaw opening 0 - 18 mm
4-532	Cross-recess screwdriver with multi component handle, blade made from chrome vanadium, chrome-plated, with black tip, blade length 60 mm, size 0	6-985 L	TORX-Screwdriver, with bore-hole in the tip, with multi component handle, blade made from chrome vanadium, chrome-plated, black tip, size T 10
4-533	Cross-recess screwdriver, as above, blade length 80 mm, size 1	6-986 L	TORX-Screwdriver, as above, with bore-hole in the tip, size T 15
		6-987 L	TORX-Screwdriver, as above, with bore-hole in the tip, size T 20
		8-390	Desoldering pump, 195 mm long, 20 mm Ø
		8-396	Gas-soldering-iron Portasol, 10 - 60 W, maximum temperature up to 450° C

## SERVICE-CASE MASTER 3000

Service set in handy tool case



Outside dimensions: 245 x 130 x 60 mm (closed)  
Weight with tools ?kg

**3000**  **BERNSTEIN** MASTER with tool set

**3015**  **BERNSTEIN** MASTER without tool set

Elegant case with all-round zip fastener. 22 BERNSTEIN tools are clearly arranged on these plates fixed by elastic ribbons.

No.	Description of individual tools	No.	Description of individual tools
3-132-16	Side cutters, 120 mm, for hard wire up to 0.8 mm, for soft wire up to 1.5 mm, chrome-plated, with BERNSTEINIT insulation	4-544	Cross-recess screwdriver with multi component handle, blade from chrome vanadium, chrome-plated, with black tip, Pozidriv, size 2
3-482-2	Snipe nose pliers, 140 mm, angular, with long jaws, slim model, with compression spring, chrome-plated, with BERNSTEINIT insulation	5-107	Steel tweezers, with bent tips, 150 mm, nickel-plated
3-565	Water pump pliers, 130 mm, chrome-plated	5-117	Steel tweezers, straight, flat and wide, 145 mm, nickel-plated
4-311	Screwdriver for grub screws with plastic handle, blade made from chrome vanadium, nickel-plated, 80 x 2.8 mm	5-261	Contact file, 150 mm
4-331	Screwdriver for grub screws with plastic handle, blade made from chrome vanadium, nickel-plated, 80 x 2.8 mm	5-301	Special sheet-metal scissors, serrated, extremely slim, 110 mm, nickel-plated
4-391	Watchmaker's screwdriver, nickel-plated, with 4 interchangeable blades 1.5, 2.0, 2.5 and 3.0 mm	6-814	Wrench key, 2.0 A/F mm, angle-shaped, special steel, nickel-plated
4-523	Electricians screwdriver to DIN 5265, with multi-component handle, blade from chrome vanadium, 100 x 4 mm, chrome-plated, with black tip	6-815	Wrench key, 2.5 A/F mm, as above
4-542	Cross-recess screwdriver with multi-component handle, blade from chrome vanadium, chrome-plated, with black tip, Pozidriv, size 0	6-816	Wrench key, 3.0 A/F mm, as above
		6-817	Wrench key, 3.5 A/F mm, as above
		6-995-10	TORX-wrench key, T 10, with bore hole, chrome vanadium, burnished
		6-995-15	TORX-wrench key, T 15, as above
		6-995-20	TORX-wrench key, T 20, as above
		8-396	Gas-soldering-iron Portasol, 10 - 60 W, maximum temperature up to 450° C



## SPRINTER 3100 SERVICE CASE

Handy tool case for service-inspection of the electronics engineer



Outside dimensions: 205 x 120 x 50 mm (Mappe closed)  
Weight with tools 0.680kg

3100  **BERNSTEIN** SPRINTER with tool set

3115  **BERNSTEIN** SPRINTER without tool set

Elegant black grained leather case with all-round zip fastener and black plastic lining. The set comprises 19 BERNSTEIN tools for service work.

The BERNSTEIN Sprinter has a handy size for the pocket of the smock.

No.	Description of individual tools	No.	Description of individual tools
1-151	Adjusting screwdriver, blade 40 x 3 mm	4-311	Screwdriver for grub screws with plastic handle, blade made from chrome vanadium, nickel-plated, 80 x 2.8 mm
1-305	Adjusting screwdriver, blade 80 x 2.4 mm with bronze insert 1.1 x 0.5 mm	4-393	Watchmaker's screwdriver, with 5 interchangeable blades 1.5, 2.0, 2.5, cross-recess blades size 00 and 000
1-307	Adjusting screwdriver, blade 80 x 2.4 mm, with bronze tip 2.0 x 0.5 mm	4-407	Retaining Screwdriver, 110 x 4 mm
2-127	Tin knife with plastic handle, 115 mm	4-521	Electricians screwdriver with multi-component handle, blade CV, chrome plated, black tip, 75 x 2,5 mm
2-166	Contact-cleaner, made from glass fibre	4-542	Cross recess screwdriver with multi-component handle, blade CV, nickel, black tip, size 0
2-265-1	Test prod, red, especially thin, pointed and flexible, blade made from 1 mm steel wire	5-049	Watchmaker's tweezers, 110 mm, stainless, sharply-pointed
2-265-2	Test prod, black, especially thin, pointed and flexible, blade made from 1 mm steel wire	5-107	Engineer's steel tweezers, with bent tips, 150 mm, nickel-plated
2-275	Repair mirror, 21 mm Ø	6-771	Adjustable wrench, jaw opening 0-12 mm, total length 100 mm
3-127-2	„Slimline“ side cutters, 115 mm, for soft wire up to 1.0 mm, extremely slim head, box joint, compression spring, chrome-plated, with transparent insulation	8-396	Gas-soldering-iron Portasol, 10 - 60 W, maximum temperature up to 450° C
3-455-2	Micro snipe-nose pliers, 120 mm, extremely light and slim, box joint, chrome-plated, with transparent insulation		

## LAPTOP 3200 ELECTRONIC SERVICE CASE

The professional combination of Laptop Bag and Tool Case

Elegant Laptop and Tool Case made from black nylon, with inside pad and reinforced frame. The bag is divided in 2 zip-fastener bags and has loops on both sides for attaching the shoulder strap. The tray in the upper zip-fastener bag is prepared for the arrangement of a Laptop, together with the necessary accessories, e.g. connector cable, power supply and mouse. The lid of this bag is provided with several pockets for CDs, USB-sticks, writing utensils and documentations. The design 3200 additionally is equipped with a tool tray accurately arranged with 28 special tools. This removable tray is fastened in the case as a swivel-tool-tray with hook-and-loop tape. The bottom zip-fastener bag, with 3 partitions, is mainly provided for documents and literatures.



Outside dimensions: 480 x 380 x 140 mm (closed)  
Weight with tools: ca. 3550 kg

3200  **BERNSTEIN** LAPTOP with tool tray, with tool set

3215  **BERNSTEIN** LAPTOP with tool tray, without tool set

3255  **BERNSTEIN** LAPTOP without tool tray, without tool set

No.	Description of individual tools	No.	Description of individual tools
1-151	Adjusting screwdriver, blade 40 x 3 mm	3-565	Water pump pliers, 130 mm, chrome-plated
2-126	Desoldering bar, slotted at one end, nickel-plated, insulated, with plastic handle	4-407	Retaining screwdriver, 110 x 4 mm
2-127	Tin knife with pointed, sharp blade, high quality steel, for cutting circuit paths and for burring	4-523	Electricians screwdriver with multi component handle, blade from chrome vanadium, chrome-plated, with black tip, 100 x 4.0 mm
2-166	Glass fibre contact cleaner brush with rotary mechanism, plastic casing	4-901	ESD handle with brass clamping sleeve
2-265	2 Test prods, red and black, extremely slim, pointed and flexible, blade made from 1 mm steel wire	4-905	Hexagon blade widths 1.5 / 3.0 mm, matt chrome-plated, black tip
2-275	Repair mirror, 21 mm Ø, with handle, 180 mm long	4-906	Hexagon blade as above, widths 2.0 / 3.5 mm
2-601	IC tweezers, nickel-plated, 125 mm, for gripping, inserting and removing IC's	4-907	Hexagon blade as above, widths 2.5 / 4.0 mm
2-620	PLCC extractor for easy removal of plug-in PLCC's	4-911	Hexagon blade as above, cross-recess PH 000 / PH 00
3-127-2	SLIM-line, 115 mm, for soft wire up to 1.5 mm, extremely slim head, box joint, compression spring, chrome-plated, with transparent insulation	4-912	Hexagon blade as above, cross-recess PH 0 / PH 1
3-128-2	SLIM-line oblique top cutters, 120 mm, for soft Wire 2.0 mm, slim head, box joint, compression spring, chrome plated, with transparent insulation	4-921	Hexagon blade as above, TORX T 5 / T 6
3-445-2	Micro flat nose pliers, 120 mm, extremely slim, box joint, chrome-plated, with transparent insulation	4-922 L	Hexagon blade as above, TORX T 7 / T 8, with bore hole
3-481-2	Super nose pliers, 120 mm, angled box joint, chrome-plated, with transparent insulation	4-923 L	Hexagon blade as above, TORX T 9 / T 10, with bore hole
		5-051	SMD-tweezers, 115 mm, straight, pointed, anti-magnetic, stainless, matt finish, acid-resisting
		5-107	Engineers steel tweezers with bent tips, 150 mm, nickel-plated
		5-301	Special scissors for cutting sheet-metal and wires, with serration, extremely slim, 110 mm, nickel-plated

## MULTI ELECTRICIAN'S CASE 5600

The handy, spacious electrician's tool case

Stable case made from best, black, grained cowhide. The handle is slotted through the flap, thereby distributing the load over the entire area of the cover. When opening, the side flaps are held by bands. This enables the user to survey all the tools easily. 41 tools are held by compartments. In the bottom of the case is a metal tray which may carry additional tools.

The case edges are especially reinforced by aluminium profiles. On both sides are loops for fasten a carrying strap. The case has 2 locks.

No.	Description of individual tools	No.	Description of individual tools
3-133-16	Side cutters, 130 mm, for hard wire, chrome-plated with BERNSTEINIT insulation	5-271	Workshop file, 200 mm, flat and blunt, with wooden handle
3-235-16	Telephone pliers, 160 mm, chrome-plated, with bicoloured hand guard	5-274	Workshop file, 200 mm, half-round, with wooden handle
3-575-6	Water pump pliers, 240 mm, nickel-plated, with insulation	5-309	Cable-stripping scissors, 190 mm, stainless, with plastic handles
3-732-16	Combination pliers, 165 mm, chrome-plated, with bicoloured hand guard	5-501	Cable knife
3-815-16	Wire strippers, 155 mm, chrome-plated, with bicoloured hand guard	5-505	Wire-stripping knife, with hookblade, for cable 4 - 28 mm Ø
4-311	Screwdriver for grub screws with plastic handle, blade made from chrome vanadium, nickel-plated, 80 x 2.8 mm	6-820	8-pieces set offset hexagon key wrenches, 1.5 to 6 mm A/F, in plastic case
4-344	Voltage tester, blade 100 x 3.5 mm	7-405	Spatula with wooden handle, blade width 50 mm
VDE		7-116	Engineer's hammer, 300 g
14-653	Screwdriver, blade 100 x 4.0 mm, VDE safety insulation	7-202	Firmer chisel, blade width 16 mm
VDE		7-235	Flat chisel, chrome vanadium, 200 x 16 x 20 mm
14-654	Screwdriver as above, blade 125 x 5.5 mm	7-255	Electrician's chisel, chrome vanadium, 200 x 8 x 10 mm
VDE		7-303	Twist gimlet, 3 mm Ø
14-656	Screwdriver as above, blade 150 x 6.5 mm	7-306	Twist gimlet, 6 mm Ø
VDE		7-316	Punch, with plastic handle, 6 mm Ø
14-682	Cross-recess screwdriver, as above, size 1	7-410	Slicker trowel, with round shank, blade width 16 mm
VDE		7-415	Rubber beaker for plaster, round
14-683	Cross-recess screwdriver as above, size 2	7-502	Folding rule, 2 m
VDE		7-535	Spirit level, 220 mm, with 3 levels: horizontal, vertical and 45° angle
5-107-6	Engineer's tweezers with fine, bent tips, 150 mm, nickel-plated, strong PVC-insulated	7-616	Pocket hack saw „Puk“ with adjustable wooden handle, saw blade and plastic wallet
5-117-6	Engineer's tweezers, straight, flat and wide, 145 mm, nickel-plated, strong PVC-insulated		



Outside dimensions: 435 x 340 x 210 mm

Weight without tool set: ca. 4.300 kg

Weight with tools: ca. 8.350 kg

**5600**  **BERNSTEIN** **MULTI** with tool set

**5615**  **BERNSTEIN** **MULTI** without tool set



# PC-CONTACT ELECTRONIC SERVICE CASE 6100

The clearly arranged tool case for the prompt and efficient servicing of computers

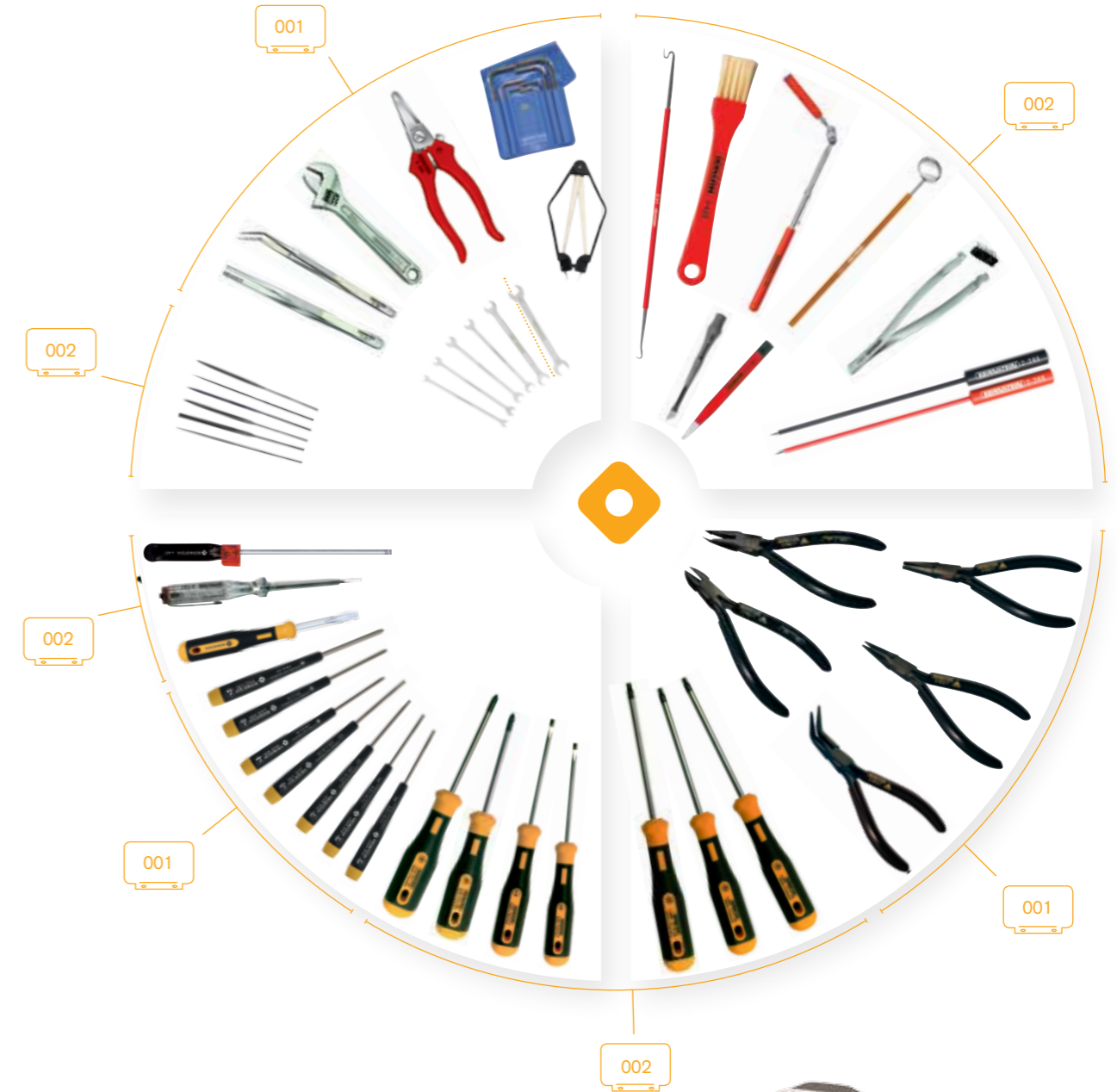
The unique design of this case caused by the compact shape and the structured surface guarantees a solution of highest sturdiness. The case body is made of X-ABS plastic which is covered by an extreme antislip and scratch-resistant lamination as an excellent protection against external influences. The ergonomic shaped handle together with the special hinges with topcase lock completes the picture of a high functional and modern tool case.

The removable tool trays made of ConPearl® with sewed pouches from imitation leather are sturdy, washable and exchangeable. The 60 mm high bottom plastic tray is divided by adjustable partitions.

Tool set 6100 consists of the following 65 tools:

No.	Description of individual tools
2-127	Tin knife, with plastic handle, 115 mm
2-132	Spring hook, nickel-plated and insulated, 175 mm
2-161	Magnetic bar with double ball- and socket joint, slewable, 215 mm
2-166	Contact cleaner, made from glass fibre, 115 mm
2-265	2 Test prods, red and black, extremely slim, pointed and flexible, blade made from 1 mm steel wire, 155 mm
2-275	Repair mirror, 21 mm Ø, with handle, 180 mm long
2-601	IC tweezers, nickel-plated, 125 mm, for gripping, inserting and removing IC's
2-620	PLCC extractor for easy removal of plug-in PLCC's
3-901-7	Side cutters, 120 mm, for hard wire up to 0.4 mm, for soft wire up to 1.0 mm, burnished, with black dissipative insulation
3-906-7	End cutters, 120 mm, for soft wire up to 0.8 mm, burnished, with black dissipative insulation
3-932-7	Flat nose pliers, 120 mm, burnished, with black dissipative insulation
3-933-7	Snipe nose pliers, 120 mm, burnished, with black dissipative insulation
3-945-7	Snipe nose pliers, 145 mm, angular long jaws, burnished with black dissipative insulation
4-331	Assembly screwdriver with plastic handle, nickel-plated blade, 45 x 6 mm, with special square pattern BERNSTEIN handle
4-343 VDE	Voltage tester, blade 60x3 mm
4-407	Retaining screwdriver, 110 x 4 mm
4-522	Electricians screwdriver with multi component handle, blade from chrome vanadium with black tip, chrome-plated, 100 x 3,0 mm
4-523	Electricians screwdriver as above, blade 100 x 4 mm
4-542	Cross recess screwdriver, Supadriv / Pozidriv Gr. 0, with multi component handle, blade from chrome vanadium, chrome-plated, with black tip
4-543	Cross recess screwdriver, Supadriv / Pozidriv as above, Gr. 1

No.	Description of individual tools
4-603	Slotted screwdriver with dissipative handle, blade from chrome vanadium, chrome-plated, with black tip, 50 x 1.5 mm
4-607	Electronics screwdriver as above, blade 50 x 3.0 mm
4-621	Cross-recess screwdriver, with dissipative handle, blade from chrome vanadium, chrome-plated, with black tip, size 000
4-622	Cross-recess screwdriver, with dissipative handle, size 00 blade from chrome vanadium, chrome-plated, with black tip
4-623	Cross-recess screwdriver, with dissipative handle, blade from chrome vanadium, chrome-plated, with black tip, size 0
4-624	Cross-recess screwdriver as above, size 1
5-107	Engineer's tweezers, made from steel, with bent tips, 150 mm
5-117	Engineer's tweezers, straight-flat-wide, 145 mm, nickel-plated
5-210	Needle files, 6-piece set
5-305	Combination scissors, stainless, serrated, compression spring, plastic handles, 140 mm
6-200	Socket spanner set, 8 pieces, in plastic case, 1 plastic handle, 7 socket spanners 4.0, 5.5, 6.0, 7.0, 8.0, 9.0 and 10.0 mm
6-750	Special open-end wrenches, 6-piece set, nickel-plated, 3 x 3.5, 4 x 4.5, 5 x 5.5, 6 x 6.5, 7 x 8, 9 x 10 mm, material thickness 1.5 resp. 2.0 mm
6-771	Adjustable wrench, jaw opening 0 - 12 mm, total length 100 mm
6-820	Set of allen hex sockets, 8 pieces, in plastic wallet, 1.5, 2.0, 2.5, 3.0, 4.0, 5.0, 5.5, 6.0, mm
6-984 L	TORX-screwdriver, with multi component handle, blade made from chrome vanadium, chrome plated, Size T 9 with hole
6-985 L	TORX-screwdriver as above, Size T 10 with hole
6-986 L	TORX-screwdriver as above, Size T 15 with hole
7-425	Dust brush



Outside dimensions: 460 x 350 x 190 mm  
 Weight without tool set: ca. 3.700 kg  
 Weight with tools: ca. 5.400 kg

**6100** **BERNSTEIN** PC-CONTACT with tool set

**6115** **BERNSTEIN** PC-CONTACT without tool set

Outside dimensions: 460 x 350 x 200 mm  
 Weight without tool set: ca. 5.500 kg  
 Weight with tools: ca. 7.200 kg

**6100 R** **BERNSTEIN** TROLLEY with tool set

**6115 R** **BERNSTEIN** TROLLEY without tool set



# TECHNIC 6400 ELECTRONIC SERVICE CASE 6400

A toolcase as a bordcase for the travelling engineer

The unique design of this case caused by the compact shape and the structured surface guarantees a solution of highest sturdiness. The case body is made of X-ABS plastic which is covered by an extreme antislip and scratch-resistant lamination as an excellent protection against external influences. The ergonomic shaped handle together with the special hinges with topcase lock completes the picture of a high functional and modern tool case.

The removable tool trays made of ConPearl® with sewed pouches from imitation leather are sturdy, washable and exchangeable. The 60 mm high bottom plastic tray is divided by adjustable partitions.

Tool set 6400 consists of the following 75 tools:

No.	Description of individual tools	No.	Description of individual tools
1-909	Engineer's mirror, with handle, made entirely from BERNSTEINIT	4-407	Retaining screwdriver, 110 x 4 mm
2-126	Desoldering lever, slotted at one end, with plastic handle	14-651	Screwdriver, with VDE safety insulation, blade, 75 x 2.5 mm
2-127	Tin knife, with plastic handle, 115 mm	14-653	Screwdriver, as above, blade 100 x 4.0 mm
2-128	Tin scraper, with plastic handle, 115 mm	14-654	Screwdriver, as above, blade 125 x 5.5 mm
2-132	Spring hook, nickel-plated and insulated, 175 mm	14-691	Cross-recess screwdriver, Pozidriv, size 0, with VDE safety insulation, blade, 60 mm long
2-145	Screwdriver with guide sleeve for slotted axles up to 3.2 mm Ø	14-692	Cross-recess screwdriver, Pozidriv, as above, size 1, 80 mm long
2-161	Magnetic bar with double ball- and socket joint, slewable, 215 mm	5-006	Component tweezers, nickel-plated, with insulated jaws, for easy insertion and removal of plug-in transistors of various sizes
2-265	2 Test prods, red and black, extremely slim, pointed and flexible, blade made from 1 mm steel wire	5-049	Watchmaker's tweezers, 110 mm, stainless, sharply-pointed
2-601	IC tweezers, nickel-plated, 125 mm, for gripping, inserting and removing IC's	5-107	Engineer's tweezers, made from steel, with bent tips, 150 mm, nickel-plated
3-127-2	„Slimline“ side cutters, 115 mm, for soft wire only up to 1.0 mm, extremely slim head, box joint, compression spring, chrome-plated, with transparent insulation	5-115	Heat dissipating tweezers, 165 mm, nickel-plated, for use when soldering transistors, gold-bonded diodes etc.
3-132-16	Side cutters, 130 mm, chrome-plated, for hard wire up to 1.0 mm, for soft wire up to 2.0 mm, with bicoloured hand guard	5-117	Engineer's tweezers, straight-flat-wide, 145 mm, nickel-plated
3-461-2	Round nose pliers, 130 mm, slim, box joint, compression spring, chrome-plated, with transparent insulation	5-161	Clamping scissors, 130 mm, stainless
3-462-2	Flat nose pliers, 130 mm, slim, box joint, compression spring, chrome-plated, with transparent insulation	5-181	Wire scraper, for wires 0.6 mm Ø, interchangeable cutters
3-481-2	Snipe nose pliers, 120 mm, angular, box joint, compression spring, chrome-plated, with transparent insulation	5-210	Needle files, 6-piece set
3-565	Miniature water pump pliers, 130 mm, chrome-plated	5-301	Special scissors for cutting sheet-metal and wires, with serration, extremely slim, 110 mm, nickel-plated
3-732-16	Combination pliers, 160 mm, chrome-plated, with bicoloured hand guard	5-501	Cable knife
3-761-10	Special assembly pliers for clamping rings, 1.5 mm – 2.8 mm, 140 mm, burnished, with adjusting screw	5-531	Automatic wire stripper super
4-261	Cross-recess screwdriver, size 01, with plastic handle, blade made from chrome vanadium, nickel-plated, 25 mm long	6-200	Socket spanner set, chrome vanadium, nickel-plated, 1 plastic handle, 7 socket spanners, 4.0, 5.5, 6.0, 7.0, 8.0, 9.0, 10.0 mm
4-301	Miniature screwdriver, with plastic handle, blade nickel-plated, 40 x 1.8 mm	6-750	Special open-end wrenches, 6-piece set, nickel-plated, material thickness 1.5 or 2 mm, 3 x 3.5, 4 x 4.5, 5 x 5.5, 6 x 6.5, 7 x 8, 9 x 10 mm
4-311	Screwdriver for headless screws, with two hand guard plastic handle, blade made from chrome vanadium, nickel-plated, 80 x 2.8 mm	6-820	Set of allen hex sockets, 8 pieces, in plastic wallet, 1.5, 2.0, 2.5, 3.0, 4.0, 5.0, 5.5, 6.0, mm
4-321	Chubby screwdriver, with two hand guard plastic handle, blade made from chrome vanadium, nickel-plated, 25 x 4.0 mm	7-425	Dust brush
4-343	Voltage tester, insulated blade, made from chrome vanadium, 60 x 3 mm	7-435	Plastic-oiler, with screwcap made from brass
VDE		7-508	Steel tape measure, 30 cm, stainless
4-351	Offset screwdriver, chrome vanadium, nickel-plated, 100 x 5 mm	7-511	Digital caliper square, stainless, measuring range 150 mm, LCD-display mm/inches, depth-gauge, cross-points, in a wallet
4-366	Cross-recess watchmaker's screwdriver, size 00	7-616	Pocket saw, in a wallet
4-391	Watchmaker's screwdriver, nickel-plated, with 4 interchangeable blades, 1.5, 2.0, 2.5, 3.0 mm		



Outside dimensions: 450 x 340 x 190 mm  
 Weight without tool set: ca. 4.500 kg  
 Weight with tools: ca. 7.400 kg

**6400** **BERNSTEIN** **TECHNIC** with tool set

**6415** **BERNSTEIN** **TECHNIC** without tool set

Outside dimensions: 450 x 340 x 200 mm  
 Weight without tool set: ca. 5.300 kg  
 Weight with tools: ca. 9.200 kg

**6400 R** **BERNSTEIN** **TROLLEY** with tool set

**6415 R** **BERNSTEIN** **TROLLEY** without tool set



# BOSS ELECTRONIC SERVICE CASE 6500

The actual multi-purpose tool case with the vast assortment

Body of case made from deep-drawn, impact-resistant, grained black plastic, with a sturdy aluminium frame, dustproof and rainproof, acid- and scratch-resistant. The 104-piece tool set comprises all required conventional and special tools for the servicing of electronic equipment, also for difficult repairs. The tools are clearly arranged in partitions on tool trays which are removable and folding and the swiveling parts are securable: A variable tool chest in case-size!

A stable plastic tray, 90 mm high, with 6 partition walls for a variable arrangement of the divisions offers a lot of space to carry spare parts, measuring instruments and soldering irons. The lid of the case has a pocket for documents. The case has 2 locks.

No.	Description of individual tools	No.	Description of individual tools
1-151	Adjusting screwdriver, blade 40 x 3 mm	4-603	Screwdriver with conductive handle, blade from chrome vanadium, chrome-plated, 40 x 1.5 mm
1-153	Adjusting screwdriver, blade 130 x 2 mm	4-605	Screwdriver with conductive handle, blade from chrome vanadium, chrome-plated, 40 x 2.0 mm
1-155	Adjusting screwdriver, blade 130 x 3.5 mm	4-606	Screwdriver with conductive handle, blade from chrome vanadium, chrome-plated, 50 x 2.5 mm
1-909	Engineer's mirror, with handle, made entirely from BERNSTEINIT	4-607	Electronics screwdriver as above, blade 50 x 3 mm
2-126	Desoldering lever, slotted at one end, with plastic handle	4-543	Cross recess screwdriver mit Mehrkomponenten Griff, Blade aus CV, verchromt, Pozidriv, size 1
2-127	Tin knife with plastic handle, 115 mm	4-621	Cross-recess screwdriver, with conductive handle, blade from chrome vanadium, chrome-plated, size 000
2-128	Tin scraper with plastic handle, 115 mm	4-622	Cross-recess screwdriver, with conductive handle, blade from chrome vanadium, chrome-plated, size 00
2-132	Spring hook, nickel-plated and insulated, 175 mm	4-623	Cross-recess screwdriver, with conductive handle, blade from chrome vanadium, chrome-plated, size 0
2-152	Tool holder, nickel-plated brass, with collets at both ends for holding tools from 0 to 3 mm Ø	4-343	Voltage tester, blade 60x3 mm
2-155	Claw-type gripper, nickel-plated, with 3 wire claws, opening max. 12 mm, with clip	4-351	Offset screwdriver, chrome vanadium, nickel-plated, 100x5 mm
2-161	Magnetic bar with double ball- and socket joint, slewable, 215 mm	4-391	Watchmaker's screwdriver, nickel-plated, with 4 interchangeable blades, 1.5, 2.0, 2.5, 3.0 mm
2-166	Contact cleaner, made from glass fibre	4-407	Screw holder, 110x4 mm
2-265	2 Test prods, red and black, extremely slim, pointed and flexible, blade made from 1 mm steel wire	5-006	Component tweezers, nickel-plated, with insulated jaws, for easy insertion and removal of plug-in transistors of various sizes
2-295	Hand magnifier with light	5-049	Watchmaker's tweezers, 110 mm, stainless, sharply-pointed
2-601	IC tweezers, nickel-plated, 125 mm, for gripping, inserting and removing IC's	5-107	Engineer's tweezers, made from steel, with bent tips, 150 mm, nickel-plated
2-620	PLCC extractor, for easy removal of plug-in PLCC'S	5-107-6	Engineer's tweezers, as above, strong PVC-insulated
3-127-2	„Slimline“ side cutters, 115 mm, for soft wire up to 1.0 mm, extremely slim head, box joint, compression spring, chromeplated, with transparent insulation	5-115	Heat dissipating tweezers, 165 mm, nickel-plated, for use when soldering transistors, gold-bonded diodes etc.
3-132-16	Side cutters, 130 mm, for hard wire, chrome-plated, with bicoloured hand guard	5-117	Engineer's tweezers, straight-flat-wide, 145 mm, nickel-plated
3-235-16	Telephone pliers with wire cutters, 160 mm, chrome-plated with bicoloured hand guard	5-161	Clamping scissors, 130 mm, stainless
3-462-2	Flat nose pliers, 130 mm, slim, box joint, compression spring, chrome-plated, with transparent insulation	5-181	Wire scraper, for wires 0.6 mm Ø, interchangeable cutter
3-463-2	Snipe nose pliers, 130 mm, slim, box joint, compression spring, chrome-plated, with transparent insulation	5-191	ESD tweezers, 120 mm, conductive, with straight, rounded tips
3-482-2	Snipe nose pliers, 140 mm, angular, slim, box joint, compression spring, chrome-plated, with transparent insulation	5-194	ESD tweezers, 120 mm, conductive, with bent, pointed tips
3-565	Water pump pliers, 130 mm, chrome-plated	5-210	Needle files, 6-piece set
3-732-16	Combination pliers, 165 mm, chrome-plated, with bicoloured hand guard	5-301	Special scissors, for cutting sheet-metal and wires, with serration, extremely slim, 110 mm, nickel-plated
3-761-10	Special assembly pliers for clamping rings, 1.5 mm - 2.8 mm, 140 mm, burnished, with adjusting screw	5-305	Combination scissors, stainless, serrated, compression spring, plastic handles, 140 mm
3-815-16	Wire strippers, 155 mm, chrome-plated, with BERNSTEINIT-insulation	5-501	Electrician knife
3-871-6	Pressing pliers for multicore cable and for sleeves from 0.25 - 2.5 mm²	6-200	Socket spanner set, chrome vanadium, nickel-plated, 8-piece set, 1 plastic handle, 7 socket spanners, 4.0, 5.5, 6.0, 7.0, 8.0, 9.0, 10.0 mm
3-0856	Crimp tool for insulated and uninsulated terminals, 230 mm	6-750	Special open-end wrench, 6-piece set, nickel-plated, 3 x 3.5, 4 x 4.5, 5 x 5.5, 6 x 6.5, 7 x 8, 9 x 10 mm, material thickness 1.5 or 2.0 mm
4-504	Screwdriver according to DIN 5265, Blade with multi-component handle 100 x 5.5 mm	6-771	Adjustable wrench, jaw opening 0 - 12 mm, total length 100 mm
4-523	Screwdriver as above, blade 100 x 4.0 mm	6-820	Set of allen hex sockets, 8 pieces, 1.5 - 6.0 mm



Outside dimensions: 490 x 410 x 190 mm

Weight without tool set: 6.500 kg

Weight with tools: 10.600 kg

**6500**  **BERNSTEIN** **BOSS** with tool set

**6515**  **BERNSTEIN** **BOSS** without tool set

No.	Description of individual tools	No.	Description of individual tools
6-631	Wrench-Keys with conductive handle, blade from chrome vanadium, chrome-plated A/F 0.7 mm	6-646	as above, T8 with hole
6-632	as above 0.9 mm	6-984 L	TORX-Screwdriver with multi-component handle, Size T9, with hole
6-633	as above 1.3 mm	6-985 L	TORX-Screwdriver as above, Size T 10, with hole
6-634	as above 1.5 mm	6-986 L	TORX-Screwdriver as above, Size T 15, with hole
6-635	as above 2.0 mm	7-425	Dust brush
6-658	TORX-Screwdriver with conductive handle, blade from chrome vanadium, chrome-plated, T3	7-506	Roller tape measure 2 m
6-659	as above, T4	7-508	Steel measure, 30 mm, stainless
6-661	as above, T5	7-511	Digital caliper square, stainless, measuring range 150 mm, LCD-display mm/inches, depth-gauge, cross-points, in a wallet
6-662	as above, T6	7-616	Pocket hack saw „Puk“ with adjustable wooden handle, in a wallet
6-632	as above, T7 with hole		

# TELECOM ELECTRONIC SERVICE CASE 6600

The actual case with special tools and testing instruments for the installation and maintenance of complex telecommunication systems

Case made from deep-drawn, impact-resistant, grained black plastic, with a sturdy aluminium frame, dustproof and rainproof, acid- and scratch-resistant. With 106 tools the case contains a complete equipment of tools especially for the electrical and electronical connecting and maintenance operations at distribution boards in the telecommunication technique. The tools are clearly arranged in the case on 3 removable tool trays and in a stable plastic tray in the bottom of the case that grants by adjustable partitions additional place for further instruments.

No.	Description of individual tools	No.	Description of individual tools
2-265	2 test prods, red and black, extremely slim, pointed and flexible, blade made from 1 mm steel wire	14-652	Screwdriver, with VDE safety insulation, blade 100 x 3.5 mm
2-275	Repair mirror, stainless, magnifying, concave mirror 21 mm Ø, with BERNSTEIN handle	VDE	
2-601	IC-tweezers, nickel-plated, 125 mm, for gripping, inserting and removing IC's	14-682	Cross-recess screwdriver, size 1, with VDE safety insulation, blade length 80 mm
2-620	PLCC-extractor	14-683	Cross-recess screwdriver, size 2, with VDE safety insulation, blade length 100 mm
2-655	Pocket inspection lamp, watertight, with pre-focused reflector	5-107	Engineer's tweezers, made from steel, with bent tips, 150 mm, nickel-plated
2-701	Insertion tool with sensor, for connecting the wires and simultaneously cutting off the residual wire	5-117	Engineer's tweezers, made from steel, straight-flat-wide, 145 mm, nickel-plated
3-127-2	„Slimline“ side cutters, 115 mm, for soft wire only up to 1.0 mm, extremely slim head, box joint, compression spring, chrome-plated, with transparent insulation	5-122	Engineer's tweezers, made from steel, straight, with narrow pointed tips, 155 mm, nickel-plated
3-135-16	Side cutters, 175 mm, verchromt mit Abisolierfunktion für ein- und mehrWreige Leiter, 1,5 mm <sup>2</sup> und 2,5 mm <sup>2</sup> , mit zweifarbigen Handschutzhüllen	5-240	Warding files, 6-piece set, with wooden handles, in plastic wallet
3-235-16	Telephone pliers, 160 mm, chrome-plated, with bicoloured hand guard	5-505	Insulation stripping tool, with hookblade, for cable 4 - 28 mm Ø
3-532-16	Flat nose pliers, 160 mm, with long jaws, chrome-plated, with bicoloured hand guard	16-299	Socket wrench, with VDE insulation, blade made from chrome vanadium, chrome plated A/F 4.0 mm
3-574-6	Water pump pliers, 175 mm, made from chrome vanadium, red insulation	VDE	
3-732-16	Combination pliers, 160 mm, chrome-plated, with bicoloured hand guard	16-301	Socket wrench, with VDE insulation, blade made from chrome vanadium, chrome plated A/F 5.0 mm
3-0605	Combination crimping pliers, 200 mm, for connector types 6P/6C, 6P/4C, 6P/2C, 8P/8C	VDE	
4-370	Watchmaker's screwdrivers from metal, 6-piece set, in metal box, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5 mm	16-302	Socket wrench, with VDE insulation, blade made from chrome vanadium, chrome plated A/F 5.5
4-407	Retaining screwdriver, for inserting slotted screws, nickel-plated, blade 110 x 4.0 mm	6-320	Socket wrench-set, 1/4" square drive, chrome vanadium, chrome plated, 15-piece set in a metal case, 11 sockets from 4.0 - 13.0 mm, holder, universal joint, reversible ratchet, rigid extension
4-437	Retaining screwdriver, for inserting and tightening cross-recess screws size 1, nickel-plated, insulated, blade length 150 mm	6-500-12	Double open-ended wrench, 12 x 13 mm, chrome vanadium, chrome-plated
4-522	Electrician screwdriver with multi component handle, blade made from chrome vanadium, chrome plated, black tips 100 x 3.0 mm	6-500-18	Double open-ended wrench, 18 x 19 mm, chrome-vanadium, chrome-plated
4-523	Electrician screwdriver with multi component handle, blade made from chrome vanadium, chrome plated, black tips, 100 x 4.0 mm	6-600	Combination ring-and open-ended wrench, 7-piece set, 6.0, 7.0, 8.0, 9.0, 10.0, 11.0, 13.0 mm, chrome vanadium, chrome-plated
4-524	Electrician screwdriver with multi component handle, blade made from chrome vanadium, chrome plated, black tips 125 x 5,5 mm	6-600-12	Open-ended wrench, CV, chrome-plated, 12 mm
4-532	Cross-recess screwdriver with multi component handle, blade made from chrome vanadium, chrome-plated, with black tip, blade length 60 mm, size 0	6-600-17	Open-ended wrench, CV, chrome-plated, 17 mm
4-533	Cross-recess screwdriver, as above, blade length 80 mm, size 1	6-600-19	Open-ended wrench, CV, chrome-plated, 19 mm
4-534	Cross-recess screwdriver, as above, blade length 100 mm, size 2	6-820	Hexagon wrench, 8-piece set in a case, 1,5 - 2,0 - 2,5 - 3,0 - 4,0 - 5,0 - 5,5 to 6,0 mm
4-535	Cross-recess screwdriver, as above, blade length 150 mm, size 3	6-950	Ballpoint wrench keys, hexagon, 8-piece set, in a wallet, 1,5, 2,0, 2,5, 3,0, 4,0, 5,0, 6,0, 8,0 mm
4-643	Screwdriver, with conductive handle, blade made from chrome vanadium, chrome-plated, 260 x 3.0 mm, with black tip	6-995	TORX-screwdrivers with bore hole in the tip, 8-piece set, in a box, T 9, T 10, T 15, T 20, T 25, T 27, T 30, T 40
4-656	Cross-recess screwdriver, size 1, with conductive handle, blade made from chrome vanadium, chrome-plated, blade length 300 mm, with black tip	7-114	Engineer's hammer, 200 g
4-657	Cross-recess screwdriver, size 2, with conductive handle, blade made from chrome vanadium, chrome-plated, blade length 300 mm, with black tip	7-425	Duster
14-651	Screwdriver, with VDE safety insulation, blade 75 x 2.5 mm	7-429	Insulating tape
VDE		7-506	Roller tape, 2 m
		7-616	Pocket saw, with adjustable wooden handle, in a wallet
		8-110	ERSA-fine soldering iron, Tip 260 BN/230 V/16 W
		8-385	ERSA OVAC desoldering pump
		8-407	Solder wire spool, 250 g, 0,8 mm Ø
		9-316/5	5 Chip-Container, conductive box with lid, black, internal dimensions: 118 x 32 x 14 mm



Outside dimensions: 490 x 410 x 190 mm

Weight without tool set: ca. 5.800 kg

Weight with tools : ca 12.900 kg

**6600**  **BERNSTEIN** TELECOM with tool set

**6615**  **BERNSTEIN** TELECOM without tool set

## TELEDATA ELECTRONIC SERVICE CASE 6700

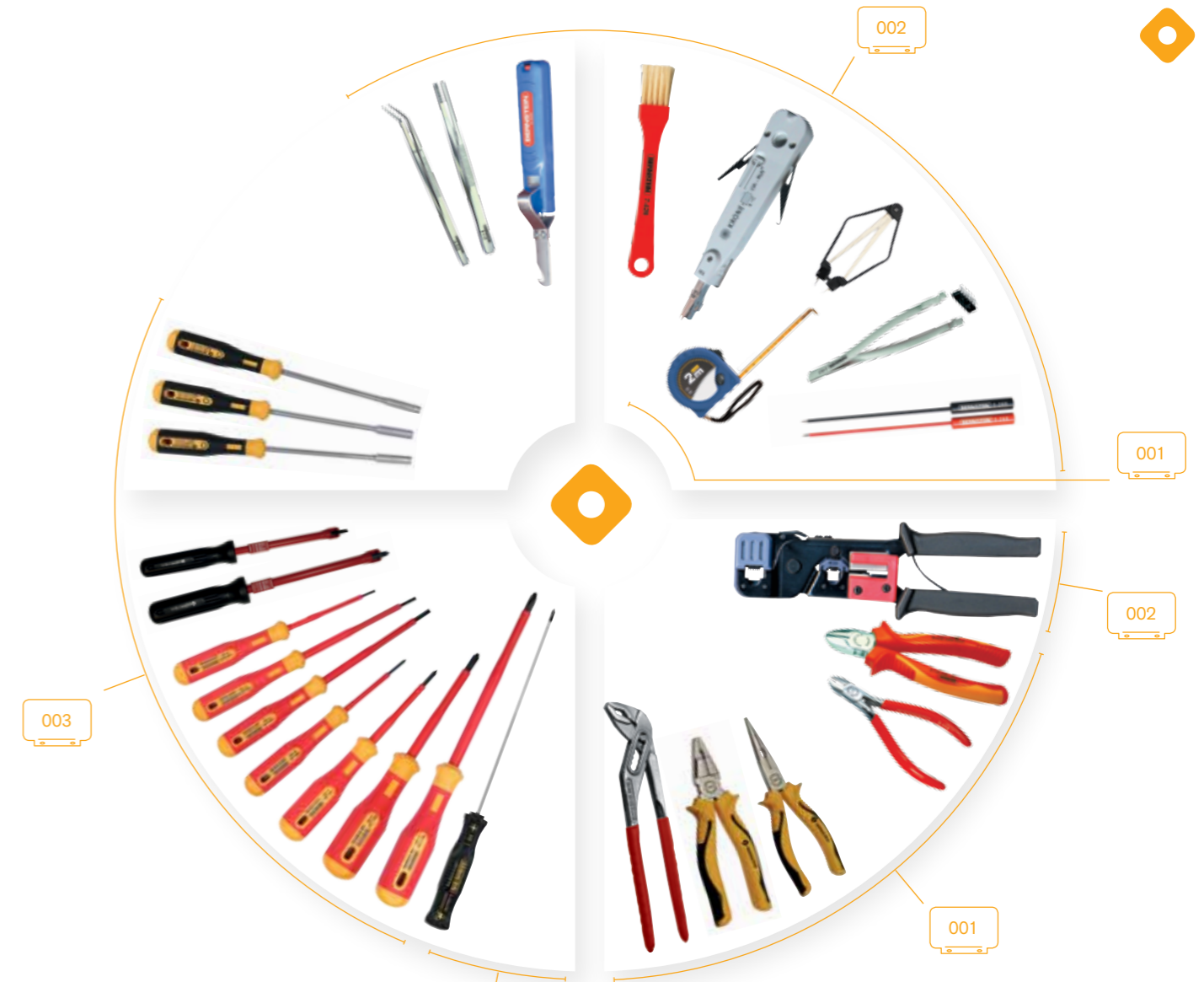
The case with a basic equipment of special tools for the installation and maintenance of complex telecommunication systems and data networks.

The unique design of this case caused by the compact shape and the structured surface guarantees a solution of highest sturdiness. The case body is made of X-ABS plastic which is covered by an extreme antislip and scratch-resistant lamination as an excellent protection against external influences. The ergonomic shaped handle together with the special hinges with topcase lock completes the picture of a high functional and modern tool case.

The removable tool trays made of ConPearl® with sewed pouches from imitation leather are sturdy, washable and exchangeable. The 60 mm high bottom plastic tray is divided by adjustable partitions.

Tool set 6700 consists of the following 80 tools:

No.	Description of individual tools	No.	Description of individual tools
2-265	2 test prods, red and black, extremely slim, pointed and flexible, blade made from 1 mm steel wire	14-682 VDE	Cross-recess screwdriver, size 1, with VDE safety insulation, blade length 80 mm
2-601	IC-tweezers, nickel-plated, 125 mm, for gripping, inserting and removing IC's	14-683 VDE	Cross-recess screwdriver, size 2, with VDE safety insulation, blade length 100 mm
2-620	PLCC-extractor	14-684 VDE	Cross-recess screwdriver, size 3, with VDE safety insulation, blade length 150 mm
2-701	Insertion tool with sensor, for connecting the wires and simultaneously cutting off the residual wire	5-107	Engineer's tweezers, with bent tips, 150 mm, made from steel, nickel-plated
3-127-2	Side cutters, 115 mm, for soft wire up to 1.0 mm, with rounded head, double leaf spring, chrome-plated, with transparent insulation	5-117	Engineer's tweezers, straight-flat-wide, 145 mm, made from steel, nickel-plated
3-135-16	Side cutters, 175 mm, chrome-plated with stripping-prism for single-core and multi-core wire 1.5 mm <sup>2</sup> and 2.5 mm <sup>2</sup> , with bicoloured hand guard	5-240	Warding files, 6-piece set, with wooden handles, in plastic wallet
3-235-16	Telephone pliers, 160 mm, chrome-plated, with bicoloured hand guard	5-505	Insulation stripping tool, with hook blade, for cable diameter of 4 up to 28 mm
3-532-16	Flat nose pliers, 160 mm, with long jaws, chrome-plated, with bicoloured hand guard	16-299 VDE	Socket wrench, with VDE insulation, blade made from chrome vanadium, chrome plated A/F 4.0 mm
3-574-6	Water pump pliers, 175 mm, made from chrome vanadium, chrome-plated, with red insulation	16-301 VDE	Socket wrench, with VDE insulation, blade made from chrome vanadium, chrome plated A/F 5.0 mm
3-732-16	Combination pliers, 165 mm, chrome-plated, with bicoloured hand guard	16-302 VDE	Socket wrench, with VDE insulation, blade made from chrome vanadium, chrome plated A/F 5.5
3-0605	Combination crimping pliers, 200 mm, for connector types 6P/6C, 6P/4C, 6P/2C, 8P/8C	6-500-12	Double open-ended wrench, 12 x 13 mm, chrome vanadium, chrome-plated
4-431	Retaining screwdrivers, for inserting and tightening slotted screws, blade made from chrome vanadium, nickel-plated, insulated, blade 100x3.0mm,	6-500-18	Double open-ended wrench, 18 x 19 mm, chrome vanadium, chrome-plated
4-437	Retaining screwdriver, for inserting and tightening cross-recess screws size 1, blade made from chrome vanadium, nickel-plated, insulated	6-600	Combination ring- and open-ended wrench, 7-piece set, chrome vanadium, chrome-plated, 6.0, 7.0, 8.0, 9.0, 10.0, 11.0, 13.0 mm
4-643	Screwdriver, with conductive handle, blade made from chrome vanadium, chrome-plated, 260 x 3.0 mm, with black tip	6-600-12	Combination ring- and open-ended wrench, 12 mm, chrome vanadium, chrome-plated
4-656	Cross-recess screwdriver, size 1, with conductive handle, blade made from chrome vanadium, chrome-plated, blade length 300 mm, with black tip	6-600-17	Combination ring- and open-ended wrench, 17 mm, chrome vanadium, chrome-plated
4-657	Cross-recess screwdriver, size 2, with conductive handle, blade made from chrome vanadium, chrome-plated, blade length 300 mm, with black tip	6-600-19	Combination ring- and open-ended wrench, 19 mm, chrome vanadium, chrome-plated
14-651 VDE	Screwdriver, blade 75 x 2.5 mm, with VDE safety insulation	6-820	Hexagon wrench keys, 8-piece set in a wallet, 1.5 - 2.0 - 2.5 - 3.0 - 4.0 - 5.0 - 5.5 - 6.0 mm
14-652 VDE	Screwdriver, blade 100 x 3.5 mm, with VDE safety insulation	6-950	Ballpoint wrench keys, hexagon, 8-piece set in a wallet, 1.5, 2.0, 2.5, 3.0, 4.0, 5.0, 6.0, 8.0 mm
14-653 VDE	Screwdriver, blade 100 x 4.0 mm, with VDE safety insulation	6-995	Torx screwdrivers with bore-hole in the tip, 8-piece set in a box, T 9, T 10, T 15, T 20, T 25, T 27, T 30, T 40
14-681 VDE	Cross-recess screwdriver, size 0, with VDE safety insulation, blade length 60 mm	7-425	Duster
		7-506	Roller tape measure, 2 m
		7-616	Pocket saw, with adjustable wooden handle, in a wallet
		9-316/5	5 Chip-Container, conductive box with lid, black, internal dimensions: 118 x 32 x 14 mm



Outside dimensions: 450 x 340 x 190 mm  
Weight without tool set: ca. 4.600 kg  
Weight with tools: ca. 8.700 kg

**6700** **BERNSTEIN TELEDATA** with tool set

**6715** **BERNSTEIN TELEDATA** without tool set

Outside dimensions: 450 x 340 x 200 mm  
Weight without tool set: ca. 5.400 kg  
Weight with tools: ca. 10.500 kg

**6700 R** **BERNSTEIN TROLLEY** with tool set

**6715 R** **BERNSTEIN TROLLEY** without tool set



## ELECTRONIC SERVICE-CASE SECURITY 6750

A case with the basic equipment of special tools for the installation and maintenance of complex protective devices and alarm systems

The unique design of this case caused by the compact shape and the structured surface guarantees a solution of highest sturdiness. The case body is made of X-ABS plastic which is covered by an extreme antislip and scratch-resistant lamination as an excellent protection against external influences. The ergonomic shaped handle together with the special hinges with topcase lock completes the picture of a high functional and modern tool case.

The removable tool trays made of ConPearl® with sewed pouches from imitation leather are sturdy, washable and exchangeable. The 60 mm high bottom plastic tray is divided by adjustable partitions.

Tool set 6750 consists of the following 64 tools:

No.	Description of individual tools	No.	Description of individual tools
2-265	2 Test prods, red and black, extremely slim, pointed and flexible, blade made from 1 mm steel wire	14-683 VDE	Cross-recess screwdriver, size 2, VDE safety insulation, blade length 100 mm
2-701	Insertion tool with sensor for connecting the wires and simultaneously cutting of the residual wire	14-684 VDE	Cross-recess screwdriver, size 3, VDE safety insulation, blade length 150 mm
3-127-2	Side cutters, 115 mm, for soft wire up to 1.0 mm, with rounded head, double leaf spring, chrome-plated, with transparent insulation	5-505	Insulation stripping tool, with hook blade, for cable Ø 4 - 28 mm
3-0611	Crimping pliers, for BNC- and TNC-coaxial connectors	5-515	Universal blade knife
13-906 VDE	Side cutters, 160 mm, for steel wire up to 1.6 mm Ø; chrome-plated, VDE safety insulation	5-531	Automatic wire stripper Super, for all common stranded and solid conductors of 0.2 - 6.0 mm <sup>2</sup> , adjustable length stop of 5 - 12 mm, built-in side cutters for max. Ø 2 mm
13-915 VDE	Telephone pliers, 160 mm, chrome-plated, VDE safety insulation	5-535	Coax cable stripper for Coax cable Ø 4.8 - 7.5 mm
13-927 VDE	Flat nose pliers, 160 mm, with long jaws, chrome-plated, VDE safety insulation	16-299 VDE	Socket wrench, with VDE insulation, blade made from chrome vanadium, chrome plated A/F 4.0 mm
13-936 VDE	Combination pliers, 160 mm, chrome-plated, VDE safety insulation	16-301 VDE	Socket wrench, with VDE insulation, blade made from chrome vanadium, chrome plated A/F 5.0 mm
4-431	Retaining screwdriver, for inserting and tightening slotted screws, blade made for CV, burnished, insulated, blade 100 x 3.0 mm	16-302 VDE	Socket wrench, with VDE insulation, blade made from chrome vanadium, chrome plated A/F 5.5
4-437	Retaining screwdriver, for inserting and tightening cross-recess screws size 1, blade made for CV, burnished, insulated	6-600	Combination ring- and open-ended wrench, 7-piece set, CV, chrome-plated, 6.0, 7.0, 8.0, 9.0, 10.0, 11.0, 13.0 mm
14-651 VDE	Screwdriver, with VDE safety insulation, blade 75 x 2.5 mm	6-820	Hexagon wrench keys, 8-piece set in a wallet, 1.5 - 2.0 - 2.5 - 3.0 - 4.0 - 5.0 - 5.5 - 6.0 mm
14-652 VDE	Screwdriver, with VDE safety insulation, blade 100 x 3.5 mm	6-950	Ballpoint wrench keys, hexagon, 8-piece set in a wallet, 1.5, 2.0, 2.5, 3.0, 4.0, 5.0, 6.0, 8.0 mm
14-653 VDE	Screwdriver, with VDE safety insulation, blade 100 x 4.0 mm	6-995	TORX screwdrivers with bore-hole in the tip, 8-piece set in a box, T 9, T 10, T 15, T 20, T 25, T 27, T 30, T 40
14-681 VDE	Cross-recess screwdriver, size 0, VDE safety insulation, blade length 60 mm	7-116	Engineer's hammer to DIN 1041, 300 g
14-682 VDE	Cross-recess screwdriver, size 1, VDE safety insulation, blade length 80 mm	7-425	Dust brush
		7-506	Roller tape measure, 2 m
		7-535	Spirit level, 225 mm long
		7-616	Pocket hack saw PUK, with adjustable handle in a wallet
		8-375	ERSA gas soldering iron, Independent 75
		8-385	ERSA desoldering pump OVAC X



Outside dimensions: 450 x 340 x 190 mm  
Weight without tool set: ca. 4.500 kg  
Weight with tools: ca. 8.800 kg

**6750** **BERNSTEIN SECURITY** with tool set

**6755** **BERNSTEIN SECURITY** without tool set

Outside dimensions: 450 x 340 x 200 mm  
Weight without tool set: ca. 6.300 kg  
Weight with tools: ca. 10.600 kg

**6750 R** **BERNSTEIN TROLLEY** with tool set

**6755 R** **BERNSTEIN TROLLEY** without tool set



# COMPACT-MOBIL ELECTRONIC SERVICE CASE 7000

The trolley case with special tools for the assembly and maintenance of electronic devices



- 7000 **BERNSTEIN** COMPACT-MOBIL with tool set 7010, 7020 und 7030
- 7015 **BERNSTEIN** COMPACT-MOBIL without tool set
- 7100 **BERNSTEIN** COMPACT-MOBIL with tool set 7010, 7020 und 7060

## Description

Elegant case made from deep-drawn, impact-resistant, grained dark brown plastic with a continuous bronze anodised aluminium frame, dustproof and rainproof, acid-resistant, scratch-resistant and non-slip. For energy saving transport stable rolls are installed and a telescopic handle is mounted. The arrangement of the rolls results in a vibration absorbing locomotion. The tools are held in their partitions. The case has 3 removable tool trays: No. 7010, 7020 and 7030. The trays contain 62 tools. On request the tray No. 7030 may be exchanged for No. 7060 (VDE-tools). The lid of the case has a pocket for documents etc. The plastic tray with adjustable partitions in the bottom allows a clear arrangement of a soldering iron, measuring instruments and accessories of various sizes. The case has two locks.

Outside dimensions: 500 x 400 x 200 mm

Weight without tool set: 8.000 kg

Weight with tools: 10.600 kg



No.	Description of individual tools
<b>Tool tray No. 7010</b>	
2-155	Claw-type gripper with 3 wire claws and clip
2-601	IC-tweezers, nickel-plated, 125 mm, for gripping, inserting and removing IC's
2-620	PLCC-extractor
2-655	Pocket inspection lite with fibre optic adaptor for close inspection of small, tight, hard-to-see areas
3-654-15	EUROline-side-cutters, 120 mm, for hard wire up to 0.4 mm Ø, for copper wire up to 1.5 mm Ø, with slim rounded head, box joint, double leaf spring, bright burnished, with bicoloured hand-guard
3-672-15	EUROline-end-cutters, 130 mm, for copper wire up to 0.6 mm Ø, cutting edge 20° angular, box joint, double leaf spring, bright burnished, with bicoloured hand-guard
3-682-15	EUROline-flat nose pliers, 130 mm, extremely slim, box joint, double leaf spring, bright burnished, with bicoloured hand-guard
3-683-15	EUROline-snip nose pliers, 130 mm, extremely slim, box joint, double leaf spring, bright burnished, with bicoloured hand-guard
4-603	Screwdriver with conductive handle, blade from chrome vanadium, chrome-plated, 40 x 1.5 mm
4-605	Screwdriver with conductive handle, as above, 40 x 2,0 mm
4-606	Screwdriver with conductive handle, as above, 50 x 2,5 mm
4-607	Slotted screwdriver as above, 50 x 3.0 mm
4-608	Slotted screwdriver as above, 60 x 3.5 mm
4-621	Cross-recess screwdriver, as above, size 000
4-622	Cross-recess screwdriver, with dissipative handle, blade from chrome vanadium, chrome-plated, size 00
4-623	Cross-recess screwdriver, with dissipative handle, blade from chrome vanadium, chrome-plated, size 0
4-624	Cross-recess screwdriver, as above, size 1
5-049	Watchmaker's tweezers, 110 mm, stainless, sharply-pointed
5-107	Engineer's tweezers, made from steel, with bent tips, 150 mm, nickel-plated
5-115	Heat dissipating tweezers, 165 mm, nickel-plated, for use when soldering transistors, gold-bonded diodes etc.
5-117	Engineer's tweezers, straight-flat-wide, 145 mm, nickel-plated
5-191	ESD tweezers, 120 mm, conductive, with straight, rounded tips
5-194	ESD tweezers, 120 mm, conductive, with bent, pointed tips
<b>Tool tray No. 7020</b>	
1-735	Adjusting screwdriver handle, double-ended, for blades with 3 mm Ø
1-738	Special hard plastic bit, blade Ø 3 mm, tip 1.5 x 0.5 mm
1-739	Special hard plastic bit, blade Ø 3 mm, tip 3.0 x 0.5 mm
1-909	Engineer's mirror, with handle, made entirely from BERNSTEINIT
2-126	Desoldering lever, slotted at one end, with plastic handle
2-127	Tin knife, with plastic handle, 115 mm
2-132	Spring hook, nickel-plated and insulated, 175 mm
2-161	Magnetic bar with double ball- and socket joint, slewable, 215 mm

No.	Description of individual tools
2-166	Contact cleaner, made from glass fibre, 115 mm
2-265	2 Test prods, red and black, extremely slim, pointed and flexible, blade made from 1 mm steel wire, 155 mm
2-295	Hand magnifier with light
3-565	Water pump pliers, 130 mm, chrome-plated
4-351	Offset screwdriver, chrome vanadium, nickel-plated, 100 x 5 mm
4-407	Retaining screwdriver, 110 x 4 mm
4-522	Electrician screwdriver with multi-component handle chrome-plated, with black tip, 100 x 3.0 mm
4-523	Screwdriver with multi-component handle, chrome-plated, with black tip 100 x 4.0 mm
4-542	Cross-recess Screwdriver with multi-component handle chrome-plated, with black tip, Pozidriv, size 0
4-543	Cross-recess Screwdriver, as above, Pozidriv, size 1
5-161	Clamping scissors, 130 mm, stainless
5-301	Special scissors for cutting sheet-metal and wires, with serration, extremely slim, 110 mm, nickel-plated
6-771	Adjustable wrench, jaw opening 0 - 12 mm, total length 100 mm
6-984 L	TORX-Screwdriver, with multi-component handle chrome-plated, with black tip, size T 9 with hole
6-985 L	TORX-Screwdriver, with multi component handle, blade made from chrome vanadium, chrome-plated, black tip, size T 10 with hole
6-986 L	TORX-Screwdriver, as above, size T 15 with hole
7-425	Dust brush
<b>Tool tray No. 7030</b>	
3-133-16	Side cutters, 145 mm, für harden Wire bis 1.25 mm Ø, für soften Wire bis 2,5 mm Ø, verchromt, mit zweifarbigen Handschutzhüllen
3-235-16	Telephone pliers, 160 mm, chrome-plated, with bicoloured hand guard
3-732-16	Combination pliers, 165 mm, chrome-plated, with bicoloured hand guard
4-344 VDE	Voltage tester, for 220 - 250 V, blade 100 x 3.5 mm
4-504	Workshop screwdriver with multi component handle, blade made from chrome vanadium, chrome-plated, with black tip, 100 x 5.5 mm
4-506	Screwdriver, as above, blade 125 x 6.5 mm
4-508	Screwdriver, as above, blade 150 x 8.0 mm
4-533	Cross-recess screwdriver, as above, blade length 80 mm, size 1
4-534	Cross-recess screwdriver, as above, blade length 100 mm, size 2
5-0605	Universal stripping tool
6-105	Socket wrench, with special square BERNSTEIN handle, blade made from chrome vanadium, chrome-plated, 5.5 mm A/F
6-107	Socket wrench, as above, 7.0 mm A/F

# COMPACT-MOBIL ELECTRICIAN'S SERVICE CASE 7200

The multi-purpose trolley case for the assembly and maintenance of electric devices

This tool case is also equipped with 3 removable tool trays: No. 7030, 7040 and 7050.  
The trays contain all together 31 tools.

On request the tray No. 7030 may be exchanged for No. 7060 (VDE-tools).

No.	Description of individual tools	No.	Description of individual tools
<b>Tool tray No. 7030</b>			
3-133-16	Side cutters, 145 mm, für harden Wire bis 1,25 mm Ø, für soften Wire bis 2,5 mm Ø, verchromt, mit zweifarbigen Handschutzhüllen	5-107-6	Steel tweezers, bent, nickel-plated, safety-insulated, 150 mm
3-235-16	Telephon pliers, 160 mm, chrome-plated, with bicoloured hand guard	5-117-6	Steel tweezers, straight-flat-wide, safety-insulated, 145 mm
3-732-16	Combination pliers, 160 mm, chrome-plated, with bicoloured hand guard	5-505	Insulation stripping tool, with hook blade, for cable 4 - 28 mm Ø
4-506	Screwdriver, as above, blade 125 x 6.5 mm	7-114	Engineer's hammer, 200 g
4-508	Screwdriver, as above, blade 150 x 8.0 mm	7-202	Firmer chisel, blade width 16 mm
4-533	Cross-recess screwdriver, as above, blade length 80 mm, size 1	7-235	Flat chisel, 200 x 16 x 22 mm, chrome vanadium
4-534	Cross-recess screwdriver, as above, blade length 100 mm, size 2	7-255	Electrician's chisel, 200 x 8 x 10 mm, chrome vanadium
4-344 VDE	Voltage tester, for 220 - 250 V, blade 100 x 3.5 mm	7-316	Punch, 6 mm Ø, with plastic handle
5-0605	Universal stripping tool	7-502	Folding rule, 2 m
6-105	Socket wrench, with special square BERNSTEIN handle, blade made from chrome vanadium, chrome-plated, 5.5 mm A/F	7-616	Pocket saw „PUK“ with adjustable wooden handle, in a wallet
6-107	Socket wrench, as above, 7.0 mm A/F	<b>Tool tray No. 7060 VDE, alternativ to 7030</b>	
<b>Tool tray No. 7040</b>			
3-575-6	Water pump pliers, 240 mm, chrome-plated, with insulation	13-906 VDE	Side cutters, 160 mm, for steel wire up to 1.6 mm Ø, chrome plated, with VDE safety insulation
3-815-16	Wire strippers, 155 mm, chrome-plated, with bicoloured hand guard	13-915 VDE	Telephone pliers, 160 mm, oval-pointed, long, straight jaws, with cutting edge for hard wire, chrome plated, with VDE safety insulation
4-543	Cross-recess Screwdriver with multi-component handle chrome-plated, with black tip, Pozidriv, size 1	13-936 VDE	Combination pliers, 160 mm, with wire cutter, for hard wire up to 1.6 mm Ø, chrome plated, with VDE safety insulation
4-544	Cross-recess Screwdriver, as above, Pozidriv, size 2	4-344 VDE	Voltage Tester, 220 to 250 volts, blade 100 x 3.5 mm
5-304	Combination cutters, 190 mm, stainless	14-652 VDE	Screwdriver, with VDE safety insulation, blade 100 x 3.5 mm
5-309	Cable stripping shears, 190 mm, stainless, with plastic handles	14-654 VDE	Screwdriver, with VDE safety insulation, blade 125 x 5.5 mm
5-501	Cable knife	14-656 VDE	Screwdriver, with VDE safety insulation, blade 150 x 6.5 mm
7-410	Slicker trowel with round shank, blade width 16 mm	14-682 VDE	Cross-recess screwdriver, size 1, with VDE safety insulation, blade length 80 mm
7-535	Spirit level, length 220 mm, with 3 levels: horizontal, vertical and 45° angle	14-683 VDE	Cross-recess screwdriver, size 2, with VDE safety insulation, blade length 100 mm
		15-522 VDE	Cable stripping knife, with blade protection, blade length 35 mm
		16-302 VDE	Socket wrench, with VDE insulation, 5.5 mm A/F
		16-304 VDE	Socket wrench, with VDE insulation, 7.0 mm A/F






Outside dimensions: 500 x 400 x 200 mm

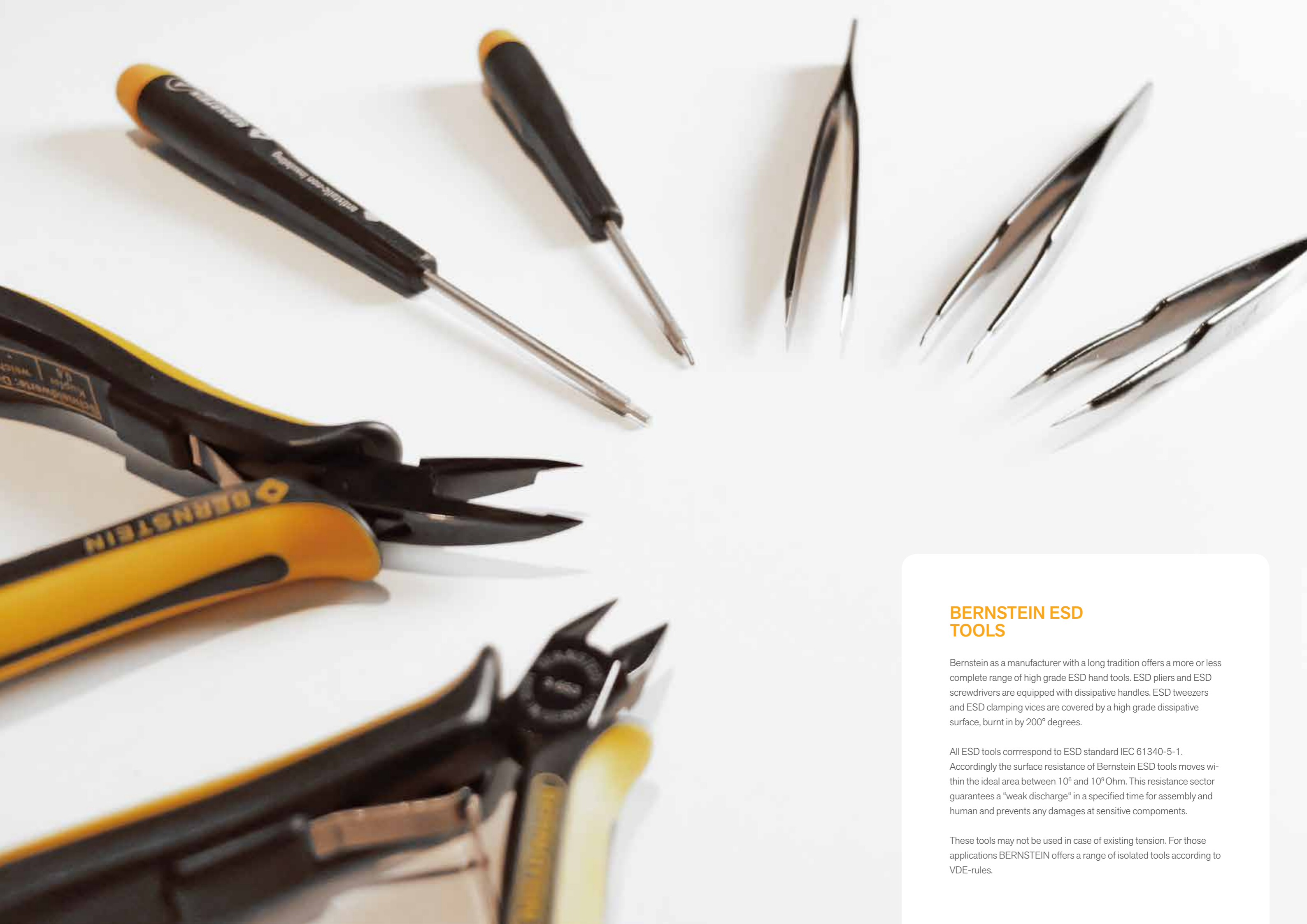
Weight without tools: ca. 7.900 kg

Weight with tools 7200: ca. 11.500 kg

Weight with tools 7300: ca. 11.600 kg

- 7200**  **BERNSTEIN** **COMPACT-MOBIL** with tool set 7030, 7040 und 7050
- 7215**  **BERNSTEIN** **COMPACT-MOBIL** without tool set
- 7300**  **BERNSTEIN** **COMPACT-MOBIL** with tool set 7040, 7050 und 7060





## BERNSTEIN ESD TOOLS

Bernstein as a manufacturer with a long tradition offers a more or less complete range of high grade ESD hand tools. ESD pliers and ESD screwdrivers are equipped with dissipative handles. ESD tweezers and ESD clamping vices are covered by a high grade dissipative surface, burnt in by 200° degrees.

All ESD tools correspond to ESD standard IEC 61340-5-1. Accordingly the surface resistance of Bernstein ESD tools moves within the ideal area between  $10^6$  and  $10^9$  Ohm. This resistance sector guarantees a "weak discharge" in a specified time for assembly and human and prevents any damages at sensitive components.

These tools may not be used in case of existing tension. For those applications BERNSTEIN offers a range of isolated tools according to VDE-rules.

# WHY ESD TOOLS?

High potential differences lead to electrostatic discharge - ESD. Electrostatic discharges are causing heavy damages while working at resp. with electronical components. Consequently components as well as electronical units etc. have to be protected against electrostatic discharges (ESD). As injuries resulting from these discharges are not always visible immediately they can finally produce „latent failures“ in transistors and circuit boards.

Components with „latent failures“ or „walking wounded“ are not directly damaged. They are only wounded. Breakdowns resp. reduced performances first occur later with the consequence of guarantee cases in much bigger dimensions. In order to avoid uncontrolled discharges professional dissipative equipment around the operation area is absolutely necessary. Due to the importance of the so called EPA area (electrostatical protected area) the entrance is only allowed for persons dissipative equipped and dressed. Only so the controlled discharging to ground is ensured.

In the majority of cases the hand tools are the connection between human and assembly. For this reason there is a high standard demand to the hand tools in order to protect human and assembly.

**Conclusion:**

Using high quality ESD hand tools is always a basic requirement and always a right economical decision.



Warning symbol denoting a device's susceptibility to electrostatic discharge



Symbol for an Electrostatic Protected Area



Symbol for an ESD protection device - EPA



Symbol of an ESD grounding point for all components

## Bernstein ESD Hand Tools

As a tool manufacturer with a long tradition Bernstein provides for those operations an almost complete range of high quality ESD hand tools. ESD pliers and ESD screwdrivers are equipped with dissipative handles. ESD tweezers and ESD vices are coated with a high grade dissipative powder burnt in by 200° Celsius. All ESD tools are manufactured according to ESD standard IEC 61340-5-1. Accordingly the surface resistance range of all Bernstein ESD tools correspond to the optimum targets between 10<sup>6</sup> and 10<sup>9</sup> Ohm. This resistance area guarantees a „soft discharge“ in a defined time space for human and assembly and prevents damages on sensitive components.

Those tools may not be used in cases of existing tension! For those applications BERNSTEIN offers a range of isolated tools according VDE-rules.

shielding	conductive	dissipative	insulating
10 <sup>0</sup>	10 <sup>3</sup>	10 <sup>5</sup>	10 <sup>10</sup> 10 <sup>12</sup>

The common values for surface resistance in EPA's are:

<b>conductive</b>	Surface resistance between < 1 x 10 <sup>3</sup> Ohm to > 1 x 10 <sup>5</sup> Ohm
<b>dissipative</b>	Surface resistance between < 1 x 10 <sup>5</sup> Ohm to > 1 x 10 <sup>12</sup> Ohm

The bigger the electrical resistance the stronger the discharge is reduced.  
The lower the resistance the faster the discharge takes place.

## ELECTRONIC SERVICE CASE EPA 6900

the service case made from conductive material for maintenance and installation tasks in ESD protected areas with a full assortment of special ESD-tools. For use at electrostatically endangered components and plants.

6900  **BERNSTEIN** EPA with tool set

6915  **BERNSTEIN** EPA without tool set

### Description

The body of the case, the tool trays as well as the bottom tray with adjustable partitions are made from conductive material according to DIN EN IEC Norm 10 00 15 part 5. The tools of this set have been tested with good results by several testing laboratories adequate to DIN EN 61340-5-1, 61340-2-1, 61340-2-3 for work in ESD protected areas. The sturdy shells are pressed with the stable double aluminium frame. 32 tools are clearly arranged on two tool trays, one of it on both sides. The lid of the case has a pocket for documentations etc. The bottom tray allows with its partitions a clear arrangement of additional tools and instruments. The case has two locks.

Outside dimensions: 500 x 370 x 210 mm

Weight without tool set: 5.800 kg

Weight with tools: 7.100 kg

No.	Description of individual tools	No.	Description of individual tools
2-101	Tin knife with ceramic blade, 115 mm	4-633	Slotted screwdriver with dissipative special-square pattern handle, blade from chrome vanadium, chrome-plated, 125 x 5.5 mm
2-265	2 Test prods, red and black, extremely slim, pointed and flexible, blade made from 1 mm steel wire	4-662	Cross-recess screwdriver Pozidriv size 1, with dissipative special-square pattern handle, blade from chrome vanadium, chrome-plated, blade length 80 mm
2-620	PLCC extractor	4-663	Cross-recess screwdriver Pozidriv size 2, with dissipative special-square pattern handle, blade from chrome vanadium, chrome-plated, blade length 100 mm
3-133-13	Side cutters, 145 mm, for soft wire up to 2.5 mm Ø, for hard wire up to 1.25 mm Ø, chrome-plated, dissipative black hand guard	5-191	Tweezers, made from conductive and acid-resistant black plastic material, reinforced with glass fibre, 120 mm, with straight, rounded tips
3-245-13	Telephone pliers, 200 mm, snipe nose, with cutting edge for hard wire, chrome-plated, dissipative black hand guard	5-192	Tweezers, made from conductive and acid-resistant black plastic material, reinforced with glass fibre, 120 mm, with straight, 3 mm flat-hand tips
3-654-15	Side cutters EUROline, 125 mm, semi flush, for soft wire up to 1.5 mm Ø, for hard wire up to 0.4 mm Ø, slim rounded head, box joint, double leaf spring, fine polished and bright burnished, dissipative bicoloured hand guard	5-194	Tweezers, made from conductive and acid-resistant black plastic material, reinforced with glass fibre, 120 mm, with bent, pointed tips
3-671-15	End cutters EUROline, 130 mm, flush, for soft wire up to 0.8 mm Ø, extremely slim, straight, box joint, double leaf spring, fine polished and bright burnished, dissipative bicoloured hand guard	6-612	Socket wrench with dissipative handle, blade from chrome vanadium, nickel-plated, A/F 2.0 mm
3-682-15	Flat nose pliers EUROline, 130 mm, extremely slim, box joint, double leaf spring, fine polished and bright burnished, dissipative bicoloured hand guard	6-617	Socket wrench with dissipative handle, blade from chrome vanadium, nickel-plated, A/F 4.0 mm
3-732-13	Combination pliers, 165 mm, chrome-plated, dissipative black hand guard	6-621	Socket wrench with dissipative handle, blade from chrome vanadium, nickel-plated, A/F 5.5 mm
4-603	Slotted screwdriver with dissipative handle, blade from chrome vanadium, chrome-plated, 40 x 1.5 mm	6-659	TORX-screwdriver, with dissipative handle, blade from chrome vanadium, chrome-plated, T 4
4-605	Slotted screwdriver with dissipative handle, blade from chrome vanadium, chrome-plated, 40 x 2.0 mm	6-661	TORX-screwdriver, with dissipative handle, blade from chrome vanadium, chrome-plated, T 5
4-606	Slotted screwdriver with dissipative handle, blade from chrome vanadium, chrome-plated, 50 x 2.5 mm	6-662	TORX-screwdriver, with dissipative handle, blade from chrome vanadium, chrome-plated, T 6
4-621	Cross-recess screwdriver, with dissipative handle, blade from chrome vanadium, chrome-plated, size 000	6-663 L	TORX-screwdriver with dissipative handle, blade from chrome vanadium, chrome-plated, T 7, with hole
4-622	Cross-recess screwdriver, with dissipative handle, blade from chrome vanadium, chrome-plated, size 00	6-665 L	TORX-screwdriver, with dissipative handle, blade from chrome vanadium, chrome-plated, T 9, with hole
4-623	Cross-recess screwdriver, with dissipative handle, blade from chrome vanadium, chrome-plated, size 0	7-422	ESD brush, bristles width 20 mm
4-632	Slotted screwdriver with dissipative special-square pattern handle, blade from chrome vanadium, chrome-plated, 100 x 4.0 mm		



## ESD PROFI-SET TRENDY 2280 AND 2285

the professional kit for ESD-Specialists for local and mobile use



Outside dimensions: 350 x 310 x 65 mm (closed)

**2280**  ESD Profi-Set **TRENDY** with 18 tools and ESD-Handling Set **Weight:** 1.650 kg

**2285**  ESD Profi-Set **TRENDY** with 18 tools **Weight:** 1.500 kg

Selected ESD-tools in handy plastic case made from conductive material. The tools are clearly arranged in accurate-sized cutouts in conductive hardfoam.

No.	Description of individual tools	No.	Description of individual tools
2-620	PLCC extractor	4-622	Cross-recess screwdriver, with dissipative handle, blade from chrome vanadium, chrome-plated, size 00
3-133-13	Side cutters, 145 mm, for soft wire up to 2.5 mm Ø, for hard wire up to 1.25 mm Ø, chrome-plated, conductive black hand guard	4-623	Cross-recess screwdriver, with dissipative handle, blade from chrome vanadium, chrome-plated, size 0
3-651-15	Mini side cutters EUROline, 120 mm, without sideface, for soft wire up to 1.5 mm Ø, medium hard wire up to 0.8 mm Ø, box joint, double leaf spring, fine polished and bright burnished, dissipative bicoloured hand guard	5-049-13	SMD-tweezers, 110 mm, straight, very sharply pointed, ESD-coating
3-682-15	Flat nose pliers EUROline, 130 mm, finish as above	5-055-13	SMD-tweezers, 120 mm, sickle-shaped, very sharply pointed, ESD-coating
3-683-15	Snipe nose pliers EUROline, 130 mm, short jaws, finish as above	6-661	TORX screwdriver, with dissipative handle, blade made from chrome vanadium, chrome-plated, T 5
4-603	Slotted screwdriver with dissipative handle, blade from chrome vanadium, chrome-plated, 40 x 1,5 mm	6-662	TORX screwdriver, with dissipative handle, blade made from chrome vanadium, chrome-plated, T 6
4-605	Slotted screwdriver with dissipative handle, blade from chrome vanadium, chrome-plated, 40 x 2,0 mm	6-663 L	TORX screwdriver, with dissipative handle, blade made from chrome vanadium, chrome-plated, T 7 with hole
4-606	Slotted screwdriver with dissipative handle, blade from chrome vanadium, chrome-plated, 50 x 2.5 mm	7-422	ESD brush, bristles width 20 mm
4-621	Cross-recess screwdriver, with dissipative handle, blade from chrome vanadium, chrome-plated, size 000	9-354	ESD handling set (only in set 2280), consisting of: foldable, green workbench pad (surface resistance according to DIN 53482: approx. 10 <sup>8</sup> ohm), 500 x 400 x 0.35 mm, contact bracelet with spiral cord, earth wire 2500 mm long with 1 Mohm safety resistor including crocodile clip


## ESD TOOL SERVICE-SETS

ESD Tool Sets for various operations in ESD areas, in handy cases from conductive material.

The tools are clearly arranged in accurate-sized cutouts in conductive hardfoam.



**2230** Outside dimensions: 250 x 210 x 60 mm (closed)

**2230**  ESD Tool-Set **ELITE** with 20 tools

**Weight:** 0.870 kg

No.	Description of individual tools	No.	Description of individual tools
3-651-15	Mini side cutters EUROline, 120 mm, flush, for soft wire up to 1.5 mm Ø and medium hard wire up to 0.8 mm Ø, box joint, double leaf spring, fine polished and bright burnished, dissipative bicoloured hand guard	4-911	Hex cross-recess blade PH 000 / PH 00, matt chrome-plated, black tip
3-672-15	End cutters EUROline, 130 mm, flush, for soft wire up to 0.8 mm Ø and medium hard wire up to 0.6 mm Ø, cutting edge 20° angular, finish as above	4-912	Hex cross-recess blade PH 0 / PH 1, matt chrome-plated, black tip
3-682-15	Flat nose pliers EUROline, 130 mm, finish as above	4-921	Hex cross-recess blade TORX T 5 / T 6, matt chrome-plated, black tip
3-683-15	Snipe nose pliers EUROline, 130 mm, short jaws, finish as above	4-922 L	Hex cross-recess blade TORX T 7 / T 8, with hole, matt chrome plated, black tip
4-901	ESD-handle from dissipative material, with brass clamping sleeve for following reversible blades:	4-923 L	Hex cross-recess blade TORX T 9 / T 10, with hole, matt chrome plated, black tip
4-905	Hex blade slotted 1.5 / 3.0 mm, matt chrome-plated, black tip	5-049-13	SMD-tweezers, 110 mm, straight, very sharply pointed, with ESD-coating
4-906	Hex blade slotted 2.0 / 3.5 mm, matt chrome-plated, black tip	5-055-13	SMD-tweezers, 120 mm, sickle-shaped, very sharply pointed, as above
4-907	Hex blade slotted 2.5 / 4.0 mm, matt chrome-plated, black tip	5-059-13	SMD-tweezers, 120 mm, flat, rounded tips, 2.0 mm width, as above
		5-067-13	SMD-tweezers, 120 mm, tip 45° angled, 2.0 mm width, as above
		5-068-13	SMD-tweezers, 120 mm, tip angled, 1.6 mm width, as above
		5-078-13	SMD-tweezers, 130 mm, tapering, chisel, 1.0 mm width, as above
		7-422	ESD-brush, bristles width 20 mm

**2210**  ESD-SERVICE-SET **PRECISE** with 6 tools **Weight:** 0.390 kg

No.	Description of individual tools	No.	Description of individual tools
3-653-15	Mini side cutters EUROline with very slim, pointed head and special flat cutting edge, 120 mm, without side face, for soft wire up to 1.5 mm and medium hard wire up to 0.8 mm Ø, box joint, double leaf spring, fine polished and bright burnished, dissipative bicoloured hand guard	5-062-13	SMD-tweezers, 115 mm, 35° angled, 2.0 mm width, with gripping cavity Ø 0.8 mm, with ESD-coating
5-055-13	SMD-tweezers, 120 mm, sickle-shaped, very sharply pointed with ESD-coating	5-065-13	SMD-tweezers, 120 mm, straight, 3 mm width, with gripping cavity Ø 0.8 mm, with ESD-coating
		5-066-13	SMD-tweezers, 120 mm, 30° angled, 2.5 mm width, with ESD-coating
		5-068-13	SMD-tweezers, 120 mm, tip angled, 1.6 mm width, with ESD-coating



## ELECTRONIC SERVICE TOOL-SETS

special service sets for the maintenance and repairing of mobile phones and other high sensitive IT-Instrument.

The tools are clearly arranged in cases made from dissipative black imitation leather, with zip fastener.

2251 Case with zip fastener, without tools, Outside dimensions: 190 x 135 x 35 mm (when closed)



**CARAT**  
Outside dimensions: 190 x 135 x 35 mm (closed)



**ACCENT**  
Outside dimensions: 190 x 135 x 35 mm (closed)



**EUROline**  
Outside dimensions: 190 x 135 x 35 mm (closed)

### 2250 **BERNSTEIN** CARAT

9-piece set dissipative tools from the series EUROline to meet highest quality standards.

**Weight:** 0.360 kg

No.	Description of individual tools	No.	Description of individual tools
3-672-15	End cutters EUROline, 130 mm, for soft wire up to 0.8 mm Ø cutting edge 20° angular, box joint, double leaf spring, fine polished and bright burnished, dissipative bicoloured hand guard	4-621	Cross-recess screwdriver, with dissipative handle, blade from chrome vanadium, chrome-plated, size 000
3-683-15	Snipe nose pliers EUROline, 130 mm, plain jaws, box joint, double leaf spring, fine polished and bright burnished, dissipative bicoloured hand guard	4-623	Cross-recess screwdriver, with dissipative handle, blade from chrome vanadium, chrome-plated, size 0
4-603	Slotted screwdriver with dissipative handle, blade from chrome vanadium, chrome-plated, 40 x 1.5 mm	5-191	Tweezers, made from conductive and acid-resistant black plastic material, reinforced with glassfibre, 120 mm, with straight, rounded tips
4-605	Slotted screwdriver with dissipative handle, blade from chrome vanadium, chrome-plated, 40 x 2.0 mm	6-661	TORX screwdriver, with dissipative handle, blade made from chrome vanadium, chrome-plated, T 5
		6-663 L	TORX-screwdriver with dissipative handle, blade from chrome vanadium, chrome-plated, T 7 with hole

### 2270 **BERNSTEIN** ACCENT

9-piece set dissipative tools with bright steel polished pliers

**Weight:** 0.360 kg

No.	Description of individual tools
3-601-15	Side cutters, 120 mm, semi flush, for soft wire up to 1.5 mm Ø, hard wire up to 0.4 mm Ø, bright steel-polished, box joint, double leaf spring with dissipative bicoloured hand guard
3-633-15	Snipe nose pliers, 120 mm, plain jaws, bright steel-polished, box joint, double leaf spring with dissipative bicoloured hand guard
4-603	Slotted screwdriver with dissipative handle, blade from chrome vanadium, chrome-plated, 40 x 1.5 mm
4-605	Slotted screwdriver with dissipative handle, blade from chrome vanadium, chrome-plated, 40 x 2.0 mm
4-621	Cross-recess screwdriver, with dissipative handle, blade from chrome vanadium, chrome-plated, size 000
4-623	Cross-recess screwdriver, with dissipative handle, blade from chrome vanadium, chrome-plated, size 0
5-191	Tweezers, made from conductive and acid-resistant black plastic material, reinforced with glass fibre, 120 mm, with straight, rounded tips
6-661	TORX-screwdriver, with dissipative handle, blade from chrome vanadium, chrome-plated, T 5
6-663 L	TORX-screwdriver with dissipative handle, blade from chrome vanadium, chrome-plated, T 7 with hole

### 3-680 **BERNSTEIN** EUROline Pliers-Set

4-piece set dissipative pliers from the series EUROline

**Weight:** 0.390 kg

No.	Description of individual tools
3-651-15	Mini side cutters EUROline, 120 mm, flush, for soft wire up to 1.5 mm Ø, medium hard wire up to 0.8 mm Ø, box joint, double leaf spring, fine polished and bright burnished, dissipative bicoloured hand guard
3-672-15	End cutters EUROline, 130 mm, flush, for soft wire up to 0.8 mm Ø and medium hard wire up to 0.6 mm Ø, cutting edge 20° angular, finish as above
3-682-15	Flat nose pliers EUROline, 130 mm, finish as above
3-683-15	Snipe nose pliers EUROline, 130 mm, short jaws, finish as above

## ELECTRONIC-SERVICE TOOL SETS

the tool sets for mobile use at electrostatically endangered components



Outside dimensions: 320 x 250 x 50 mm (closed)



Outside dimensions: 330 x 240 x 20 mm (closed)

### 2220 SERVICE-SET ANTISTATIC

Elegant zipper case, made from dissipative black imitation leather and dissipative pockets for 12 ESD-tools and foldable ESD-workbench pad with accessories.

**Weight:** 0.950 kg

2221 Zipper case without tools.

No.	Description of individual tools	No.	Description of individual tools
2-620	PLCC-extractor	4-621	Cross-recess screwdriver, with dissipative handle, blade from chrome vanadium, chrome-plated, size 000
3-601-15	Side cutters, 120 mm, for soft wire up to 1.5 mm Ø and hard wire up to 0.4 mm Ø, bright steel-polished, box joint, double leaf spring, with dissipative bicoloured hand guard	4-622	Cross-recess screwdriver, with dissipative handle, blade from chrome vanadium, chrome-plated, size 00
3-632-15	Flat nose pliers, 120 mm, as above	4-623	Cross-recess screwdriver, with dissipative handle, blade from chrome vanadium, chrome-plated, size 0
3-633-15	Snipe nose pliers, 120 mm, as above	5-191	Tweezers, made from conductive plastic material, reinforced with glass fibre, 120 mm, with straight, rounded tips
4-603	Slotted screwdriver with dissipative handle, blade from chrome vanadium, chrome-plated, 40 x 1.5 mm	5-192	Tweezers, made from conductive plastic material, reinforced with glass fibre, 120 mm, with straight, 3 mm flat-hand tips
4-605	Slotted screwdriver with dissipative handle, blade from chrome vanadium, chrome-plated, 40 x 2.0 mm	9-354	ESD-handling-set, consisting of: foldable green workbench pad (surface resistance according to DIN 53482: approx. 10 <sup>8</sup> ohm), 500 x 400 x 0.35 mm, contact bracelet 9-342, earth wire 2500 mm long with 1 Mohm safety resistor
4-606	Slotted screwdriver with dissipative handle, blade from chrome vanadium, chrome-plated, 50 x 2.5 mm		

### 2300 SERVICE-SET ESD

The green tool folder serves as an electrical dissipative workbench pad of 680 x 680 x 0.35 mm. The surface resistance according to DIN 53482 is approx. 10<sup>8</sup> ohm. The workbench pad has 3 press-stud receptacles for connecting the contact bracelet and the earth wire. With 2 additional press-buttons the pad may be closed as tool bag. The 2 patch pockets carry the contact bracelet and the earth wire. Furthermore 16 dissipative tools are placed in pockets, ready to hand.

**Weight with tools:** 0,850 kg













No.	Description of individual tools	No.	Description of individual tools
2-166	Glass fibre contact cleaner, with rotary mechanism, plastic casing	5-191	Tweezers made from conductive, black plastic material, reinforced with glass fibre, 120 mm, with rounded tips
2-620	PLCC-extractor	5-194	Tweezers made from conductive, black plastic material, reinforced with glass fibre, 120 mm with bent, pointed tips
3-601-15	Side cutters, 120 mm, for soft wire up to 1.5 mm Ø and hard wire up to 0.4 mm Ø, bright steel-polished, box joint, double leaf spring, dissipative bicoloured hand guard	6-616	Socket wrench with dissipative handle, blade made from chrome vanadium, nickel-plated, A/F 3.5 mm
3-633-15	Snipe nose pliers, 120 mm, as above	6-661	TORX screwdriver, as above, T5
4-603	Slotted screwdriver with dissipative handle, blade made from chrome vanadium, chrome-plated, 40 x 1.5 mm	6-664 L	TORX screwdriver, as above, T 8 with hole
4-605	Slotted screwdriver, as above, 40 x 2.0 mm	6-666 L	TORX screwdriver, as above, T10 with hole
4-606	Slotted screwdriver, as above, 50 x 2.5 mm	9-342	Contact bracelet cloth armband, allergy-free, edges and surface insulating, spiral cord, 1 Mohm safety resistor, combined press-stud and terminal connection, to DIN EN 100 015/1
4-621	Cross-recess screwdriver, as above, size 000	9-346	Earth wire with 1 Mohm safety resistor, 2500 mm long, with terminal connection resp. press-stud, for connecting workbench pad and floor cover and connection to an earth potential
4-622	Cross-recess screwdriver, as above, size 00		
4-623	Cross-recess screwdriver, as above, size 0		

## CERAMIC TOOLS

antistatic – antimagnetic - material: zirconium oxide

**1-750**  Ceramic adjusting screwdrivers set  
13-pieces in a box with hinged lid




















**Content:** double-ended handle 1-735 and 12 ceramic bits, Weight: 90 g

No.	Blade length mm	Blade tip	mm	Weight g
1-751	32		0.90 x 0.30	1
1-752	32		1.30 x 0.30	1
1-753	32		1.50 x 0.30	1
1-754	32		1.80 x 0.30	1
1-755	32		1.95 x 0.35	1
1-756	32		2.50 x 0.70	1
1-757	32		3.00 x 0.30	1
1-761	32		1.95 SW	1
1-762	32		2.45 SW	1
1-765	32		KS Gr. 00	1
1-766	32		KS Gr. 0	1
1-767	32		2.40 x 0.80	1

### Adjusting screwdrivers and bits

from ceramic adjusting screwdrivers with conductive handle No.: 1-851 – 1-876

Bits No.: 1-751 – 1-776 to use with screwdriver handle No.: 1-735

No.	Length mm	Bit No.	Length mm	Blade tip	mm	Weight g
1-851	110	1-751	32		0.90 x 0.30	10/1
1-852	110	1-752	32		1.30 x 0.30	10/1
1-853	110	1-753	32		1.50 x 0.30	10/1
1-854	110	1-754	32		1.80 x 0.30	10/1
1-855	110	1-755	32		1.95 x 0.35	10/1
1-856	110	1-756	32		2.50 x 0.70	10/1
1-857	110	1-757	32		3.00 x 0.30	10/1
1-858	110	1-758	32		3.00 x 0.70	10/1
1-861	110	1-761	32		1.95 SW	10/1
1-862	110	1-762	32		2.45 SW	10/1
1-863	110	1-763	32		2.60 SW	10/1
1-864	110	1-764	32		KS Gr. 000	10/1
1-865	110	1-765	32		KS Gr. 00	10/1
1-866	110	1-766	32		KS Gr. 0	10/1
1-867	110	1-767	32		2.40 x 0.80	10/1
1-873	110	1-773	32		0.70 x 1.40	10/1
1-874	110	1-774	32		3.00 x 1.00	10/1
1-875	110	1-775	32		1.20 x 1.20	10/1
1-876	110	1-776	32		1.30 x 0.40	10/1



## ELECTRONIC PLIERS

Lap joint - Box joint - Screw joint

Semi Flush - Flush - Ultra Flush



ESD TOOLS



# PLIERS

## DESCRIPTION

### MATERIAL

Depending on model and technical requirements we use high-alloyed tool steels or high grade ball bearing steel (chrome steel) from selected suppliers which fully comply with our needs.

### MANUFACTURING TECHNOLOGY

Our high quality blank steels are either hot forged in forging dies or laser cutted. So we achieve structural conditions which ensure quality and long life time for our final products.

According to our strict internal rules we handle the production process on top modern machines. Finally the pliers are oil hardened and the tips get an additional inductive hardening. Result is a hardness value of 63 - 65 HRC for highest efforts.

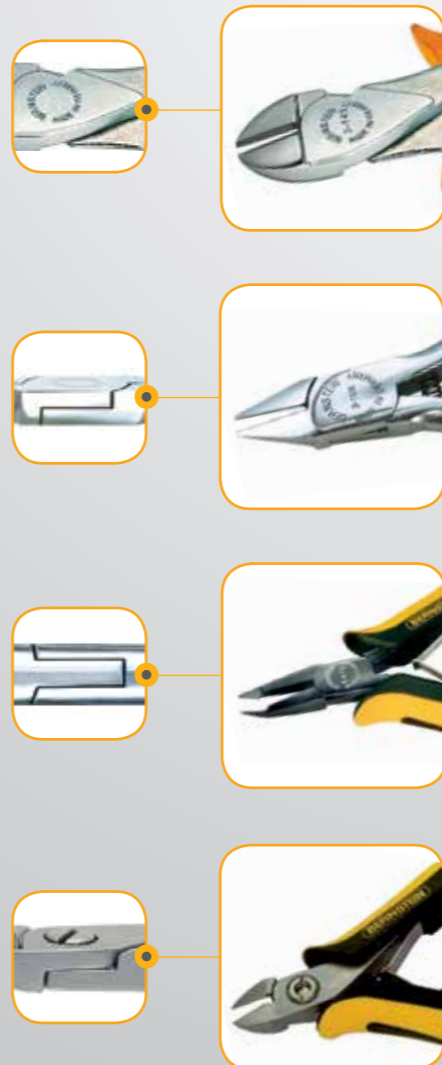
### CONSTRUCTIONS

We manufacture electronic pliers with 4 different joint constructions depending on application and execution of the pliers series. The simplest joint is the lay-on construction. Both pliers parts are simply riveted together. This execution is only for bigger sized pliers. In case of the lap joint solution both pliers joint planes are milled out, bedded together and subsequently riveted.

The most complex solution is the box joint construction. In a very special process the joint is made by sliding one pliers head through the under heat opened joint of the other pliers part. After that the joint is pressed together and tightened by a rivet. This construction ensures best parallel guidance of pliers' tips and an extremely long life time.

The high precise manufactured joint planes of the screw joint construction provides an accurate jaw adjustment without backlash and a smooth friction free open-close movement. In combination with the basic hardness of the chrome vanadium ball bearing steel the screw system ensures a very high cutting capacity with a long life time.

Either a pressure or an interchangeable double leaf spring from stainless steel provides a smooth and equal open-close movement. The life time of all pliers can be extended by a drop of acidfree oil on the polished planes and in the joint.



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

soft wire:	copper, plastic, aluminium, 220 - 250 N/mm <sup>2</sup>
medium hard wire:	nail, wire pin, 750 - 800 N/mm <sup>2</sup>
hard wire:	steel wire, steel pin, 1600 - 1800 N/mm <sup>2</sup>
Piano wire:	hardened spring wire, 2200 - 2300 N/mm <sup>2</sup>

### CUTTING SHAPE AND CUTTING CAPACITY

The life time of the cutting tips depend among others on the sharpness. The sharper the tip (Ultra Flush) the faster the wear. Out of this reason pliers in Semi Flush or Flush are preferable so far no Ultra Flush and shock reduced cut is necessary.

#### SEMI FLUSH

applicable in case of hard and soft steel wires as well as for soft materials, e.g. copper wire; the cut leaves at the end of the wire a peak similar a pyramid.



Semi Flush

#### FLUSH

nearly a flush cut with fine tips; applicable for soft steel wires and copper wire; cut slightly shock reduced; at the end of the wire only a small peak



Flush

#### ULTRA FLUSH

cut absolutely flush; extremely sharp tips; exclusively for soft wires and copper wires; shock reduced cut; absolutely plane-parallel



Ultra Flush

#### SPECIAL FLUSH

for cutting of glass fibre, Kevlar etc.



Special Flush

#### HARD METAL EXECUTION

with inserted hard metall tips, for continuous heavy work, also for tough nickel and electrode wires



## SPECIAL ELECTRONIC PLIERS EUROline

box joint, double leaf spring

high quality steel, fine polished and bright burnished, for dazzle free working

ergonomically formed bicoloured hand guard from dissipative anti-slide material

The pliers of this program have been tested with good results by several testing laboratories adequate to DIN EN 61340-5-1, 61340-2-1, 61340-2-3 for work in ESD protected areas.

### CUTTING PLIERS

No.	Length mm	Headwidth mm	Finish	Cutting capacity			Weight g
				Wire soft	mm medium	Ø hard	

#### Mini side cutters EUROline

with very slim, rounded head for finest operations

<b>3-651-15</b>	120	10	flush	1.5	0.8	-	65
<b>3-651-15 DR</b>	120	10	flush	1.5	0.8	-	65

with retaining spring

#### Mini side cutters EUROline

with very slim, pointed head for finest operations

<b>3-652-15</b>	120	10	flush	1.5	0.8	-	60
<b>3-653-15</b>	120	10	flush	1.5	0.8	-	60

with special flat cutting edge

#### Side cutters EUROline

with slim, rounded head

<b>3-654-15</b>	125	11	semi flush	1.5	1.0	0.4	70
<b>3-655-15</b>	125	11	flush	1.5	1.0	-	70

#### Side cutters EUROline

with slim, pointed head

<b>3-656-15</b>	125	11	semi flush	1.5	1.0	0.3	70
<b>3-657-15</b>	125	11	flush	1.5	1.0	-	70
<b>3-658-15</b>	125	11	ultra flush	1.5	0.6	-	70

#### End cutters EUROline

extremely slim, flush, for precision work at points difficult to reach

<b>3-671-15</b>	130	10	straight	0.8	0.6	-	65
<b>3-672-15</b>	130	10	cutting edge 20° angular	0.8	0.6	-	70

#### Top cutters EUROline

extremely slim, flush, head 45° angular, for flush cutting directly in front of and behind the components

<b>3-673-15</b>	130	10	cutting edge inside	0.8	0.6	-	60
<b>3-674-15</b>	130	10	cutting edge outside	0.8	0.6	-	60

#### Oblique top cutters EUROline

cutting plane 29° angular, flush cutting for horizontal and vertical use

<b>3-675-15</b>	115	10	flush	1.2	1.0	0.4	65
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3-651-15



3-652-15



3-651-15 DR



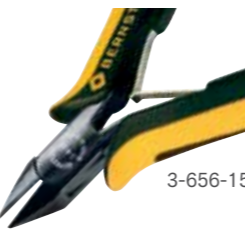
3-654-15



3-653-15



3-671-15



3-656-15



3-673-15



3-672-15



3-675-15



3-674-15

### CUTTING PLIERS

No.	Length mm	Headwidth mm	Finish	Cutting capacity			Weight g
				Wire soft	mm hard	Ø Piano-	

#### Side cutters EUROline

with rounded head

<b>3-668-15</b>	135	14	semi flush	2.0	1.5	0.7	110
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#### Side cutters EUROline

with pointed head

<b>3-669-15</b>	135	14	flush	2.0	1.5	-	110
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#### Carbide mini side cutters EUROline

for continuous heavy work, with inserted carbide cutting edges, also for tough nickel and electrode wires

<b>3-661-15</b>	120	11	semi flush	2.0	1.0	0.6	70
<b>3-663-15</b>	120	11	flush, very slim	1.8	0.8	0.4	65

pointed head with special flat cutting edge

#### Carbide oblique top cutters EUROline

for continuous heavy work, with inserted carbide cutting edges, cutting plane 29° angular, for horizontal and vertical use, also for tough nickel and electrode wires

<b>3-667-15</b>	115	11	flush	2.0	1.0	0.6	65
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#### Glas fibre mini side cutters EUROline

for continuous heavy work, with inserted carbide cutting edges, with special side face, for cutting glass fibre only, max. 2.0 mm Ø

<b>3-665-15</b>	120	11	very slim rounded head, special flush				70
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### ROUND, FLAT, SNIPE NOSE PLIERS

No.	Length mm	Headwidth mm	Finish	Weight g
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#### Round nose pliers EUROline

extremely slim

<b>3-681-15</b>	130	10	short plain jaws	65
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#### Flat nose pliers EUROline

extremely slim

<b>3-682-15</b>	130	10	short plain jaws	70
<b>3-688-15</b>	130	9	short, ultra slim plain jaws	60

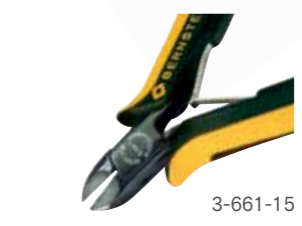
#### Snipe nose pliers EUROline

extremely slim

<b>3-683-15</b>	130	10	short plain jaws	70
<b>3-685-15</b>	140	10	long plain jaws	70
<b>3-686-15</b>	140	10	long serrated jaws	70
<b>3-687-15</b>	130	10	short plain jaws, ultra slim pointed, for precise handling of tiny components	70
<b>3-689-15</b>	145	10	long plain jaws, angled	70



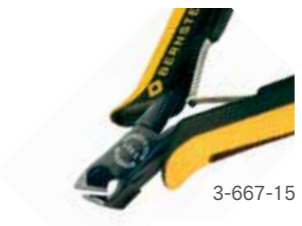
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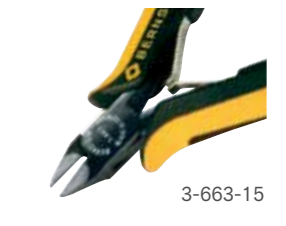
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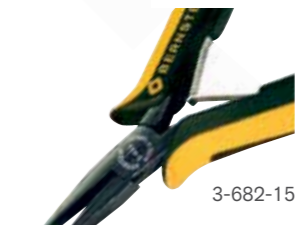
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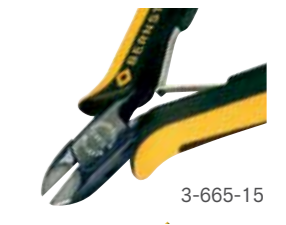
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3-663-15



3-682-15



3-665-15



3-683-15



3-681-15



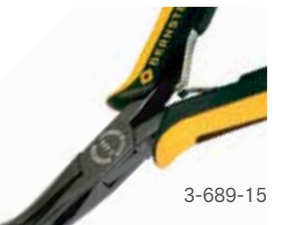
3-687-15



3-688-15



3-685-15



3-689-15

## ELECTRONIC PLIERS TECHNICline

from high quality ball bearing steel (Chrome-steel) for extreme high efforts.  
The inductive hardened cutting edges achieve a value of 63 - 65 HRC.  
Precision joint with screw system - precise jaw adjustment without backlash  
non-reflective surface, double leaf spring in stainless steel.  
Ergonomically formed bicoloured hand guard from dissipative anti-slide material.

No.	Length mm	Headwidth mm	Finish	Cutting capacity			Weight g
				Wire soft	mm medium	Ø hard	

### Side cutters

with slim, rounded head

3-961-15	120	10	semi flush	1.3	0.8	0.5	75
3-963-15	120	10	ultra flush	1.3	0.7	-	75

### Side cutters

with slim, pointed head

3-964-15	120	10	semi flush	1.2	1.0	0.5	75
3-966-15	120	10	ultra flush	1.0	0.8	-	75

### Side cutters

with slim, pointed and relieved head

3-967-15	120	10	semi flush	0.8	0.6	-	75
3-969-15	120	10	ultra flush	0.8	-	-	75

### Side cutters

with rounded head

3-971-15	125	12.5	semi flush	1.6	1.0	0.5	80
3-973-15	125	12.5	ultra flush	1.6	0.8	-	80

### End cutters

with slim, pointed head, special flat cutting edge  
and adjustable stop screw

3-981-15	135	10	ultra flush	0.8	0.6	-	80
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### Wire lead catcher

3-999-1	3-961-15 until 3-969-15 ( 10 mm Head-width)						9
3-999-2	3-971-15 until 3-973-15 ( 12,5 mm Head-width)						9

### Round nose pliers

extremely slim

3-991-15	130	10	short plain jaws				75
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### Flat nose pliers

extremely slim

3-992-15	130	10	short plain jaws				75
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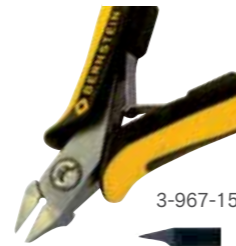
### Snipe nose pliers

extremely slim

3-996-15	140	10	long plain jaws				80
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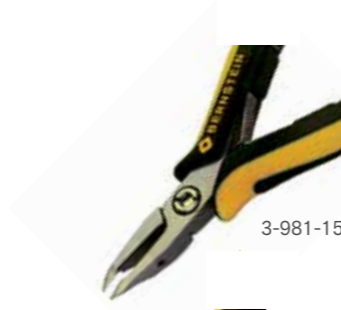
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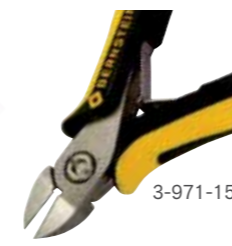
3-967-15



3-964-15



3-981-15



3-971-15



3-992-15



3-991-15



3-999



3-996-15

## 3-970 TECHNICline Set of pliers

4-piece set dissipative pliers from the series TECHNICline  
in a wallet made from dissipative black imitation leather, with zip fastener

No. Description of individual tools Weight: 0.400 kg

3-963-15	Mini side cutters TECHNICline, 120 mm, ultra flush, for soft wire up to 1.3 mm Ø, medium hard wire up to 0.7 mm Ø, precision joint with screw system, double leaf spring, non-reflective surface, dissipative bicoloured hand guard
3-971-15	Side cutters TECHNICline, 125 mm, semi flush, for soft wire up to 1.6 mm Ø, medium hard wire up to 1.0 mm Ø, hard wire up to 0.5 mm Ø, precision joint with screw system, double leaf spring, non-reflective surface, dissipative bicoloured hand guard
3-992-15	Flat nose pliers TECHNICline, 130 mm, short plain jaws, finish as above
3-996-15	Snipe nose pliers TECHNICline, 140 mm, long plain jaws, finish as above



3-970

## SIDE CUTTERS, TELEPHONE AND COMBINATION PLIERS

lap joint, bright polished – chrome-plated, with dissipative black hand guard

No.	Length mm	Headwidth mm	Finish	Cutting capacity			Weight g
				Wire soft	mm medium	Ø hard	

### Side cutters

swedish design

3-133-13	145	19	Special steel	4.0	2.5	1.3	165
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### Telephone pliers

snipe nose, long straight jaws, with cutting edges for hard wire

3-245-13	200	18	Serrated jaws				195
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### Combination pliers

with wire cutter, for hard wire

3-732-13	165	23	Serrated jaws				185
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3-133-13



3-245-13



3-732-13

## ELECTRONIC PLIERS ESD BLACKline

- lap joint - double leaf spring
- black burnished - with dissipative black isolation

### CUTTING PLIERS

No.	Length mm	Headwidth mm	Finish	Cutting capacity			Weight g
				Wire soft	mm medium	Ø hard	

#### Side cutters

with slim, rounded head

3-901-7	115	12	semi flush	1.5	1.0	0.4	65
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#### Side cutters

with slim, pointed head, special flat cutting edge

3-902-7	120	12	flush	1.5	0.8	-	65
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#### Top cutters

with 3 mm wide cutting edge, jaw length 20 mm, for flush cutting

3-905-7	135	13	flush	0.8	0.6	-	75
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#### End cutters

with angular tips and oblique cutting edge, for flush cutting

3-906-7	125	13	flush	0.8	0.6	-	75
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### ROUND-FLAT-SNIPE NOSE PLIERS

No.	Length mm	Headwidth mm	Finish	Weight g
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#### Round nose pliers with short jaws

3-931-7	120	12	plain jaws	70
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#### Flat nose pliers with short jaws

3-932-7	120	11	plain jaws	60
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#### Snipe nose pliers with short jaws

3-933-7	125	12	plain jaws	60
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#### Snipe nose pliers with long jaws, angular, slim model

3-945-7	145	13	Serrated jaws	85
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#### 3-960 Set of ESD pliers

4-piece set black burnished pliers with dissipative black isolation, in a wallet.

Content: Art.-No. 3-901-7, 3-906-7, 3-932-7, 3-933-7



3-960

## ELECTRONIC PLIERS ESD POLISHline

- box joint - double leaf spring
- bright steel-polished - ergonomically formed bicoloured hand guard

### CUTTING PLIERS

No.	Length mm	Headwidth mm	Finish	Cutting capacity			Weight g
				Wire soft	mm medium	Ø hard	

#### Side cutters

with slim, rounded head

3-601-15	120	11	semi flush	1.5	1.0	0.4	70
3-602-15	120	11	flush	1.5	1.0	-	70

#### Side cutters

with slim, pointed head

3-603-15	120	11	semi flush	1.5	1.0	0.3	65
3-604-15	120	11	flush	1.5	1.0	-	65

#### End cutters

with angular tips and oblique cutting edge, for flush cutting

3-606-15	120	10,5	flush	0.8	0.6	-	55
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### ROUND, FLAT AND SNIPE NOSE PLIERS

No.	Article	Length mm	Headwidth mm	Finish	Weight g
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3-631-15	Round nose pliers	120	10	plain jaws	55
3-632-15	Flat nose pliers	120	9	plain jaws	60
3-633-15	Snipe nose pliers	120	10	plain jaws	60
3-634-15	Snipe nose pliers, angular	120	10	plain jaws	60

#### 3-650 V ESD Set of pliers

5-piece set dissipative pliers from the series POLISHline on the ESD tool holder "VARIO"

No.	Description of individual tools	Weight: 350 g
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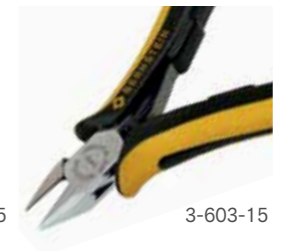
3-601-15	Side cutters, 120 mm, for soft wire up to 1.5 mm, for hard wire up to 0.4 mm
3-631-15	Round nose pliers, 120 mm, plain jaws
3-632-15	Flat nose pliers, 120 mm, plain jaws
3-633-15	Snipe nose pliers, 120 mm, plain jaws
3-634-15	Snipe nose pliers, angular, 120 mm, plain jaws



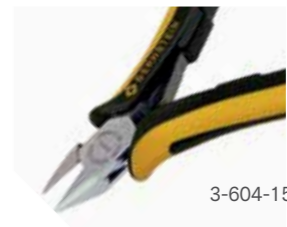
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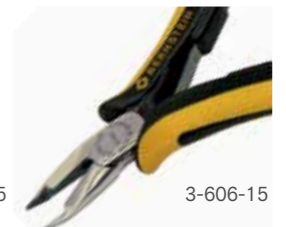
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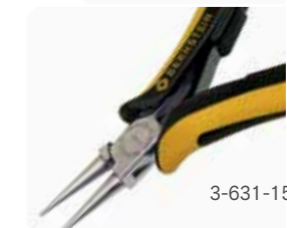
3-603-15



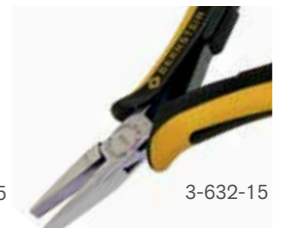
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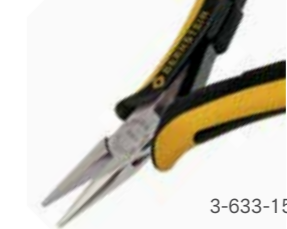
3-606-15



3-631-15



3-632-15



3-633-15



3-634-15



3-650 V

## SPECIAL-TWEEZERS FOR SMD-TECHNIQUE

high precision tweezers from special steel stainless – matt finish – anti-magnetic – acid –resisting - alternative with ESD coating (-13) -

No.	Length		Finish / Model	Weight g
	mm	Inch		
5-048	110	4 3/8"	straight, very sharply pointed, 5 SA	12 g
5-048-13	110	4 3/8"	as above, with ESD coating	12 g
5-049	110	4 3/8"	straight, very sharply pointed, 4 SA	12 g
5-049-13	110	4 3/8"	as above, with ESD coating	12 g
5-051	115	4 1/2"	straight pointed, 2 SA	15 g
5-051-13	115	4 1/2"	as above, with ESD coating	15 g
5-052	110	4 3/8"	bent, very sharply pointed, 5b SA	13 g
5-052-13	110	4 3/8"	as above, with ESD coating	13 g
5-059	120	4 3/4"	flat, rounded tips, 2.0 mm width, 2a SA	15 g
5-059-13	120	4 3/4"	as above, with ESD coating	15 g
5-078	130	5 1/8"	tapering, chisel, 1.0 mm width, PSF SA	16 g
5-078-13	130	5 1/8"	as above, with ESD coating	16 g
5-053	110	4 3/8"	obliquely angled, very sharply pointed, 51 SA	13 g
5-053-13	110	4 3/8"	as above, with ESD coating	13 g
5-054	120	4 3/4"	sickle-shape-curved, very sharply pointed, 7abb SA	16 g
5-054-13	120	4 3/4"	as above, with ESD coating	16 g
5-055	120	4 3/4"	sickle-shaped, very sharply pointed, 7a SA	15 g
5-055-13	120	4 3/4"	as above, with ESD coating	15 g
5-056	120	4 3/4"	slightly bent, very sharply pointed, 7 SA	15 g
5-056-13	120	4 3/4"	as above, with ESD coating	15 g
5-057	120	4 3/4"	self-locking, straight-pointed, 31 SA	13 g
5-057-13	120	4 3/4"	as above, with ESD coating	13 g
5-058	120	4 3/4"	self-locking, bent, pointed, 31b SA	13 g
5-058-13	120	4 3/4"	as above, with ESD coating	13 g
5-061	115	4 1/2"	bent, flat rounded tips, 2ab SA	16 g
5-061-13	115	4 1/2"	as above, with ESD coating	16 g
5-062	115	4 1/2"	35° angled, 2.0 mm width, with gripping cavity Ø 0.8 mm, 59 SA	16 g
5-062-13	115	4 1/2"	as above, with ESD coating	16 g
5-063	115	4 1/2"	35° angled, 3.5 mm width, with gripping cavity Ø 0.8 mm, 58 SA	16 g
5-063-13	115	4 1/2"	as above, with ESD coating	16 g



No.	Length		Finish / Model	Weight g
	mm	Inch		
5-065	120	4 3/4"	straight, 3.0 mm width, with gripping cavity Ø 0.8 mm, 50 SA	16 g
5-065-13	120	4 3/4"	as above, with ESD coating	16 g
5-066	120	4 3/4"	30° angled, 2.5 mm width, 8b SA	15 g
5-066-13	120	4 3/4"	as above, with ESD coating	15 g
5-067	120	4 3/4"	tip 45° angled, 2.0 mm width, 12 SA	15 g
5-067-13	120	4 3/4"	as above, with ESD coating	15 g
5-068	120	4 3/4"	tip angled, 1.6 mm width, 13 SA	13 g
5-068-13	120	4 3/4"	as above, with ESD coating	13 g
5-071	85	3 3/8"	thin, straight-pointed, OC SA	8 g
5-071-13	85	3 3/8"	as above, with ESD coating	8 g
5-072	110	4 3/8"	thin, straight-pointed, 3c SA	11 g
5-072-13	110	4 3/8"	as above, with ESD coating	11 g
5-073	140	5 1/2"	long-thin, straight, very sharply pointed, SS SA	13 g
5-073-13	140	5 1/2"	as above, with ESD coating	13 g
5-074	120	4 3/4"	straight, pointed, 1 SA	14 g
5-074-13	120	4 3/4"	as above, with ESD coating	14 g
5-075	140	5 3/4"	straight, very sharply pointed, grip surface offset, 60 SA	13 g
5-075-13	140	5 3/4"	as above, with ESD coating	13 g
5-076	120	4 3/4"	rigid, straight, pointed, 00 SA	19 g
5-076-13	120	4 3/4"	as above, with ESD coating	19 g
5-077	130	5 1/8"	wide, tapering, pointed, AA SA	16 g
5-077-13	130	5 1/8"	as above, with ESD coating	16 g

## CUTTING TWEEZERS

made from Carbon Steel, extremely hard, excellent sharpness at the cutting edges. For cutting of soft copper, gold and silver wires up to 0.25 mm Ø.

5-079	115	4 1/2"	Carbon Steel, matt finish 15 AGW	25 g
5-079-13	115	4 1/2"	as above, with ESD coating	25 g

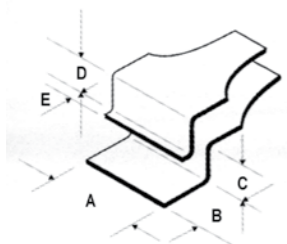


## WAFER-TWEEZERS

for positioning of flat and fine components, e.g. extremely sensitive and breakable wafer (glass-wafer etc.) fine PCB's and LCD's very smooth and non-reflective surface  
high grade steel SA, anti-magnetic

No.	Length		Finish / Model	Weight g
	mm	inch		
5-411	130	5 1/8"	with graduated lower paddle and 3 teeth 3 DWF small	14
5-411-13			as above, with ESD coating	
5-412	130	5 1/8"	with graduated lower paddle and 3 teeth 3 DWF	14
5-412-13			as above, with ESD coating	
5-413	130	5 1/8"	with graduated lower paddle and 4 teeth 4 DWF	17
5-413-13			as above, with ESD coating	
5-414	130	5 1/8"	with graduated lower paddle and 5 teeth 5 DWF	20
5-414-13			as above, with ESD coating	
5-415	130	5 1/8"	with graduated lower paddle and 6 teeth 6 DWF	20
5-415-13			as above, with ESD coating	
5-421	130	5 1/8"	with graduated lower paddle, no teeth 3 DW small	14
5-421-13			as above, with ESD coating	
5-422	130	5 1/8"	with graduated lower paddle, no teeth 4 DW	17
5-422-13			as above, with ESD coating	
5-423	130	5 1/8"	with graduated lower paddle, no teeth 5 DW	20
5-423-13			as above, with ESD coating	
5-424	130	5 1/8"	with graduated lower paddle, no teeth 6 DW	20
5-424-13	130	5 1/8"	as above, with ESD coating	

	Dimension					for Wafer size
	A	B	C	D	E	
	mm	mm	mm	mm	mm	
5-411	6	6	4	4	3,2	2"
5-412	9	6	2,5	3	3,2	2"
5-413	12	8	4	5	3,2	3"
5-414	16	6	4	5	3,2	4" - 5"
5-415	20	8	4	5	3,2	6"
5-421	6	6	4	5	3	2"
5-422	12	8	4	5	3	3"
5-423	16	8	4	4	3	4" - 5"
5-424	20	8	4	5	3,5	6"



## TWEEZERS WITH INTERCHANGEABLE PLASTIC TIPS

Special tweezers with soft and ESD safe tips

Tweezers: anti-magnetic, acidfree, ESD safe

Tips: soft, conductive plastic tips for very sensitive assemblies

No.	Length		Finish / Modell	Weight g
	mm	inch		
5-431	125	5"	rounded tips 1.5 mm wide, 70 CV	17
5-431-0			replacement tips for 5-431	
5-432	125	5"	flat tips 2 mm wide, 72 CV	17
5-432-0			replacement tips for 5-432	
5-433	125	5"	fine flat tips 1 mm wide, 74 CV	17
5-433-0			replacement tips for 5-433	
5-434	125	5"	very fine rounded tips, 76 CV	17
5-434-0			replacement tips for 5-434	
5-435	125	5"	fine rounded tips, 80 CV	17
5-435-0			replacement tips for 5-435	



## SPECIAL TWEEZERS WITH „DELRIN“ TIPS

Tweezers: anti-magnetic, acidfree

Tips from Delrin: highest consistency, stiffness and hardness, ductile, fatigue-steady

No.	Length		Finish / Modell	Weight g
	mm	Inch		
5-441	125	5"	rounded tips 1.5 mm wide, 70 DV	17
5-441-0			replacement tips for 5-441	
5-443	125	5"	fine flat tips 1 mm wide, 74 DV	17
5-443-0			replacement tips for 5-443	



## SPECIAL TWEEZERS WITH INTERCHANGEABLE ESD CERAMIC TIPS

Tweezers: anti-magnetic, acidfree

Tips: ESD Ceramic

No.	Length mm	Finish / Modell	Weight g
5-452-0		replacement tips for 5-452	
5-454	125	fine rounded tips, 0,7 mm wide	17
5-454-0		replacement tips for 5-454	



## SPECIAL TWEEZERS FOR SMD TECHNOLOGY

quality precision tweezers from special steel stainless - matt polished - antimagnetic - acid resistant

### 5-050 6-piece set of special tweezers for the SMD-technique, matt finish, stainless, anti-magnetic in a wallet

No.	Description of individual tools	Weight: 135 g
5-051	SMD-tweezers, straight pointed, 115 mm	
5-052	SMD-tweezers, bent, very sharply pointed, 110 mm	
5-054	SMD-tweezers, sickle-shaped curved, very sharply pointed, 120 mm	
5-058	SMD-tweezers, crossed, bent, pointed, 120 mm	
5-061	SMD-tweezers, bent, flat tips 2 mm wide, 115 mm	
5-062	SMD-tweezers, bent, flat tips, with gripping cavity, 115 mm	



5-050

### 5-060 6-piece set ESD-Tweezers for the SMD-Technique in a wallet made from dissipative material

No.	Description of individual tools	Weight: 155 g
5-049-13	SMD-tweezers, straight, very sharply pointed, 110 mm	
5-055-13	SMD-tweezers, sickle-shaped, very sharply pointed, 120 mm	
5-059-13	SMD-tweezers, flat, rounded tips, 2 mm width, 120 mm	
5-067-13	SMD-tweezers, tip 45° angled, 2.0 mm width, 120 mm	
5-068-13	SMD-tweezers, tip angled, 1.6 mm, 120 mm	
5-078-13	SMD-tweezers, tapering, chisel, 1.0 mm width, 130 mm	



5-060

## ESD-TWEEZERS

made from conductive, black plastic material, reinforced with glass fibre, conductive and acid-resistant, melting point 175° C

No.	Length		Finish	Weight
	mm	Inch		
5-191	120	4 3/4"	straight, rounded tips, 2 mm wide	5 g
5-192	120	4 3/4"	straight, 3 mm flat-hand tips, grip surface offset	4 g
5-193	120	4 3/4"	straight, flat, 6 mm wide tips	5 g
5-194	120	4 3/4"	bent, pointed tips	5 g
5-195	120	4 3/4"	straight, pointed tips, grip surface offset	4 g

### 5-190 V 6-piece set of ESD tweezers

strung on the ESD tool holder "VARIO"

**Contents:** 5 tweezers made from conductive black plastic material, No. 5-191, 5-192, 5-193, 5-194, 5-195, 1 tweezers with ceramic tips No. 5-454

**Weight:** 125 g



5-190 V

### 5-090 V 5-piece set of ESD tweezers

strung on the ESD tool holder "VARIO"

**Contents:** 5 tweezers made from conductive black plastic material, No. 5-191, 5-192, 5-193, 5-194, 5-195

**Weight:** 94 g



5-090 V

## TITAN TWEEZERS

tweezers made from Titan are for highest demands, have a light weight, immunity to corrosion, even to aggressive acids, they are antimagnetic, antibacterial, solder-repellent, and non-reflective. The melting point is 1677°C.

5-031	110	4 3/8"	matt-stainless, sharply pointed	9 g
5-035	120	4 3/4"	matt-stainless, sharply pointed	9 g
5-036	145	5 3/4"	matt-stainless, straight - round - wide tips with fine serration	15 g
5-037	150	6"	matt-stainless, fine bent tips tips with fine serration	12 g



## IC-TWEEZERS

for gripping, inserting and removing of IC's

2-601-13	125	5"	with ESD-coating	22 g
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## ESD INTERCHANGEABLE SCREWDRIVER-SETS

practical tool rolls made from dissipative material are equipped with double-ended screw-driver-blades and ESD handle with brass clamping sleeve, suitable for hexagon blades of A / F 4 mm

Blade: chrome vanadium, hexagon material, A / F 4 x 120 mm, hardened over its full length, matt chrome-plated, black tip

**4-920**  interchangeable screwdriver set  
9-pieces with ESD-handle

**Contents:** ESD-handle  
3 slotted blades 1.5 / 3.0 mm, 2.0 / 3.5 mm, 2.5 / 4.0 mm  
2 cross-recess blades PH 000 / PH 00, PH 0 / PH 1  
3 TORX blades T 5 / T 6, T 7 L / T 8 L, T 9 L / T 10 L („L“ with hole)

**Weight:** 190 g

**4-960**  interchangeable screwdriver set  
11-pieces with ESD-handle

**Content:** ESD-handle  
2 slotted blades 1.5 / 3.0 mm, 2.0 / 4.0 mm, 2 cross-recess blades PH 000 / PH 00, PH 0 / PH 1, 4 TORX blades T 3 / T 4, T 5 / T 6, T 7 L, T 8 L, T 9 L / T 10 L („L“ with hole) 2 Tri Wing / Four Wing blades TW 1 / FW 1, TW 2 / FW 2

**Weight:** 210 g



4-960

## ESD SCREWDRIVERS

with special-square pattern handle from impact-resistant, dissipative black plastic

**Blade:** chrome vanadium, hardened over its full length, matt chrome-plated, with black tip  
**Handle:** impact-resistant, dissipative, black plastic, electrostatic discharge according to DIN EN 100015/1

### Slotted screwdrivers

No.	Blade length mm	Blade width mm	Blade thickness mm	Handle size mm	Weight
4-632	100	4.0	0.8	92 x 21	40 g
4-633	125	5.5	1.0	100 x 23	65 g
4-643	300	6.0	1.2	100 x 23	100 g

### Cross-recess screwdrivers

No.	Blade length mm	Blade width mm	Blade thickness mm	Handle size mm	Weight
4-652	1	80	4.5	92 x 21	40 g
4-653	2	100	6.0	100 x 23	75 g

### extra long cross-recess screwdrivers PH

4-656	1	300	4.5	100 x 23	80 g
4-657	2	300	6.0	100 x 23	115 g

### Cross-recess screwdrivers Pozidriv PZ

4-662	1	80	4.5	92 x 21	40 g
4-663	2	100	6.0	100 x 23	70 g

### Tri Wing screwdrivers

6-641	TW 0	70	4.5	92 x 21	42 g
6-642	TW 1	70	4.5	92 x 21	42 g
6-643	TW 2	70	4.5	92 x 21	42 g
6-644	TW 3	70	4.5	92 x 21	42 g
6-645	TW 4	70	6.0	92 x 21	53 g
6-646	TW 5	70	6.0	92 x 21	54 g



## ELECTRONIC SCREWDRIVERS AND SOCKET WRENCHES

with slim, ergonomically formed handles from black dissipative plastic. The rotatable centering head guaranties a precise working without exhaustion.

**Blade:** high grade chromium molybdenum steel  
hardened over its full length, matt chrome-plated

**Handle:** black precision handle with yellow centering head  
surface resistance  $10^6 - 10^9$  Ohm

**Standard:** IEC 61340-5-1

**Application:** For all operations at electrostatically endangered components

### Slotted screwdrivers

No.	Blade length mm	Blade width mm	Blade thickness mm	Blade Ø mm	Handle length mm	Weight
4-603	40	1.5	0.25	2.0	80	11 g
4-605	40	2.0	0.40	2.0	80	11 g
4-606	50	2.5	0.40	2.5	95	17 g
4-607	50	3.0	0.50	3.0	95	18 g
4-608	60	3.5	0.60	3.5	110	26 g
4-609	60	4.0	0.80	4.0	110	28 g

### Cross-recess screwdrivers PH

No.	Size	Blade length mm	Blade Ø mm	Handle length mm	Weight
4-621	PH000	40	2.0	80	10 g
4-622	PH00	40	2.0	80	11 g
4-623	PH0	50	3.0	95	18 g
4-624	PH1	60	4.0	110	28 g

### Cross-recess screwdrivers PZ

No.	Size	Blade length mm	Blade Ø mm	Handle length mm	Weight
4-626	PZ1	60	4.0	110	28 g

### Wrench Keys

No.	A/F mm	Blade length mm	Handle length mm	Weight
6-631	0.7	40	80	10 g
6-632	0.9	40	80	11 g
6-633	1.3	40	80	12 g
6-634	1.5	50	95	16 g
6-635	2.0	50	95	17 g
6-636	2.5	60	110	22 g



## ELECTRONIC SCREWDRIVERS AND SOCKET WRENCHES

with slim, ergonomically formed handles from black dissipative plastic.  
The rotatable centering head guarantees a precise working without exhaustion.

Blade: high grade chromium molybdenum steel  
hardened over its full length, matt chrome-plated  
Handle: black precision handle with yellow centering head  
surface resistance  $10^6 - 10^9$  Ohm  
Standard: IEC 61340-5-1  
Application: For all operations at electrostatically endangered components

### TORX-screwdrivers

L = with bore-hole in the tip



No.	Size mm	Blade length mm	for metric thread	Blade Ø mm	Handle length mm	Weight
6-656	T1	40	M 0.9	2.5	80	13 g
6-657	T2	40	M 1.0-1.2	2.5	80	13 g
6-658	T3	40	M 1.2-1.4	2.5	80	13 g
6-659	T4	40	M 1.4-1.6	2.5	80	13 g
6-661	T5	40	M 1.6-2	2.5	80	13 g
6-662	T6	40	M 2	2.5	80	13 g
6-663 L	T7	50	M 2.5	3.5	95	13 g
6-664 L	T8	50	M 2.5	3.5	95	13 g
6-665 L	T9	50	M 3	4.0	110	19 g
6-666 L	T10	60	M 3-3.5	4.0	110	19 g

### TORX Plus screwdrivers



No.	Size mm	Blade length mm	Blade Ø mm	Handle length mm	Weight
6-701	4IP	40	2,5	80	13 g
6-702	5IP	40	2,5	80	13 g
6-703	6IP	40	2,5	80	13 g
6-704	7IP	40	2,5	80	13 g
6-705	8IP	40	2,5	80	13 g
6-706	9IP	50	3,0	95	19 g
6-707	10IP	50	3,0	95	19 g
6-708	15IP	60	3,5	110	26 g

### Socket wrenches



No.	Size mm	Blade length mm	Blade Ø mm	Handle length mm	Weight
6-611	1,5	60	2,5	95	12 g
6-612	2,0	60	2,9	95	12 g
6-613	2,5	60	4,0	95	25 g
6-614	3,0	60	5,0	95	25 g
6-616	3,5	60	5,3	95	26 g
6-617	4,0	60	5,5	95	26 g
6-618	4,5	60	6,2	95	27 g
6-619	5,0	60	6,8	95	28 g
6-621	5,5	60	7,6	110	31 g



## ELECTRONIC SCREWDRIVERS AND SOCKET WRENCHES

with slim, ergonomically formed handles from black dissipative plastic.

The rotatable centering head guarantees a precise working without exhaustion.

Blade: high grade chromium molybdenum steel hardened over its full length, matt chrome-plated

Handle: black precision handle with yellow centering head surface resistance  $10^6 - 10^9$  Ohm

### 4-610 6-piece slotted screwdriver set

in a practical table support from conductive material

Content: 6 slotted screwdrivers No. 4-603, 4-605, 4-606, 4-607, 4-608, 4-609

Weight: 212 g

### 4-620 6-piece slotted screwdriver & cross-recess screwdriver set

in a practical table support from conductive material

Content: No. 4-603, 4-605, 4-607 and 4-621, 4-622, 4-623

Weight: 525 g

### 6-630 6-piece wrench key set

in a practical table support from conductive material

Content: 6 wrench keys No. 6-631, 6-632, 6-633, 6-634, 6-635, 6-636

Weight: 93 g



4-610



4-620



6-630

## EXTRA LONG TORX-SCREWDRIVERS

with dissipative special-square pattern handle

6-675 L	T 10	300	M 3-3,5	92 x 21	60 g
6-676 L	T 15	300	M 3,5-4	92 x 21	65 g
6-677 L	T 20	300	M 4-5	100 x 21	75 g





**6-660 6-piece TORX-screwdriver set**

in a practical table support from conductive material

**Content:** 6 TORX-screwdrivers 6-661, 6-662, 6-663 L, 6-664 L, 6-665 L, 6-666 L  
**Weight:** 126 g

**6-610 6-piece socket wrench set**

in a practical table support from conductive material

**Content:** 6 socket wrenches No. 6-612, 6-614, 6-617, 6-618, 6-619, 6-621  
**Weight:** 148 g



6-610



6-660

**5-090-0 BERNSTEIN ESD tool holder "VARIO"**

Metal housing with dissipative black surface. Optionally for wall fastening or simple placing on the workbench with an individually tailored set of Electronic pliers, tweezers and Electronic screwdrivers.

Maximum capacity:

**ca. 6 Electronic pliers**  
of the series TECHNICline, EUROline or POLISHline or

**8 ESD Electronic screwdrivers**  
with slim ergonomically formed handles or

**ca. 8 ESD tweezers**  
for the SMD-Technique or an individually mixed set

(Composed sets for pliers=3-650 V and for tweezers=5-090 V and 5-190 V)



5-090-0  
without tools

**ESD SPECIAL TOOLS**

**2-101 Tin knife with ceramic blade**

for working at printed circuit boards, 105 mm long, handle from conductive black plastic, Weight: 9 g

**5-353 Ceramic blade scissors**

for cutting e.g. aramid yarns and fiber optic cables, antistatic and electrically insulating, black plastic handles reinforced with glass-fibre, 140 mm long, blade length 50 mm, Weight 26 g

**7-421 ESD Brush**

with conductive handle, natural bristles with conductive fibres, round, bristles 6 mm Ø, total length 150 mm, weight 9 g

**7-422 ESD Brush**

with conductive handle, natural bristles with conductive fibres, flat, bristles 20 mm wide, total length 150 mm, weight 26 g

**8-238 SMD Vacuum pick-up Vampir**

For easy, save and precise handling of SMD components dissipative execution complete with bent nozzle and suction cups 3, 4, 6 and 9mm

**5-542 Precision Wire Stripper ESD Plus**

working area: 0,25 - 0,80mm Ø  
Weight: 28g

For applications in the electronic and computer technology, with cutter and adjustable stripper length up to 15 mm. Body made from dissipative plastic for PVC, Teflon, and similar materials.

**9-125 LUXO ESD-safe LED Magnifier**

Flexible self-balancing arm and shade neck for easy positioning. Equipped with two semi-circular LED modules with a total energy consumption of 11W.

<b>Housing</b>	
colour	black / dissipative
<b>Optics</b>	
Primary lens	3 diopter
extensible with top lens	with 4, 6 resp. 10 diopter
<b>Total magnification</b>	175
<b>Focal length</b>	330
<b>Light source</b>	
Light source	LED
Number of lamps	1
Lamp power (W)	11
with dimming	
<b>Technical data</b>	
IP-classification	20
Tension (V)	230
Arm length in cm	105



ESD TOOLS

## 9-161 LUXO ESD-SAFE LED MAGNIFIER WAVE

with flexible self-balancing arm. Shadow-free magnification with light coming from both sides, as well three-dimensional magnification with light coming for the left or right.

### Housing

Colour black / dissipative

### Optics

Primary lens 5 diopter  
 extensible with top lens with 4, 6 resp. 10 diopter  
 Total magnification 225  
 Focal length 200

### Light source

Light source LED  
 Number of lamps 2  
 Lamp power (W) 12  
 with three-step dimming

### Technical data

IP-classification 20  
 Tension (V) 230  
 Armlength in cm 105



## 9-342 Contact bracelet with spiral cord

adjustable elastical bracelet with woven silvered synthetic fibres, allergy-free, with 3 mm press-stud; high elastical spiral cord, 2400 mm long, 2 x 1 Mohm safety resistor, press-studs 3 mm for bracelet and 10 mm for earth wire; additionally insulated crocodile clip No. 9-353. (Weight: 60 g)



9-342

## 9-342-1 Contact bracelet

adjustable elastical bracelet with woven silvered synthetic fibres, allergy-free, with 3 mm press-stud (Weight: 13 g)

## 9-342-2 Spiral cord

high elastical spiral cord, 2400 mm long, 2 x 1 Mohm safety resistor, press-studs 3 mm for bracelet and 10 mm for earth wire (Weight: 25 g)

## 9-343 Earth wire

with 1 Mohm safety resistor, 1500 mm long, with 2 press-studs 10/10 mm, for connecting workbench pad and floor cover and connection to an earth potential; additionally insulated crocodile clip No. 9-353. (Weight: 40 g)



9-343

## 9-346 Earth wire

with 1 Mohm safety resistance, 2500mm long, with 2 press-studs 10/10mm, for connecting workbench pad and floor cover and connection to an earth potential; additionally crocodile clip No. 9-353. (Weight: 50g)

## 9-353 Crocodile clip

insulated clip with banana plug connection socket and 10 mm press-stud. (Weight: 18 g)

## 9-354 ESD-handling set foldable

especially for mobile use -  
 consisting of: workbench pad, 500 x 400 x 0.35 mm, green, electrically dissipative, grained surface, (leakage resistance to DIN IEC 61340-4-1 R<sub>s</sub>: ca. 10<sup>8</sup> ohm), with 2 press-studs 10/10 mm; contact bracelet No. 9-342-1, spiral cord 9-342-2 and earth wire No. 9-346 including crocodile clip No. 9-353. (Weight: 170 g)



9-354

## 9-359 Earth wire with dummy Schuko-plug

spiral cord 2400 mm long, 1 Mohm safety resistance, one side press-stud 10 mm, other side dummy Schuko-plug. (Gewicht: 50g)



9-359

## 9-360 ESD-handling set

consisting of: workbench pad, resistant to soldering tin, 800 x 600 x 1.5 mm, black, from homogeneous, electrically conductive synthetic caoutchouc, slightly grained surface, (leakage resistance to DIN IEC 61340-4-1 RA: 10<sup>3</sup> - 10<sup>6</sup> ohm), with 2 press-studs 10/10 mm; contact bracelet No. 9-342-1, spiral cord 9-342-2 and earth wire No. 9-343 including crocodile clip No. 9-353. (Weight: 1160 g)



9-360

## 9-361 ESD-handling set

consisting of: workbench pad, resistant to soldering tin, 800 x 600 x 2.0 mm platinum grey, from dissipative synthetic caoutchouc, slightly grained, with homogeneous, electrically dissipative black rear, (leakage resistance to DIN IEC 61340-4-1 RA: 10<sup>5</sup> - 10<sup>7</sup> ohm), with 2 press-studs 10/10 mm; contact bracelet No. 9-342-1, spiral cord No. 9-342-2 and earth wire No. 9-343 including crocodile clip No. 9-353. (Weight: 1300 g)



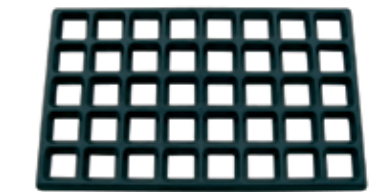
9-361

## 9-367 ESD-Set

Pad 600x450mm especially for CPU (central processing units), printer, scanner consisting of: workbench pad with 1 press-stud 10mm for the earthing connection; earth wire with dummy Schuko-plug No. 9-359 (Weight: 930g)

## 9-334 Assembly grid mat

Sturdy supporting mat which prevents the damage of components by e.g. screws and the loss of small parts.  
 Dimensions: 610 x 370 x 20 mm  
 Cell dimensions: 50 x 45 mm  
 Resistance to ground: 10<sup>3</sup> - 10<sup>4</sup> Ohm  
 Colour: black  
 (Weight: 3,2 kg)



9-334

## 9-321 SMD box

16 x 12 x 15mm (internal dimensions)

## 9-322 SMD box

37 x 12 x 15mm (internal dimensions)

## 9-323 SMD box

41 x 37 x 15mm (internal dimensions)

## 9-316 Chip Container

118 x 32 x 14mm (internal dimensions)



9-321

9-322

9-323



9-316



## CLAMPING VICE SPANNFIX

BERNSTEIN clamping vice SPANNFIX constructed on ball-and socket joints are rotatable easily in all directions and capable of being set securely with maximum working capacity by simple operation.

A set screw below the ball socket allows an individual adjusting of the ball power. Long life is guaranteed by highest powder-coated aluminium casting and surface-refined steel-parts.

## SMALL VICE SPANNFIX

The ESD types SPANNFIX are covered with a black dissipative surface with a surface resistance between  $10^7$  and  $10^8$  Ohm.



**9-205 ESD**  **BERNSTEIN** **SPANNFIX screw-on vice with dissipative surface**

for work benches or laboratory tables with max. table thickness of 80 mm  
 Technical data:  
 Clamping pressure 1470 N  
 Clamping capacity 70 mm  
 Clamping depth 38 mm  
 Jaw width 50 mm  
 interchangeable plastic jaws from dissipative material - Art.-No. 9-206-50 ESD  
 Weight: 1.450 kg



**9-251 ESD**  **BERNSTEIN** **Universal clamp base with dissipative surface**

with ball joint and threaded stud M 12 x 1.5, for work benches or laboratory tables with max. table thickness of 80 mm  
 Weight: 0.950 kg

**9-252 ESD**  **BERNSTEIN** **Screw-on mounting vice with dissipative surface**


Technical data: see 9-205 ESD  
 Weight: 0.560 kg




**9-253 ESD**  **BERNSTEIN** **Circuit board holder**

adjustable from 25 mm to 270 mm clamping capacity, correct setting by adjusting the centre position, firm clamping of the printed circuit by built-in resilience in the locating arms, height of locating arms 70 mm  
 Weight: 0.280 kg



**9-255 ESD**  **BERNSTEIN** **Angular adapter with dissipative surface**

to permit a larger turning circle when using 9-253  
 Weight: 0.095 kg

**9-256**  **BERNSTEIN** **Clamping lid for circuit boards with components**

covered with 20 mm thick ESD foam  
 Components of different sizes are pressed in such a way that soldering can be carried out correctly after the circuit board holder has been turned.  
 Size of cover: 240 x 130 mm  
 Use: in conjunction with circuit board holder 9-253  
 Weight: 0.260 kg



**9-257 ESD**  **BERNSTEIN** **Rapid turning device with dissipative surface**

with permanently connected angular adapter, permits swift rotation of the circuit board holder with the PCB and clamping lid through 180°.  
 Weight: 0.270 kg



## SMALL VICE SPANNFIX

The Spannfix vice simplifies many jobs in precision engineering, in laboratories, in test rooms, in all mechanical and electrical workshops as well as in different medical areas and in logistic centers.

9-205



### SPANNFIX screw-on vice

for work benches with a max. table thickness of 80 mm.  
The small vice with ball-and-socket joint can be mounted quickly and easily onto a work bench or table. Slight pressure on the lever is sufficient, and the clamped workpiece can be moved into any suitable position.

Technical data:

Clamping pressure	1470 N
Clamping capacity	70 mm
Clamping depth	38 mm
Jaw width	50 mm
9-206-50	Jaws (interchangeable) plastic

Weight: 1.450 kg

9-215



### SPANNFIX for permanent mounting

Technical data as 9-205  
Size of base: 150 x 105 mm

Weight: 1.350 kg

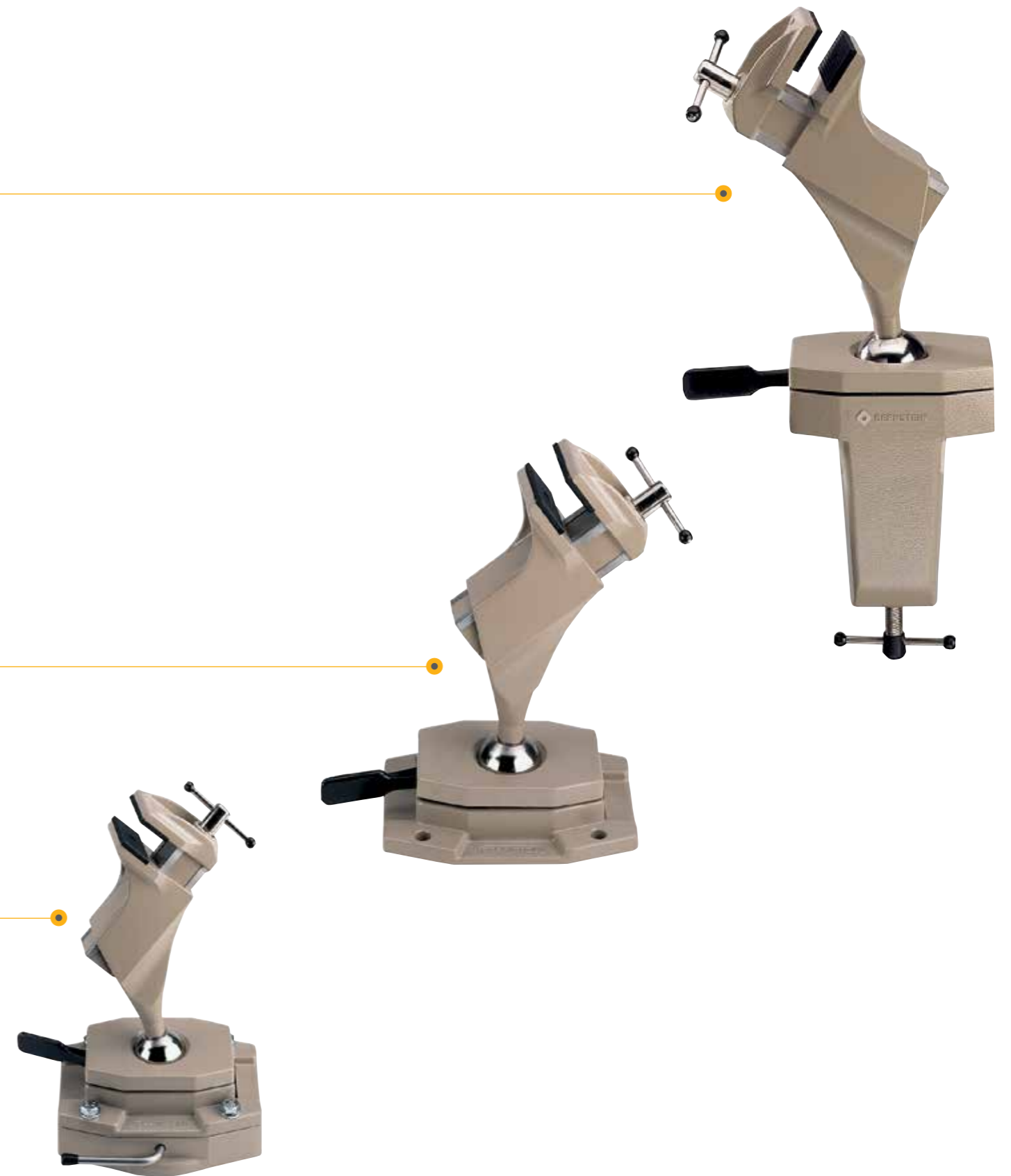
9-220



### SPANNFIX vice with vacuum base for portable applications

(consisting of 9-211 and 9-215)  
Technical data as 9-205  
Size of base: 150 x 105 mm

Weight: 2.000 kg



# CLAMPING EQUIPMENT SPANNFIX COMBINATIONS

Individual components

9-251 **BERNSTEIN** **UNIVERSAL CLAMP MOUNTING BALL JOINT BASE WITH THREADED STUD M 12 X 1.5**

for screwing onto work benches with a max. table thickness of 80 mm  
Weight: 0.950 kg

9-252 **BERNSTEIN** **SCREW-ON MOUNTING VICE**

Technical data:  
Clamping pressure 1470 N  
Clamping capacity 70 mm  
Clamping depth 38 mm  
Jaw width 50 mm  
9-206-50 Jaws (interchangeable) plastic  
Weight: 0.560 kg

9-253 **BERNSTEIN** **CIRCUIT BOARD HOLDER**

adjustable from 25 mm to 270 mm clamping capacity, correct setting by adjusting the centre position, firm clamping of the printed circuit by built-in resilience in the locating arms, height of locating arms 70 mm.  
Weight: 0.280 kg

If the circuit board holder is to be used with universal ball joint base 9-251, we recommend that the combination is used with angular adapter 9-255 or with rapid turning device 9-257 in order to obtain a larger turning circle.

9-254 **BERNSTEIN** **UNIVERSAL SCREW-ON PLATE**

Slots made for commonly used standard bolts, for holding of e. g. tuner, line output transformer, small loudspeaker etc. or prototypes  
Weight: 0.120 kg

9-255 **BERNSTEIN** **ANGULAR ADAPTER**

to be used as an additional attachment with every work mount, permits an even larger turning circle.  
Weight: 0.095 kg

9-256 **BERNSTEIN** **CLAMPING LID FOR CIRCUIT BOARDS WITH COMPONENTS**

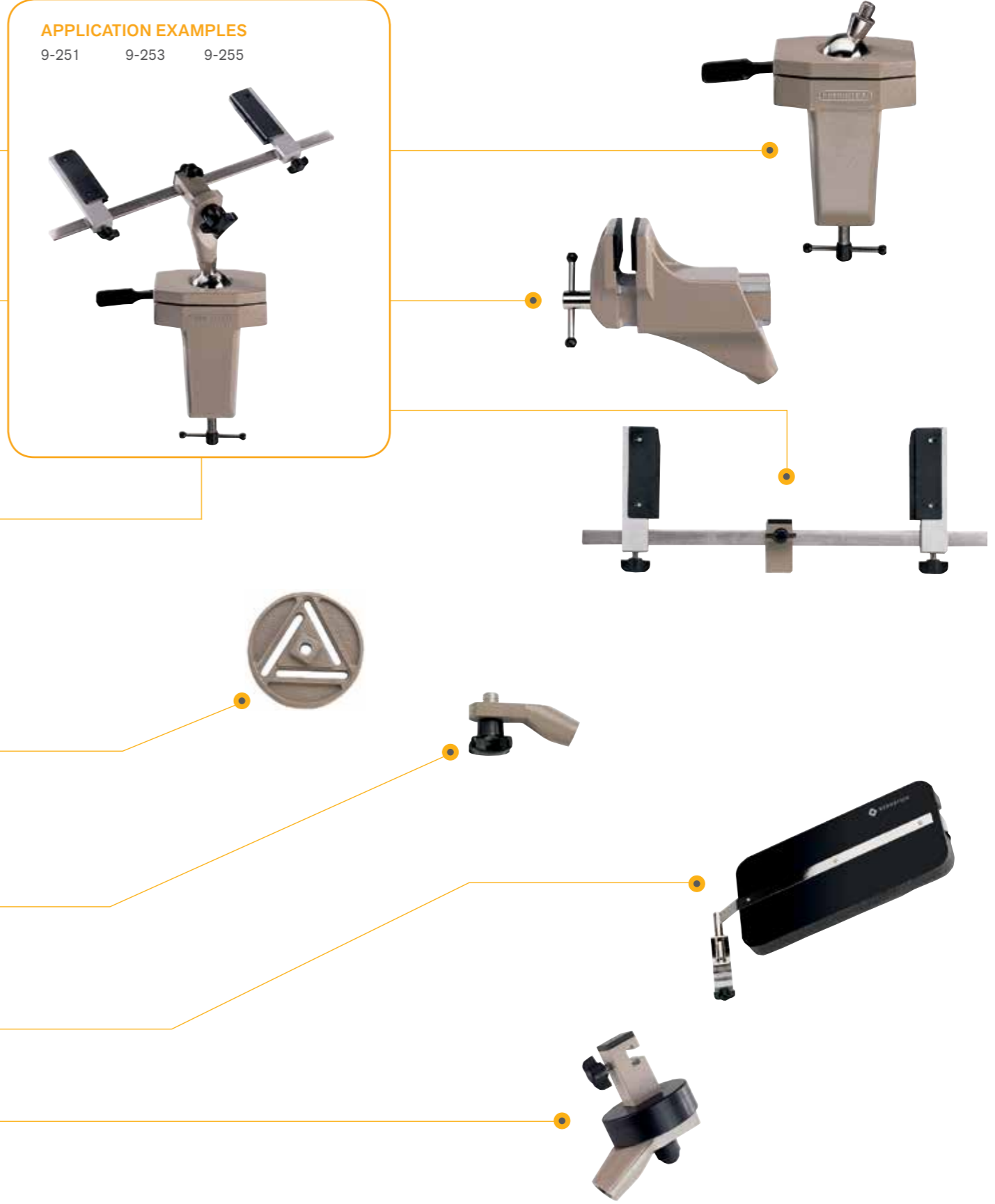
covered with 20 mm thick foamed plastic.  
Components of different sizes are pressed in such a way that soldering can be carried out correctly after the circuit board holder has been turned.  
Use: in conjunction with circuit board holder 9-253  
Weight: 0.260 kg

9-257 **BERNSTEIN** **RAPID TURNING DEVICE**

with permanently connected angular adapter, permits swift rotation of the circuit board holder with the PCB and clamping lid through 180°.  
Weight: 0.270 kg

## APPLICATION EXAMPLES

9-251 9-253 9-255



CLAMPING DEVICES

# CLAMPING EQUIPMENT SPANNFIX COMBINATIONS

Individual components

9-240



## SPANNFIX-VARIO

3 piece set with interchangeable screw-working heads  
9-251, 9-253 und 9-255  
Weight: 1.300 kg



9-250



## SPANNFIX-VARIO

5 piece set with following interchangeable screw-on work mounts  
9-251, 9-252, 9-253, 9-254 and 9-255  
Weight: 1.900 kg



9-270



## SPANNFIX-VARIO-PLUS

Tailor-made combination of the following individual components:  
9-251, 9-257, 9-253, 9-256  
Weight: 1.800 kg



1516



## SERVICE CASE HANDY

for storage and transport of SPANNFIX clamping equipment combinations.  
The foam inlay in the tray with tailored cutouts allows the clearly arranged storage of following SPANNFIX parts:

- 9-251 Universal clamp mounting ball joint
- 9-252 Screw-on mounting vice
- 9-253 Circuit board holder
- 9-255 Angular adapter

The lid of the case is equipped with a pouch for documents and a flexible ribbon for part number 9-256 or for a tablet. Additionally small accessories can be fixed by elastic strips on the tool tray in the lid of the case.



## SPANNFIX FOR SPECIAL POSITIONINGS

The universal Spannfix ball-and-socket joint base enables an exact and secure adjustment in all directions, e. g. of optoelectronic measuring instruments, of monitors and observation cameras.

- 9-251 **BERNSTEIN** **SPANNFIX**  
 Universal clamp mounting ball joint base with threaded stud  
 M 12 x 1.5 for work benches with a max. table thickness of 80 mm  
 Weight: 0.950 kg



- 9-261 **BERNSTEIN** **SPANNFIX**  
 bench mounted base with universal ball joint and threaded  
 stud M 12 x 1.5 for permanent mounting using bolts  
 Size of base: 150 x 105 mm  
 Weight: 0.800 kg



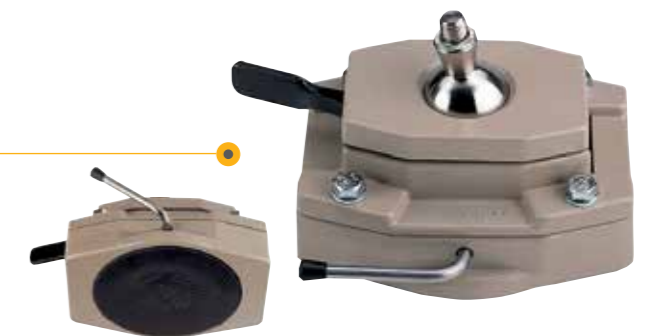
- 9-262 **BERNSTEIN** **SPANNFIX**  
 bench mounted base with universal ball joint and  
 threaded stud M 12 x 1.5 with an especially large  
 assembly device of Ø 40 mm and extralong thread stud  
 with 25 mm for permanent mounting using bolts  
 Size of base: 150 x 105 mm  
 Weight: 0.850 kg



- 9-281 **BERNSTEIN** **SPANNFIX**  
 bench mounted base with universal ball joint  
 and threaded stud M 12 x 1.5  
 for permanent mounting using bolts  
 Size of base: 110 x 72 mm  
 with 4 covered through holes for screws 6 mm Ø  
 Weight: 0.650 kg



- 9-210 **BERNSTEIN** **SPANNFIX VACUUM BASE**  
 with ball joint and threaded stud  
 M 12 x 1,5 (consisting of 9-211 and 9-261)  
 Weight: 1.500 kg



- 9-211 **BERNSTEIN** **SPANNFIX VACUUM BASE**  
 only to be used in conjunction with 9-210 or 9-261 and 9-262  
 Weight: 0.650 kg





## SPANNFIX MAXI

Heavy-duty vice SPANNFIX MAXI on ball-and-socket joint rotatable in any direction and capable of being set securely. The same operations, the same flexibility and the universal use as the Spannfix small vice also distinguish the large models.

9-225



### SPANNFIX MAXI

for work benches with a max. table thickness of 85 mm

Technical data:

Clamping pressure 2940 N  
Clamping capacity 100 mm  
Clamping depth 50 mm  
Jaw width 100 mm  
Jaw (reversible)  
interchangeable steel jaws  
Weight: 4.000 kg

9-226



### SPANNFIX VICE MAXI

for permanent mounting using bolts

Technical data:

screw head: as 9-225  
Size of base: 190 x 155 mm  
Weight: 3.600 kg

## SPANNFIX MAXI FOR SPECIAL POSITIONINGS

The Spannfix MAXI ball-and-socket joint base enables an exact and secure adjustment e. g. for heavy instruments in all directions.

9-227



### SPANNFIX-MAXI UNIVERSAL CLAMP

mounting ball joint base with threaded stud M 12 x 1.5 for screwing onto work benches with a max. table thickness of 85 mm  
Weight: 2.220 kg

9-228



### SPANNFIX MAXI BENCH MOUNTED BASE

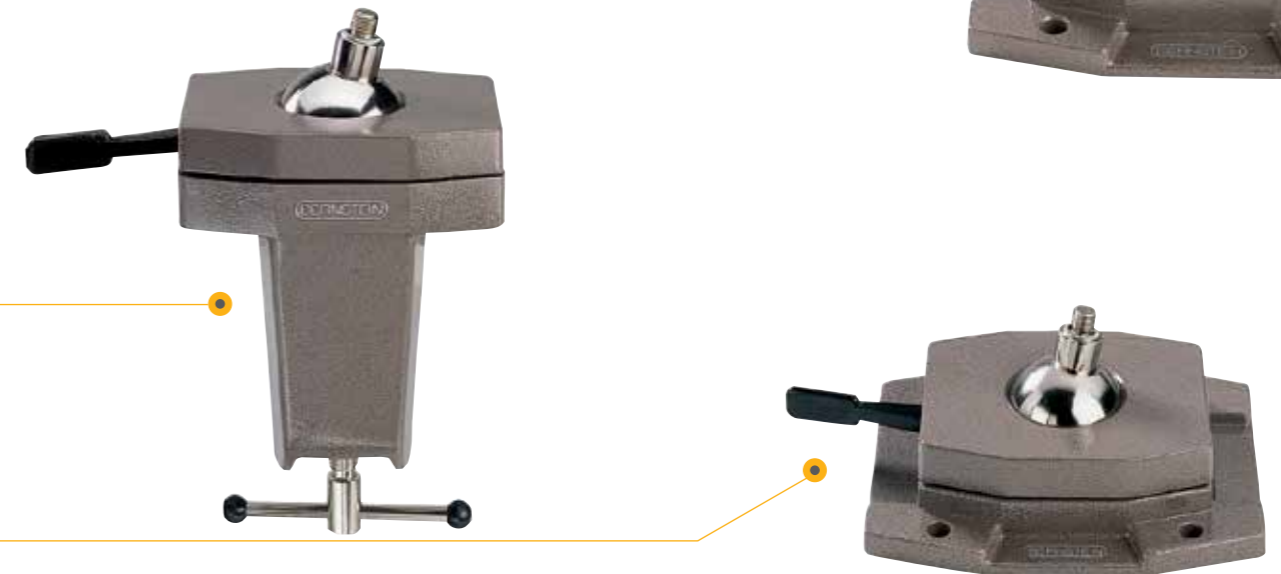
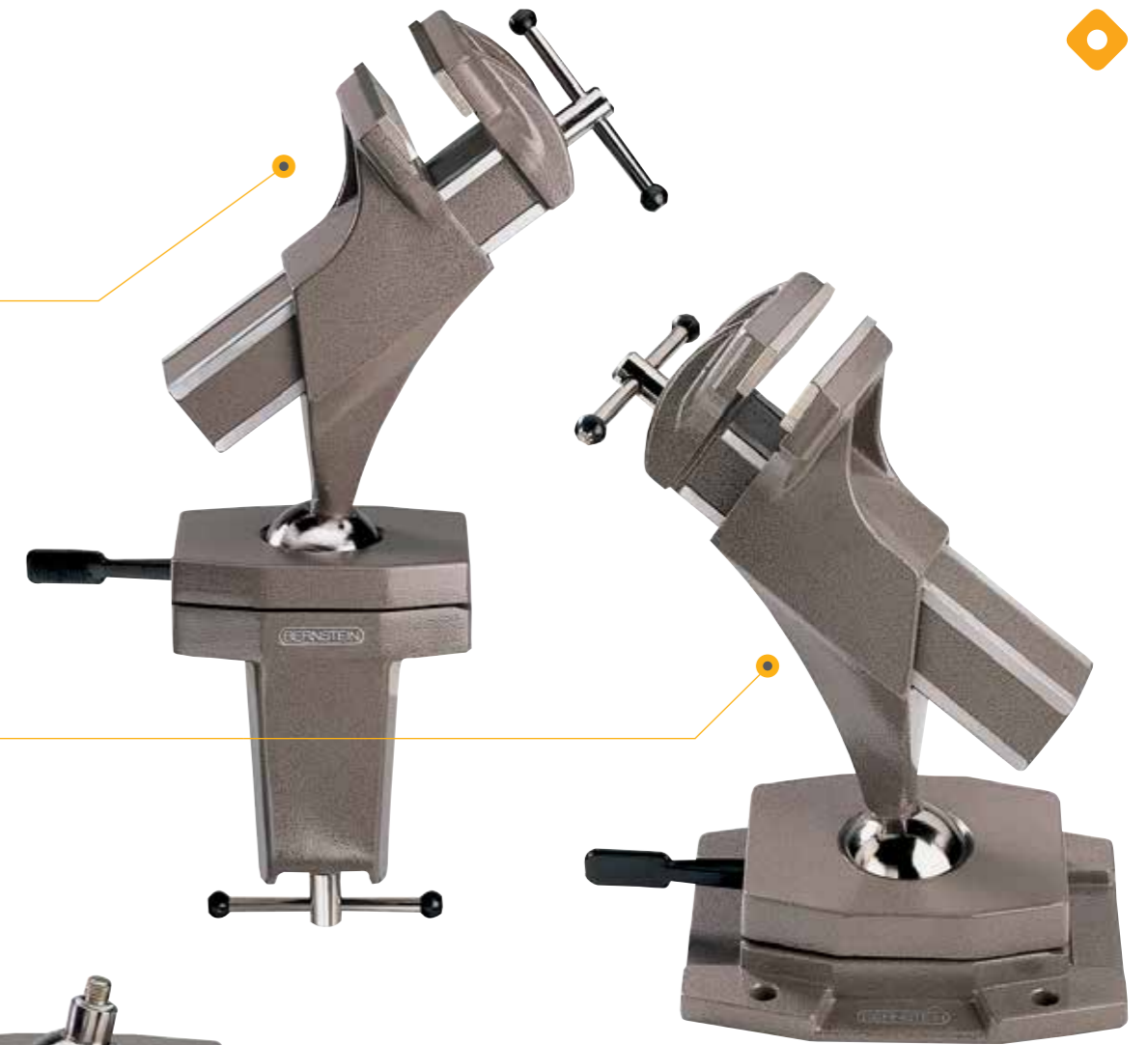
with universal ball joint and threaded stud M 12 x 1.5 for permanent mounting using bolts  
Size of base: 190 x 155 mm  
Weight: 1.850 kg

9-229



### SPANNFIX MAXI BENCH MOUNTED BASE

with universal ball joint and threaded stud M 12 x 1.5 with an especially large assembly device of Ø 40 mm and extralong thread stud with 25 mm, for permanent mounting using bolts  
Size of base: 190 x 155 mm  
Weight: 1.900 kg





## **BERNSTEIN VDE TOOLS**

All tools with safety insulation are piece-checked in accordance with specification EN 60.900. They can be used for all operations under voltage of 1000 V a.c. resp. 1500 V d.c.

## BACKPACK VDE TOOL KIT GLOBETROTTER 8300 VDE

Tool kit with basic equipment of 1000 Voltage Tools



High durable nylon backpack with upholstered carrying straps with belly- and breast-band and rubber-coated ergonomical handle. On the outside the backpack has each one pocket on the left and on the right side, a voluminous front pocket with zip fastener, an address partition and a hook-and-loop taped pocket for mobile phone. The bottom of the backpack is splash-proofed.

The backpack body is closed by a high grade zip fastener, the opening angle is about 90°. Inside the tools are arranged in 8 pouches on the inside back and on a removable tray with 8 pouches on the front side and 2 rows with elastic loops on the back side. Further a laptop computer can be stored in an upholstered partition inside the front part. The basic tool arrangement is equipped with 22 tools for high voltage purposes.

BERNSTEIN safety tools are produced in accordance with specification EN 60.900 of the Association of German Electrical Engineers (VDE) - the guarantee of optimal safety. The two-colour multilayered insulation, (outside red - inside yellow), allows a simple safety control, practicable at any time: damages of the external red insulation immediately become visible by the yellow layer below.

No.	Description of individual tools	No.	Description of individual tools
13-106 VDE	Side cutters, 165 mm, for steel wire up to 1.6 mm Ø; chrome-plated, with two-colour multilayered insulation	16-503 VDE	Single-ended open-jaw wrench, 8.0 mm A/F, chrome vanadium with two-colour multilayered insulation
13-207 VDE	Telephone pliers, 205 mm, straight jaws, with cutting edge for hard wire up to 1.6 mm Ø, chrome-plated, with two-colour multilayered insulation	16-504 VDE	Single-ended open-jaw wrench, 9.0 mm A/F, finish as above
13-707 VDE	Combination pliers, 190 mm, with wire cutter, chrome-plated, with two-colour multilayered insulation	16-505 VDE	Single-ended open-jaw wrench, 10.0 mm A/F, finish as above
14-651 VDE	Screwdriver, blade 75 x 2.5 mm, with bicoloured VDE safety insulation	16-506 VDE	Single-ended open-jaw wrench, 11.0 mm A/F, finish as above
14-653 VDE	Screwdriver, blade 100 x 4.0 mm, finish as above	16-507 VDE	Single-ended open-jaw wrench, 12.0 mm A/F, finish as above
14-654 VDE	Screwdriver, blade 125 x 5.5 mm, finish as above	16-508 VDE	Single-ended open-jaw wrench, 13.0 mm A/F, finish as above
14-656 VDE	Screwdriver, blade 150 x 6.5 mm, finish as above	16-509 VDE	Single-ended open-jaw wrench, 14.0 mm A/F, finish as above
14-658 VDE	Screwdriver, blade 175 x 8.0 mm, finish as above		
14-682 VDE	Cross-recess screwdriver, size 1, blade length 80 mm, as above	<b>8310 additionally with the following tools</b>	
14-683 VDE	Cross-recess screwdriver, size 2, blade length 100 mm, as above	16 440 VDE	9-piece set of sockets with T-socket wrench 1/2" square drive, 200 mm, two-colour multilayered insulation, in a wallet from red leather imitation, AF 10-11-12-13-14-15-17-19mm
14-692 VDE	Cross-recess screwdriver PZ, size 1, blade length 80 mm, as above	16-471 VDE	Reversible ratchet 1/2", 260 mm long, two-colour multilayered insulation
14-693 VDE	Cross-recess screwdriver PZ, size 2, blade length 100 mm, as above	16-476 VDE	Rigid extension 1/2", 125 mm long, with locking device, two-colour multilayered insulation
15-521 VDE	Cable knife with blade protection, blade length 50 mm	17-501 VDE	Electrician's protective glove, size 10
15-522 VDE	Cable stripping knife with blade protection, blade length 35 mm	17-521 VDE	Plug-in grip leather gauntlet for NH fuses
15-531 VDE	Automatic wire stripper „Super“, for works on „hot“ lines up to 1000 V, for all common stranded and solid conductors of 0.2 - 6.0 mm <sup>2</sup>	17-523 VDE	Plastic clip, 170 mm long, with internal spiral spring



VDE TOOLS

Outside dimensions: 350 x 430 x 230 mm

Weight without tool set: ca. 2.000 kg

Weight with 22 tools: ca. 4.000 kg  
Weight with 36 tools: ca. 7.300 kg

**8300 VDE** **BERNSTEIN' GLOBETROTTER** with 22 tools

**8310 VDE** **BERNSTEIN' GLOBETROTTER** with 36 tools

**8315** **BERNSTEIN' GLOBETROTTER** without tool set

## SAFETY VDE TOOL CASE 8100 VDE

A case full of safety for operations under voltage up to 1000 V

Extremely stable case made from cowhide, red safety-colour. The hinged front plate allows to grip easily the 35 tools placed in partitions and in the tray in the bottom. Behind the tool set there is a partition for protective gloves, security grip etc.. Furthermore there is a separate pocket for connection diagrams and other documents. The case has two locks. At the side it has loops for attaching a carrying strap.

BERNSTEIN safety tools are produced in accordance with specification EN 60.900 of the Association of German Electrical Engineers (VDE) - the guarantee of optimal safety. The two-colour multilayered insulation (outside red - inside yellow) allows a simple safety-control, practicable at any time: damages of the external red insulation immediately become visible by the yellow layer below.

No.	Description of individual tools	No.	Description of individual tools
4-344 VDE	Voltage tester, blade 100 x 3.5 mm	16-445 VDE	Socket, as above, 14 mm A/F
13-106 VDE	Side cutter, 165 mm, for piano wire up to 1.6 mm Ø, chrome-plated, with two-colour multilayered insulation	16-447 VDE	Socket, as above, 17 mm A/F
13-207 VDE	Telephone pliers, straight, 205 mm, chrome-plated, with wire cutter, two-colour multilayered insulation	16-448 VDE	Socket, as above, 19 mm A/F
13-208 VDE	Telephone pliers, bent, 205 mm, chrome-plated, with wire cutter, two-colour multilayered insulation	16-449 VDE	Socket, as above, 22 mm A/F
13-707 VDE	Combination pliers, 190 mm, chrome-plated, with wire cutter, two-colour multilayered insulation	16-451 VDE	Socket, as above, 24 mm A/F
13-806 VDE	Wire strippers, 165 mm, chrome-plated, with adjusting screw, two-colour multilayered insulation	16-471 VDE	Reversible ratchet, 260 mm long, with two-colour multilayered insulation
14-652 VDE	Screwdriver, blade 100 x 3.5 mm, VDE safety insulated	16-476 VDE	Rigid extension with locking device, length 125 mm, with two-colour multilayered insulation
14-653 VDE	Screwdriver, blade 100 x 4.0 mm, VDE safety insulated	16-503 VDE	Single-ended open-jaw wrench, 8 mm A/F, chrome vanadium with two-colour multilayered insulation
14-654 VDE	Screwdriver, blade 125 x 5.5 mm, VDE safety insulated	16-504 VDE	Single-ended open-jaw wrench, as above, 9 mm A/F
14-656 VDE	Screwdriver, blade 150 x 6.5 mm, VDE safety insulated	16-505 VDE	Single-ended open-jaw wrench, as above, 10 mm A/F
14-658 VDE	Screwdriver, blade 175 x 8.0 mm, VDE safety insulated	16-506 VDE	Single-ended open-jaw wrench, as above, 11 mm A/F
14-682 VDE	Cross-recess screwdriver, size 1, VDE safety insulated	16-507 VDE	Single-ended open-jaw wrench, as above, 12 mm A/F
14-683 VDE	Cross-recess screwdriver, size 2, VDE safety insulated	16-508 VDE	Single-ended open-jaw wrench, as above, 13 mm A/F
15-522 VDE	Cable stripping knife with blade-protection, blade 35 mm	16-509 VDE	Single-ended open-jaw wrench, as above, 14 mm A/F
16-441 VDE	Socket, 10 mm A/F, with 1/2" square drive, chrome vanadium, two-colour multilayered insulation	17-501 VDE	Electrician's protective gloves, size 10
16-442 VDE	Socket, as above, 11 mm A/F	17-521 VDE	Plug-in grip with leather gauntlet for NH-fuses
16-443 VDE	Socket, as above, 12 mm A/F	17-523 VDE	Plastic clip, 170 mm long, with internal spiral spring
16-444 VDE	Socket, as above, 13 mm A/F		



Outside dimensions: 440 x 175 x 310 mm

Weight without tool set: ca. 3.000 kg

Weight with tools: ca. 7.500 kg

**8100 VDE**  **BERNSTEIN SAFETY** with tool set

**8115 VDE**  **BERNSTEIN SAFETY** without tool set

## VDE TOOL SETS 8150 VDE AND 8160 VDE

Safety tools at hand in a plastic case

Black plastic case made from polypropylen with elegant styled stable locks. The full length hinge ensures a very high sturdiness of the case. One case half is totally covered and secured by a firm installed rotatable middle plate with two slide locks. All VDE-tools are clearly arranged in hard foam punches individually shaped for each tool.

BERNSTEIN safety tools are produced in accordance with specification EN 60.900 of the Association of German Electrical Engineers (VDE) - the guarantee of optimal safety. The two-colour multilayered insulation, (outside red - inside yellow), allows a simple safety control, practicable at any time: damages of the external red insulation immediately become visible by the yellow layer below.

No.	Description of individual tools	No.	Description of individual tools
<b>8150 24-piece VDE tool set</b>		<b>8160 12-piece VDE tool set</b>	
13-106 VDE	Side cutters for piano wire, 165 mm, chrome-plated, with two-colour multilayered insulation	16-507 VDE	Single-ended open-jaw wrench, as above, 12 mm A/F
13-708 VDE	Combination pliers, 205 mm, chrome-plated, with two-colour multilayered insulation	16-508 VDE	Single-ended open-jaw wrench, as above, 13 mm A/F
14-651 VDE	Screwdriver, VDE safety insulated, blade 75 x 2.5 mm	16-509 VDE	Single-ended open-jaw wrench, as above, 14 mm A/F
14-656 VDE	Screwdriver, VDE safety insulated, blade 150 x 6.5 mm	16-512 VDE	Single-ended open-jaw wrench, as above, 17 mm A/F
14-682 VDE	Cross-recess screwdriver, VDE safety insulated, size 1	16-513 VDE	Single-ended open-jaw wrench, as above, 19 mm A/F
14-683 VDE	Cross-recess screwdriver, VDE safety insulated, size 2	17-531 VDE	Voltage tester 'Steinel Volt Check 3'
15-521 VDE	Cable knife with blade protection, blade length 50 mm		
15-522 VDE	Cable stripping knife with blade protection, blade length 35 mm	13-106 VDE	Side cutters for piano wire, 165 mm, chrome-plated, with two-colour multilayered insulation
16-441 VDE	Socket, 10 mm A/F, chrome vanadium, two-colour multilayered insulation, with 1/2" square drive	13-207 VDE	Telephone pliers, straight, 210 mm, chrome-plated, with two-colour multilayered insulation
16-442 VDE	Socket, as above, 11 mm A/F	13-707 VDE	Combination pliers, 185 mm, chrome-plated, with two-colour multilayered insulation
16-443 VDE	Socket, as above, 12 mm A/F	13-806 VDE	Wire strippers, 165 mm, chrome-plated, with two-colour multilayered insulation
16-444 VDE	Socket, as above, 13 mm A/F	14-651 VDE	Screwdriver, VDE safety insulated, blade 75 x 2.5 mm
16-445 VDE	Socket, as above, 14 mm A/F	14-652 VDE	Screwdriver, VDE safety insulated, blade 100 x 3.5 mm
16-447 VDE	Socket, as above, 17 mm A/F	14-654 VDE	Screwdriver, VDE safety insulated, blade 125 x 5.5 mm
16-448 VDE	Socket, as above, 19 mm A/F	14-656 VDE	Screwdriver, VDE safety insulated, blade 150 x 6.5 mm
16-475 VDE	T-bar, 1/2" square drive, 200 mm, with two-colour multilayered insulation	14-682 VDE	Cross-recess screwdriver, VDE safety insulated, size 1
16-505 VDE	Single-ended open-jaw wrench, 10 mm A/F, chrome vanadium with two-colour multilayered insulation	14-683 VDE	Cross-recess screwdriver, VDE safety insulated, size 2
16-506 VDE	Single-ended open-jaw wrench, as above, 11 mm A/F	15-521 VDE	Cable knife with blade protection, blade length 50 mm
		15-522 VDE	Cable stripping knife with blade protection, blade length 35 mm



Outside dimensions: 350 x 310 x 110 mm  
Weight with tools: ca. 3.900 kg

Outside dimensions: 350 x 310 x 110 mm  
Weight with tools: ca. 2.800 kg

**8150 VDE**  **BERNSTEIN** **VDE-TOOL SET, 24-pieces**

**8160 VDE**  **BERNSTEIN** **VDE-TOOL SET, 12-pieces**



## VDE-ELECTRONIC SERVICE-CASE PROTECTION 8200 VDE

A case with the basic equipment of common safety tools

Case made from deep-drawn, impact-resistant, grained red plastic, with sturdy aluminium frame, dustproof and rainproof, acid- and scratch-resistant. 23 tools, 15 of them piece-checked according to insulating specifications, are clearly arranged on two tool trays and in the bottom tray. If necessary the adjustable partitions in the 60 mm high bottom tray can be organized for taking further tools and accessories. On the back side of the removable upper tool tray there are free pouches for individual tools and documents.

BERNSTEIN safety tools are insulated in accordance with the specification EN 60.900, the guarantee for optimal safety.

No.	Description of individual tools	No.	Description of individual tools
5-505	Insulation stripping tool, with hook blade, for cable Ø 4 - 28 mm	14-654 VDE	Screwdriver, blade 125 x 5.5 mm, bicoloured multicomponent insulation, VDE-tested
7-116	Engineer's hammer to DIN 1041, 300 g	14-656 VDE	Screwdriver, blade 150 x 6.5 mm, bicoloured multicomponent insulation, VDE-tested
7-235	Flat chisel, 200 x 27 mm	14-682 VDE	Cross-recess screwdriver, size 1, blade 80 mm bicoloured multicomponent insulation, VDE-tested
7-255	Electrician's chisel chrome vanadium, 200 x 10 mm	14-683 VDE	Cross-recess screwdriver, size 2, blade 100 mm bicoloured multicomponent insulation, VDE-tested
7-405	Towel, with conical forged blade and wooden handle, 50 mm width	14-692 VDE	Cross-recess screwdriver, size 1 PZ, blade 80 mm bicoloured multicomponent insulation, VDE-tested
7-410	Slicker trowel, polished with round shank, 16 mm width	14-693 VDE	Cross-recess screwdriver, size 2 PZ, blade 100 mm bicoloured multicomponent insulation, VDE-tested
7-415	Rubber beaker for plaster, Ø 130 mm	15-521 VDE	Cable knife with blade protection, blade length 50 mm
7-426	wide brush, 40 mm, with wooden handle	15-531 VDE	Automatic wire stripper Super, for work under voltage, for all common stranded and solid conductors of 0.2 - 6.0 mm <sup>2</sup> , adjustable length stop of 5 - 12 mm, built-in side cutters for max. 2 mm Ø
13-908 VDE	VDE Side cutters, 180 mm, for steel wire up to 2.0 mm Ø; chrome-plated, VDE safty insulation	17-523 VDE	Plastic clip, 170 mm, with internal spiral spring
13-917 VDE	Telephon pliers, 200 mm, long straight jaws, with cutting edge for hard wire, chrome-plated, with VDE safty insulation	17-541 VDE	Pocket hack saw, insulated to IEC 60.900:2004, frame out of metal die cast, 150 mm saw blade
13-937 VDE	Combination pliers, 185 mm, with wire cutter for hard wire, chrome-plated, with VDE safty insulation		
14-651 VDE	Screwdriver, blade 75 x 2.5 mm, bicoloured multicomponent insulation, VDE-tested		
14-653 VDE	Screwdriver, blade 100 x 4.0 mm, bicoloured multicomponent insulation, VDE-tested		



Outside dimensions: 480 x 350 x 170 mm

Weight without tool set: ca. 4.000 kg

Weight with tools: ca. 7.150 kg

8200 VDE  BERNSTEIN VDE PROTECTION with tool set

8215 VDE  BERNSTEIN VDE PROTECTION without tool set

## SAFETY INSULATED PLIERS

Produced in accordance with specification EN 60.900 of the Association of German Electrical Engineers (VDE). Permissible voltage at which the VDE pliers can be used: 1000 V a.c. or 1500 V d.c.  
Bicoloured VDE multicomponent safety insulation.



No.	Length		Finish	Weight g
	mm	head width		

### Side cutters

for steel wire up to 1.6 mm Ø, swedish design, special steel

3-134 VDE	160	-	chrome-plated, polished, with VDE safety insulation	220
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### Power side cutters

for steel wire up to 1.6 mm Ø, special steel

3-142 VDE	165	-	chrome-plated, polished, with VDE safety insulation	250
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### Telephone pliers

snipe nose, long, straight jaws, with cutting edge for hard wire, serrated jaws, special steel

3-244 VDE	165	-	chrome-plated, polished, with VDE safety insulation	150
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3-245 VDE	205	-	chrome-plated, polished, with VDE safety insulation	210
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### Telephone pliers

snipe nose, long, bent jaws, with cutting edge for hard wire, serrated jaws, special steel

3-254 VDE	165	-	chrome-plated, polished, with VDE safety insulation	150
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3-255 VDE	205	-	chrome-plated, polished, with VDE safety insulation	220
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### Round nose pliers

with long, round, serrated jaws

3-541 VDE	165	-	chrome-plated, polished, with VDE safety insulation	200
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### Flat nose pliers

with long, flat, serrated jaws

3-545 VDE	165	-	chrome-plated, polished, with VDE safety insulation	220
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### Combination pliers

with wire cutter, for hard wire up to 1.6 mm Ø

3-732 VDE	165	-	chrome-plated, polished, with VDE safety insulation	220
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3-733 VDE	185	-	chrome-plated, polished, with VDE safety insulation	260
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### „Record“ wire strippers

with automatic adjusting to the wire size, for wire thicknesses from 0.5 to 5 mm Ø

3-805 VDE	165	-	chrome-plated, polished, with VDE safety insulation	200
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### Wire strippers

with adjusting screw

3-815 VDE	160	-	chrome-plated, polished, with VDE safety insulation	190
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## SAFETY INSULATED PLIERS

Insulated and piece-checked in accordance with specification EN 60.900 of the Association of German Electrical Engineers (VDE). Permissible voltage at which the VDE pliers can be used: 1000 V a.c. or 1500 V d.c.



No.	Length		Finish	Weight g
	mm	head width		

### Side cutters Special steel

cutting capacity: 13-906 VDE for steel wire up to 1.6 mm Ø  
13-908 VDE for steel wire up to 2.0 mm Ø

13-906 VDE	160	-	chrome-plated, polished, with safety insulation	210
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13-908 VDE	180	-	chrome-plated, polished, with safety insulation	290
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### Telephone pliers

snipe nose, long, straight jaws, with cutting edge for hard wire up to 1.6 mm Ø, serrated jaws, special steel

13-915 VDE	160	-	chrome-plated, polished, with safety insulation	155
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13-917 VDE	200	-	chrome-plated, polished, with safety insulation	220
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### Telephone pliers

snipe nose, long, bent jaws, with cutting edge for hard wire up to 1.6 mm Ø, serrated jaws, special steel

13-916 VDE	160	-	chrome-plated, polished, with safety insulation	150
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13-918 VDE	200	-	chrome-plated, polished, with safety insulation	220
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### Round nose pliers

with long, round, serrated jaws

13-926 VDE	160	-	chrome-plated, polished, with safety insulation	140
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### Flat nose pliers

with long, flat, serrated jaws

13-927 VDE	160	-	chrome-plated, polished, with safety insulation	180
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### Combination pliers

with wire cutter for hard wire up to 1.6 mm Ø

13-936 VDE	160	-	chrome-plated, polished, with safety insulation	220
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13-937 VDE	185	-	chrome-plated, polished, with safety insulation	280
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13-938 VDE	205	-	chrome-plated, polished, with safety insulation	350
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### Wire strippers

with adjusting screw

13-946 VDE	160	-	chrome-plated, polished, with safety insulation	190
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## SAFETY INSULATED PLIERS

Insulated and piece-checked in accordance with specification EN 60.900 of the Association of German Electrical Engineers (VDE). Permissible voltage at which the safety pliers can be used: 1000 V a.c. or 1500 V d.c.  
Two-colour multilayered insulation, outside red - inside yellow. Damages of the external red insulation immediately become visible by the yellow layer below.

The advantage: simple safety control, practical at any time



No.	Length mm	Finish head width	Weight g
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### Side cutters special steel

cutting capacity:	13-106 for steel wire up to 1.6 mm Ø 13-108 for steel wire up to 2.0 mm Ø		
<b>13-106 VDE</b>	165	- chrome-plated, polished, with VDE safety insulation	200
<b>13-108 VDE</b>	195	- chrome-plated, polished, with VDE safety insulation	300

### Telephone pliers

snipe nose, long, straight jaws, with cutting edge for hard wire up to 1.6 mm Ø, serrated jaws, special steel

<b>13-207 VDE</b>	205	- chrome-plated, polished, with VDE safety insulation	230
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### Telephone pliers

snipe nose, long, bent jaws, with cutting edge for hard wire up to 1.6 mm Ø, serrated jaws, special steel

<b>13-208 VDE</b>	205	- chrome-plated, polished, with VDE safety insulation	230
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### Round nose pliers

with long, round, serrated jaws

<b>13-506 VDE</b>	165	- chrome-plated, polished, with VDE safety insulation	200
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### Flat nose pliers

with long, flat, serrated jaws

<b>13-516 VDE</b>	165	- chrome-plated, polished, with VDE safety insulation	210
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### Combination pliers

with wire cutter, for hard wire up to 1.6 mm Ø

<b>13-707 VDE</b>	190	- chrome-plated, polished, with VDE safety insulation	210
<b>13-708 VDE</b>	210	- chrome-plated, polished, with VDE safety insulation	340

### Wire strippers

with adjusting screw

<b>13-806 VDE</b>	165	- chrome-plated, polished, with VDE safety insulation	210
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## SAFETY TOOLS

BERNSTEIN VDE screwdrivers are monitored by the VDE Test Centre. Each screwdriver is piece-checked in accordance with specification EN 60.900, IEC 900 of the Association of German Electrical Engineers (VDE). Permissible voltage at which the VDE screwdrivers can be used: 1000 V a.c. or 1500 V d.c.

**Blade:** chrome vanadium, hardened over its full length, burnished  
**Handle:** Bicoloured VDE multicomponent safety insulation, impact-resistant, with slip off protection and practical hanging up hole



### Safety insulated slotted screwdrivers

DIN EN 60.900, IEC 900

No.	Blade length mm	Blade width mm	Blade thickness mm	Handle size mm	Weight g
<b>14-651 VDE</b>	75	2.5	0.4	100 x 21	26
<b>14-652 VDE</b>	100	3.5	0.6	100 x 21	34
<b>14-653 VDE</b>	100	4.0	0.8	100 x 21	37
<b>14-654 VDE</b>	125	5.5	1.0	107 x 27	75
<b>14-656 VDE</b>	150	6.5	1.2	114 x 32	112
<b>14-658 VDE</b>	175	8.0	1.2	121 x 35	175



### Safety insulated cross-recess screwdrivers PH

DIN EN 60.900, IEC 900

No.	Size	Blade length mm	Blade-Ø mm	Handle size mm	Weight g
<b>14-681 VDE</b>	0	60	3.0	100 x 21	27
<b>14-682 VDE</b>	1	80	4.5	107 x 27	57
<b>14-683 VDE</b>	2	100	6.0	114 x 32	92
<b>14-684 VDE</b>	3	150	8.0	121 x 35	166



### Safety insulated cross-recess screwdrivers PZ

DIN EN 60.900, IEC 900

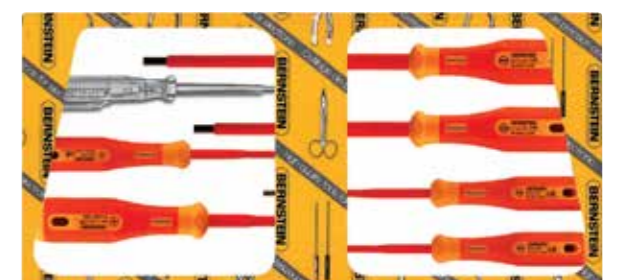
No.	size	Blade length mm	Blade-Ø mm	Handle size mm	Weight g
<b>14-691 VDE</b>	0	60	3.0	100 x 21	27
<b>14-692 VDE</b>	1	80	4.5	107 x 27	57
<b>14-693 VDE</b>	2	100	6.0	114 x 32	92
<b>14-694 VDE</b>	3	150	8.0	121 x 35	166



### 14-650 7-piece VDE screwdriver set

visibly packed in a carton box

Content:	14-651 VDE	Screwdriver 75 x 2,5 mm
	14-652 VDE	Screwdriver 100 x 3,5 mm
	14-654 VDE	Screwdriver 125 x 5,5 mm
	14-656 VDE	Screwdriver 150 x 6,5 mm
	14-681 VDE	Screwdriver, Größe 0
	14-682 VDE	Screwdriver, Größe 1
	4-343 VDE	Voltage test 150 V - 250 V
Weight:	350 g	





## SAFETY TOOLS

### Safety insulated socket wrenches DIN EN 60.900, IEC 900

**Blade:** chrome vanadium, hardened over its full length  
**Handle:** impact-resistant, bicoloured VDE multicomponent safety insulation, with slip off protection and practical hanging up hole

No.	A/F mm	Blade length mm	Handle size mm	Weight g
16-298 VDE	3.0	125	100 x 21	40
16-299 VDE	4.0	125	100 x 21	45
16-301 VDE	5.0	125	100 x 21	55
16-302 VDE	5.5	125	107 x 27	85
16-303 VDE	6.0	125	107 x 27	90
16-304 VDE	7.0	125	114 x 32	125
16-305 VDE	8.0	125	114 x 32	125
16-306 VDE	9.0	125	114 x 32	130
16-307 VDE	10.0	125	114 x 32	130
16-308 VDE	11.0	125	121 x 35	170
16-309 VDE	12.0	125	121 x 35	175
16-311 VDE	13.0	125	121 x 35	175

### Single-ended open-jaw wrenches

Chrom-Vanadium, to DIN 7446, IEC 60900:2004, two-colour multilayered insulation, 1000 V, chrome vanadium, 15° open-end position

No.	A/F mm	Weight g	No.	A/F mm	Weight g
16-501 VDE	6,0	20	16-511 VDE	15,0	85
16-502 VDE	7,0	30	16-512 VDE	17,0	110
16-503 VDE	8,0	30	16-513 VDE	19,0	200
16-504 VDE	9,0	30	16-514 VDE	21,0	210
16-505 VDE	10,0	45	16-515 VDE	24,0	300
16-506 VDE	11,0	50	16-517 VDE	26,0	350
16-507 VDE	12,0	60	16-518 VDE	27,0	390
16-508 VDE	13,0	75	16-519 VDE	28,0	390
16-509 VDE	14,0	85	16-522 VDE	30,0	390
			16-524 VDE	32,0	400

### Single-ended ring wrenches

Chrom-Vanadium, to DIN 7447, IEC 60900:2004, chrome vanadium, two-colour multilayered insulation, 1000 V

No.	A/F mm	Weight g	No.	A/F mm	Weight g
16-531 VDE	6,0	50	16-543 VDE	17,0	195
16-532 VDE	7,0	50	16-544 VDE	18,0	240
16-533 VDE	8,0	65	16-545 VDE	19,0	245
16-534 VDE	9,0	70	16-547 VDE	21,0	320
16-535 VDE	10,0	80	16-548 VDE	22,0	340
16-536 VDE	11,0	85	16-551 VDE	24,0	365
16-537 VDE	12,0	110	16-553 VDE	26,0	365
16-538 VDE	13,0	120	16-554 VDE	27,0	387
16-539 VDE	14,0	130	16-555 VDE	28,0	424
16-541 VDE	15,0	140	16-557 VDE	30,0	529
16-542 VDE	16,0	170	16-558 VDE	32,0	554

- other dimensions available on request -



## SAFETY TOOLS

### Adjustable wrenches

to DIN 3117, IEC 60900:2004, two-colour multilayered insulation, 1000 V, open-end position 15°, with graduation

No.	Length	jaw opening	Weight g
16-773 VDE	200	0 - 26	300
16-774 VDE	250	0 - 30	500
16-775 VDE	300	0 - 35	800

### Sockets

two-colour multilayered insulation to IEC 60900:2004, 1000 V, DIN 7448, square drive, chrome vanadium

for nuts: with 3/8"-Antrieb with 1/2"-drive

No.	A/F mm	Weight g	No.	A/F mm	Weight g
16-481 VDE	6,0	23	16-441 VDE	10,0	60
16-482 VDE	7,0	26	16-442 VDE	11,0	60
16-483 VDE	8,0	26	16-443 VDE	12,0	65
16-484 VDE	9,0	31	16-444 VDE	13,0	65
16-485 VDE	10,0	33	16-445 VDE	14,0	65
16-486 VDE	11,0	33	16-446 VDE	15,0	70
16-487 VDE	12,0	35	16-447 VDE	17,0	75
16-488 VDE	13,0	37	16-448 VDE	19,0	85
16-489 VDE	14,0	49	16-449 VDE	22,0	110
16-491 VDE	15,0	52	16-451 VDE	24,0	130
16-492 VDE	16,0	54	16-452 VDE	27,0	180
16-493 VDE	17,0	55	16-453 VDE	30,0	195
16-494 VDE	18,0	63	16-454 VDE	32,0	205
16-495 VDE	19,0	75			
16-496 VDE	20,0	82			
16-497 VDE	21,0	87			
16-498 VDE	22,0	94			

for hexagonal location:  
with 3/8"-drive

with 1/2"-drive

16-559 VDE	4,0	60	16-461 VDE	5,0	95
16-561 VDE	5,0	65	16-462 VDE	6,0	95
16-562 VDE	6,0	65	16-463 VDE	8,0	100
16-563 VDE	8,0	75	16-464 VDE	10,0	110
16-564 VDE	10,0	90			

### T-socket-wrench

with locking device, DIN 7436, two-colour multilayered insulation according to IEC 60900:2004, 1000 V

No.	Length mm	Finish	Weight g
16-474 VDE	200	3/8" 4-kt. Antrieb	390
16-475 VDE	200	1/2" 4-kt. Antrieb	460

**Reversible ratchet** DIN 7449, two-colour multilayered insulation according to IEC 60900:2004, 1000 V, fixing and removing of the inserts by pushing the button, right / left turn by reversing the lever

16-471 VDE	260	1/2" square drive	680
16-472 VDE	200	3/8" square drive	360



## SAFETY TOOLS

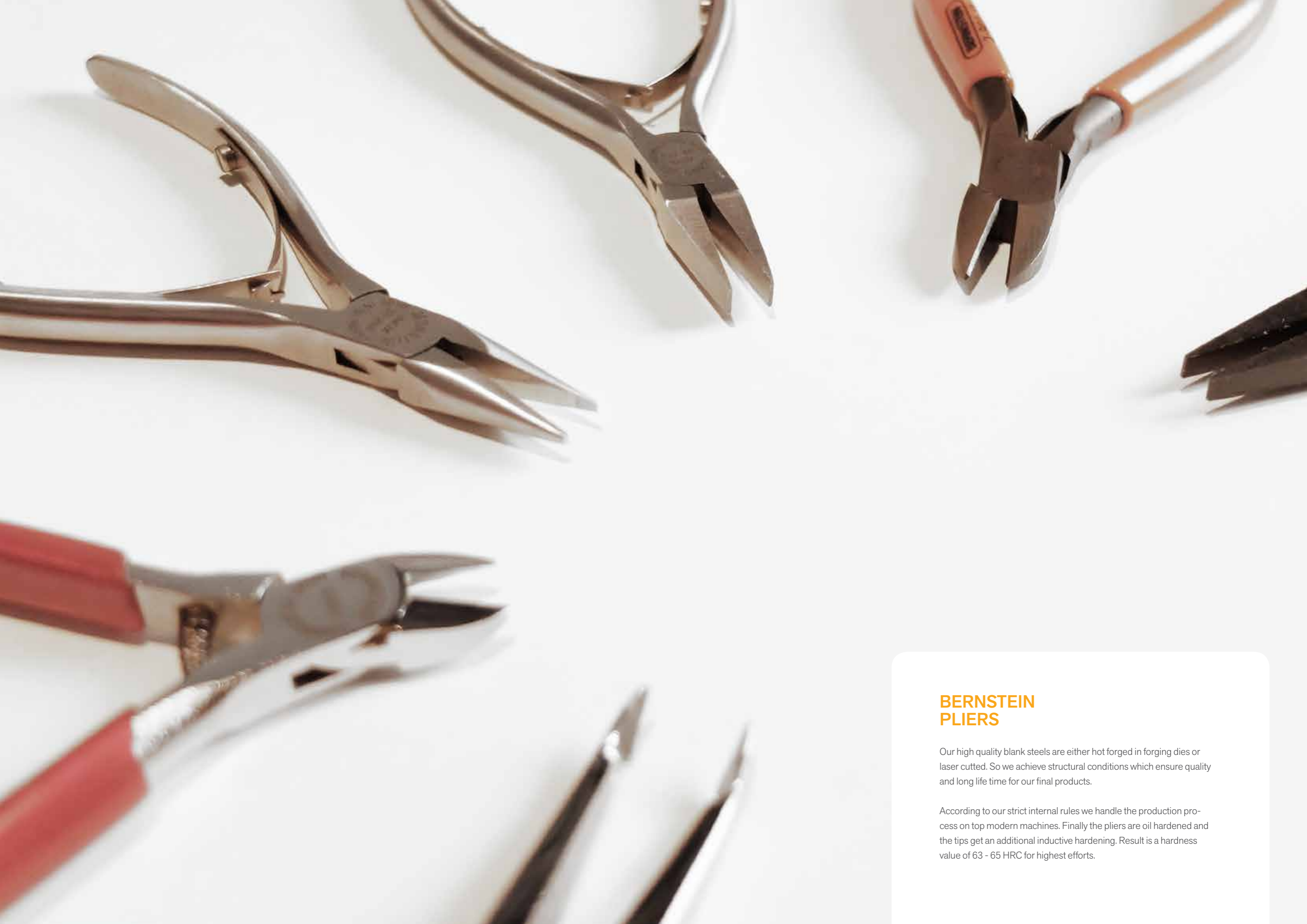
No.	Length mm	Finish	Weight g
<b>Rigid extension</b>			
DIN 7434, two-colour multilayered insulation according to IEC 60900:2004, with locking device			
16-476 VDE	125	1/2" square drive	200
16-477 VDE	250	1/2" square drive	415
16-478 VDE	125	3/8" square drive	155
16-479 VDE	250	3/8" square drive	280
<b>Electrician's Glove</b>			
insulating gloves for work under voltage up to 1000 Volt, out of natural rubber, high flexibility, each tested according to DIN EN 60903			
17-499 VDE		Size 9	260
17-501 VDE		Size 10	260
17-502 VDE		Size 11	260
<b>Plug-In Grip</b> with arm protection suitable for fixing and removing NH-fuses			
17-521 VDE		Siemens handle for NH-fuses 00-3, arm protection when interrupting high current intensity (arc)	450
<b>Rubber Cover</b>			
DIN VDE 0680 part 1, thickness 1.6 mm, surface smooth, for working on electrical facilities, up to 1000 V			
17-702 VDE	500 x 500 mm		590
17-703 VDE	1000 x 1000 mm		1936
<b>Rubber Isomat</b> (without picture) tested according to DIN VDE 0303, thickness 4.5 mm one side smooth, other side grooved			
17-707 VDE	1000 x 1000 mm		6200
<b>Plastic Clip</b> for fixing covers			
17-523 VDE	170 mm	with covered spiral spring	63
<b>Self-Clamping Slip on Caps</b>			
1000V protection against touching a cable-end under voltage			
17-551 VDE	Ø 10 mm		20
17-552 VDE	Ø 20 mm		30
17-553 VDE	Ø 30 mm		60
<b>Voltage Tester</b>			
Steinel Volt Check 3 ffor AC/DC			
17-531 VDE	6 - 400 V AC/DC		110



## CABLE-CUTTING TOOLS

No.	Length mm	Finish	Weight g
<b>Cable knife</b>			
with blade protection, handle from shock resistance plastic, 1000 V			
15-521 VDE	180	straight blade, blade length 50 mm	65
<b>Cable dismantling knife</b>			
with blade protection, handle from shock resistance plastic, 1000 V			
15-522 VDE	180	hook blade, blade length 35 mm	70
15-523 VDE	180	special blade,	65
<b>Automatic wire stripper Super</b>			
fully insulated automatic wire stripper for all common stranded and solid conductors of 0.2 - 6.0 mm <sup>2</sup> , adjustable length stop of 5 - 12 mm, removable if required			
15-531 VDE	200	fibreglass re-enforced polyamide, fully insulated, approved for works on „hot“, lines up to 1000 Volt	110
<b>Cable shear</b>			
forged of special steel, for copper and aluminium cable, two-colour multilayered insulation according to IEC 60900:2004, with re-adjustable joint			
15-501 VDE	210	max. Ø 20 mm / 60 mm <sup>2</sup>	360
<b>Ratcheting cable cutters</b>			
easy cutting of big diameters, for copper and aluminium cable, two-colour multilayered insulation, fully insulated according to IEC 60900:2004, 1000 V			
15-506 VDE	250	max. Ø 32 mm / 240 mm <sup>2</sup>	800
<b>Metal saw</b>			
with pistol handle, frame out of metal die cast, two-colour multilayered insulation, fully insulated according to IEC 60900:2004, 1000 V			
17-541 VDE	265	saw blade exchangeable	310
7-617	150	spare blade	3
17-547 VDE	300	saw blade exchangeable	580
<b>Engineers tweezers</b>			
5-107 VDE	150	with VDE-Isolation	37
5-117 VDE	145	with VDE-Isolation	39





## **BERNSTEIN PLIERS**

Our high quality blank steels are either hot forged in forging dies or laser cutted. So we achieve structural conditions which ensure quality and long life time for our final products.

According to our strict internal rules we handle the production process on top modern machines. Finally the pliers are oil hardened and the tips get an additional inductive hardening. Result is a hardness value of 63 - 65 HRC for highest efforts.

# PLIERS DESCRIPTION

## MATERIAL

Depending on model and technical requirements we use high-alloyed tool steels or high grade ball bearing steel (chrome steel) from selected suppliers which fully comply with our needs.

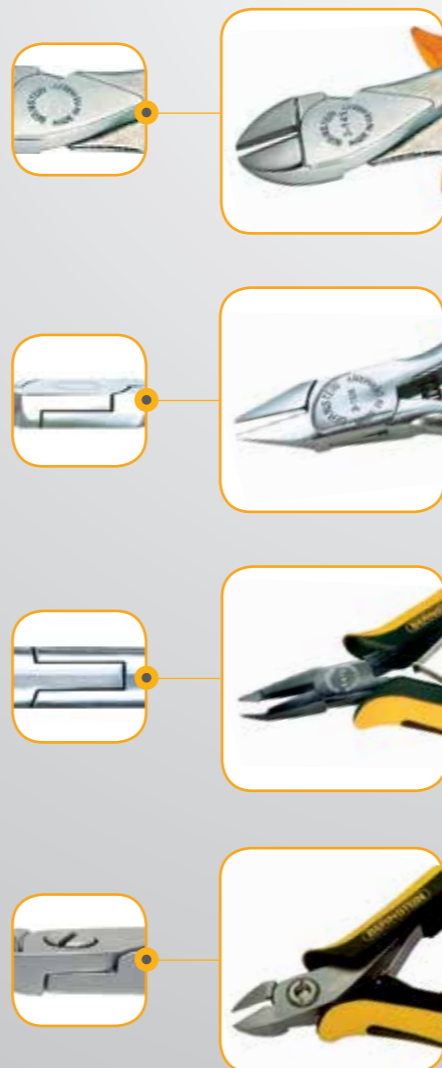
## CONSTRUCTIONS

We manufacture electronic pliers with 4 different joint constructions depending on application and execution of the pliers series. The simplest joint is the lay-on construction. Both pliers parts are simply riveted together. This execution is only for bigger sized pliers. In case of the lap joint solution both pliers joint planes are milled out, bedded together and subsequently riveted.

The most complex solution is the box joint construction. In a very special process the joint is made by sliding one pliers head through the under heat opened joint of the other pliers part. After that the joint is pressed together and tightened by a rivet. This construction ensures best parallel guidance of pliers' tips and an extremely long life time.

The high precise manufactured joint planes of the screw joint construction provides an accurate jaw adjustment without backlash and a smooth friction free open-close movement. In combination with the basic hardness of the chrome vanadium ball bearing steel the screw system ensures a very high cutting capacity with a long life time.

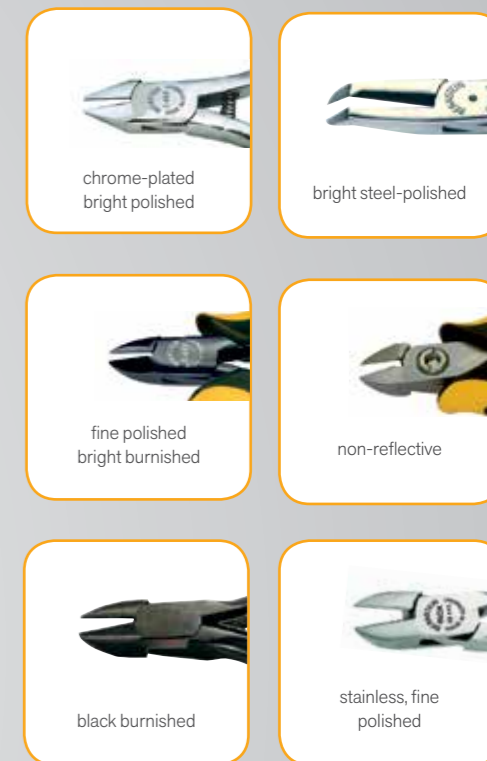
Either a pressure or an interchangeable double leaf spring from stainless steel provides a smooth and equal open-close movement. The life time of all pliers can be extended by a drop of acidfree oil on the polished planes and in the joint.



## SURFACES

Since several centuries we have developed surface characteristics for different applications and standards.

Those characteristics are protection against corrosion, hardness, wear, break-offs, smoothness and surface roughness which are suitable for the specific applications and optimum operation results.



## CUTTING SHAPE AND CUTTING CAPACITY

The life time of the cutting tips depend among others on the sharpness. The sharper the tip (Ultra Flush) the faster the wear. Out of this reason pliers in Semi Flush or Flush are preferable so far no ultra flush and shock reduced cut is necessary.

### SEMI FLUSH

applicable in case of hard and soft steel wires as well as for soft materials, e.g. copper wire; the cut leaves at the end of the wire a peak similar a pyramid.

### FLUSH

nearly a flush cut with fine tips; applicable for soft steel wires and copper wire; cut slightly shock reduced; at the end of the wire only a small peak

### ULTRA FLUSH

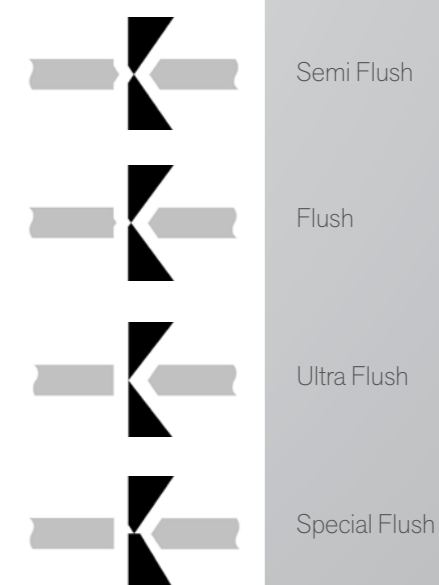
cut absolutely flush; extremely sharp tips; exclusively for soft wires and copper wires; shock reduced cut; absolutely plane-parallel

### SPECIAL FLUSH

for cutting of glass fibre, Kevlar etc.

### HARD METAL EXECUTION

with inserted hard metal tips, for continuous heavy work, also for tough nickel and electrode wires



## SPECIAL ELECTRONIC PLIERS

Black burnished, Double leaf spring  
with orange coloured insulation

### CUTTING PLIERS

No.	Length mm	Headwidth mm	Finish	Cutting capacity			Weight g
				Wire soft	mm medium	Ø hard	

#### Side cutters

with slim, rounded head

3-901-12	120	12	with side face	1,5	1.0	0,4	65
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#### Side cutters

with slim, pointed head, special flat cutting edge,  
for soft wire only

3-902-12	120	12	Flush	1,5	0.8	-	65
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#### Top cutters

with 3 mm wide cutting edge, jaw length 20 mm, for flush  
cutting, for soft wire only

3-905-12	135	13	Flush	0,8	0.6	-	75
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#### End cutters

with angular tips and oblique cutting edge, for flush cutting,  
for soft wire only

3-906-12	125	13	Flush	0.8	0.6	-	75
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### ROUND-FLAT-SNIPE NOSE PLIERS

No.	Length mm	Headwidth	Finish	Weight g
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#### Round nose pliers with short jaws

3-931-12	120	12	plain jaws	70
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#### Flat nose pliers with short jaws

3-932-12	120	10,5	plain jaws	60
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#### Snipe nose pliers with short jaws

3-933-12	125	11,5	plain jaws	60
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#### Flat nose pliers slim model, with long jaws

3-942-12	145	12	Serrated jaws	90
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#### Snipe nose pliers slim model, with long jaws

3-943-12	145	12	Serrated jaws	80
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#### Snipe nose pliers angular, slim model, with long jaws

3-945-12	145	12,5	Serrated jaws	85
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## SPECIAL ELECTRONIC PLIERS

### SLIMline

box joint • chrome-plated  
compression spring • with transparent insulation

### COMPONENT PLIERS

For bending, cutting and squeezing  
connecting wires on components

No.	Length mm	Headwidth	Finish	Weight g
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#### Crimping and bending pliers

crimp the wire in one operation without changing  
the parallelism of the ends of the wire

3-172-2	130	11,5	super-slim model	70
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### CUTTING PLIERS

No.	Length mm	Headwidth mm	Finish	Cutting capacity			Weight g
				Wire soft	mm medium	Ø hard	

#### Micro side cutters

with slim, pointed head

3-125-2	115	10,5	Semi flush	1.5	1.0	0.3	60
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#### SLIMline-Side cutters

with slim, rounded head

3-127-2	115	12	Semi flush	1.5	1.0	0.4	60
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#### SLIMline-Side cutters

with slim, rounded head,  
with wire retaining spring (to hold the wire clippings)

3-127-2 DR	115	12	Semi flush	1.6	1.2	0.5	60
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#### SLIMline-oblique top cutters

with slim head, for flush cutting,  
for soft wire only

3-128-2	120	11,5	Flush	2.0	1.5	0.3	70
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## SPECIAL ELECTRONIC PLIERS

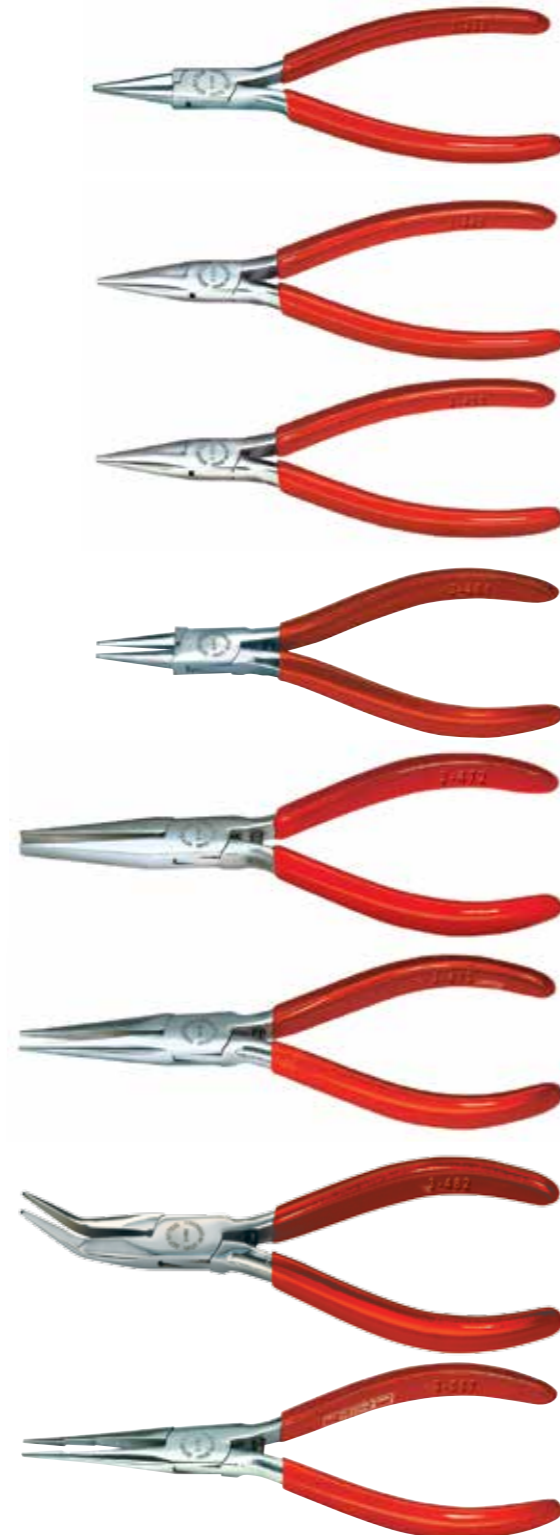
### SLIMline

box joint - chrome plated

compression spring - transparent insulation

### ROUND-FLAT-SNIPE NOSE PLIERS

No.	Length		Finish	Weight g
	mm	Headwidth		
<b>Micro round nose pliers</b> extremely light and slim				
3-435-2	120	9.5	plain jaws	45
<b>Micro flat nose pliers</b> extremely light and slim				
3-445-2	120	9.5	plain jaws	50
<b>Micro snipe nose pliers</b> extremely light and slim				
3-455-2	120	10	plain jaws	50
<b>Round nose pliers</b> slim model, with compression spring and plain jaws				
3-461-2	130	12	short jaws	70
<b>Flat nose pliers</b> slim model, with compression spring and plain jaws				
3-462-2	130	12	short jaws	80
3-472-2	145	12	long jaws	85
<b>Snipe nose pliers</b> slim model, with compression spring and plain jaws				
3-463-2	130	12	short jaws	75
3-473-2	145	12	long jaws	85
<b>Snipe nose pliers</b>				
angular, slim model, with compression spring and plain jaws				
3-481-2	130	9	short jaws	50
3-482-2	140	12	long jaws	90



### CUTTING TOOLS

No.	Length		Finish	Weight g
	mm	Headwidth		
<b>Cabel cutters</b>				
especially for coaxial cable, robust execution with closed lock, for cable up to 10.5 mm Ø				
3-0648	160	-	burnished-insulated	150
<b>Electronics side cutters</b>				
with spring, without side face, for CU-wires up to 1.0 mm Ø				
3-0641	130	-	burnished-insulated	70
<b>Stripping side cutters</b>				
standard-execution, without side face, with spring, for CU-wires up to 0.8 mm Ø				
3-0645	125	-	burnished-insulated	60



## INOX HIGH-GRADE STEEL PLIERS

for use in cleanrooms (autoclavable) antiseptic or in ESD protected areas. Stainless steel, Swaged, Box joint construction with screwed stainless double leaf spring. Extremely fine polished, abrasionproof, easy to clean on request with inserted carbide cutting edges on request with ESD hand guard. The perfect pliers for works in following industries: aerospace - chemical - electronic - medical and dental technique - food production - shipbuilding - oil and gas production

No.	Length mm	Head- width mm	Finish	Cutting- capacity soft	Wire medium	mm Ø hard	Weight g
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### Side cutters

with very slim rounded head for finest operations

33-115	110	10	Flush	1.1	0.4	-	36
33-116	110	10	Carbide insert	1.4	0.6	0.4	36

### Side cutters

with very slim rounded head

33-215	115	11	Semi flush	1.1	0.6	0.2	53
33-216	115	11	Carbide insert	1.6	1.0	0.6	53

### Oblique top cutters

straight head, flush cutting

33-135	110	10	Flush	0.8	0.6	0.2	40
33-136	110	10	Carbide insert	1.6	1.0	0.6	40

### Top end cutters

bent, extremely slim, flush cutting

33-235	120	11	Flush	0.4	0.2	-	43
33-236	120	11	Carbide insert	1.0	0.6	0.3	43

### Snipe nose pliers

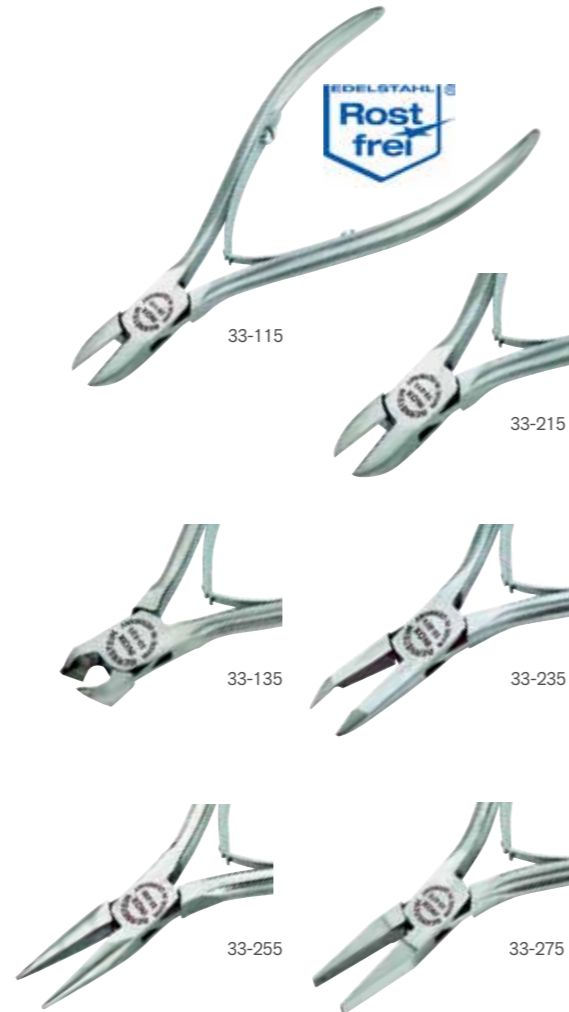
extremely slim, straight, short jaws

33-255	120	9,5	Carbide insert				43
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### Flat nose pliers

extremely slim, straight, short jaws

33-275	120	9,5	Carbide insert				44
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## TELEPHONE PLIERS

lap joint · chromed  
with bicoloured hand guard

No.	Length mm	Finish Headwidth		Weight g
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### Telephone pliers

oval pointed, short jaws, with cutting edge for hard wire

3-225-16	145	13	Serrated jaws	150
3-235-16	145	13	Serrated jaws	150

### Telephone pliers

oval pointed, long straight jaws, with cutting edge for hard wire

3-245-16	200	18	Serrated jaws	195
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### Telephone pliers

oval pointed, bent long jaws, with cutting edge for hard wire

3-255-16	200	18	Serrated jaws	185
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## FLAT AND ROUND NOSE PLIERS

lap joint · chromed  
bicoloured hand guard

No.	Length mm	Finish Headwidth		Weight g
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### Round nose pliers with long jaws

3-522-16	140	14	Serrated jaws	135
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### Flat nose pliers with long jaws

3-531-16	140	14	Serrated jaws	105
3-532-16	160	15	Serrated jaws	130



## SIDE CUTTER, COMBINATION PLIERS, PLIERS ADJUSTMENT

lap joint - chromed

bicoloured hand guard

No.	Length mm	Headwidth mm	Finish	Cutting capacity			Weight g
				Wire soft	mm medium	Ø hard	

### Side cutters

swedish design

3-132-16	130	17		3.0	2.0	1.0	135
3-133-16	145	18		4.0	2.5	1.3	165

### Side cutters

with stripping prism for single-core and multi-core wire 1.5 and 2.5 mm<sup>2</sup>

3-135-16	175	22		4.0	2.5	1.3	165
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### Power side cutters

powerful, handy model, with excellent cutting capacity

for steel wire, special steel

(lay-on joint)

3-141-16	145	21		4.0	2.5	1.3	175
3-142-16	160	23		4.0	3.0	1.5	245

No.	Length mm	Finish Headwidth	Weight g
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### Combination pliers

with wire cutter, for hard wire

(lap joint)

3-732-16	165	23	205
3-733-16	180	25	245

### Adjusting pliers

straight, flat and wide

(lap joint)

3-335-16	135	13	95
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### Adjusting pliers

straight, pointed nose

(lap joint)

3-345-16	135	13	95
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3-132-16



3-141-16



3-732-16



3-335-16



3-345-16

## WIRE STRIPPERS

Lap joint - bicoloured hand guard

No.	Length mm	Finish Headwidth	Weight g
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### „Record“ wire strippers

Spring system enables safe working with automatic adjustment to the wire size. Easy to use: insert wire - close pliers - remove insulation

3-805-16	160	-	for wire thicknesses from 0.5 to 5 mm Ø nickel-plated	180
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### Wire strippers with adjusting screw

for all wire thicknesses, with compression spring

3-815-16	155	-	chrome-plated	170
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3-805-16



3-815-16

## PRESSING PLIERS

lay on joint

No.	Length mm	Finish Headwidth	Weight g
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### Pressing pliers for multicore cable end

combined with cable cutter and stripping-prism for different cable dimensions for sleeves of 0.25 - 2.5 mm<sup>2</sup>.

3-871-6	155	-	nickel-plated, with red insulation	165
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### Pressing pliers for multicore cable end

combined with cable cutter and stripping-prism for different cable dimensions for sleeves of 0.50 - 16.0 mm<sup>2</sup>.

3-875-6	225	-	nickel-plated, with red insulation	285
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3-871-6



3-875-6





## WATER PUMP PLIERS

No.	Length		Finish	Weight g
	mm	Headwidth		
<b>Miniature water pump pliers</b> with 3 adjustments				
3-565	130	-	chrome-plated, polished	60
<b>Water pump pliers</b>				
3-574-6	175	-	matt chrome-plated with red isolation	180
3-575-6	240	-	nickel-plated, red insulation	380



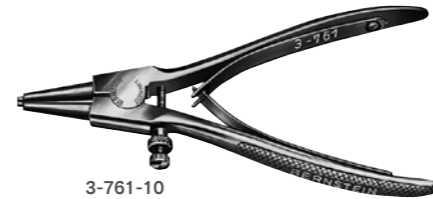
3-565-1



3-575-6

## SPECIAL ASSEMBLY PLIERS

No.	Length		Finish	Weight g
	mm	Headwidth		
<b>Model with adjusting screw and sprung handles</b> 45° angular, for clamping rings on shafts without grooves 1.5-2.8 mm				
3-761-10	140	-	burnished	95



3-761-10

## CRIMPING PLIERS FOR MODULAR CONNECTORS

No.	Length		Finish	Weight
	mm	Inch		

### Crimping pliers solid metal type,

with interchangeable blades, spring and closed lock, for cutting, cable stripping and crimping of the most current connector types

3-0601	190	7 1/2"	4P4C, 4P2C	215
3-0603	200	8"	8P8C / RJ-45	260

### Combination crimping pliers

solid metal pliers, with interchangeable blades, spring and closed lock, for cutting, cable stripping and crimping

3-0605	200	8"	6P6C, 6P4C, 6P2C, 8P, 8C	320
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**Universal crimping pliers** light execution, ergonomically formed plastic casing, for cutting, cable stripping and crimping

3-0609	200	8"	4P4C, 4P2C, 7.65 mm 6P6C / RJ-12, 6P4C / RJ-11, 9.65 mm, 8P8C / RJ-45, 11.68 mm, DEC 6P6C	520
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**Replacement blades** 4 blades for stripper and 2 blades for cutter  
3-609-00 1 Set blades

### Crimping pliers

for BNC- and TNC-coaxial connectors, with forced locking device and automatic release, for inner contacts and outside sleeves

Pressing range	Crimping length	Inner-Ø
Hexagon for all inner contacts	2.3 mm	.068" 1.72 mm
Small hexagon for RG 58	10.0 mm	.213" 5.41 mm
Medium-sized hexagon for RG 59/62	10.0 mm	.256" 6.50 mm
Large hexagon RG 6	10.0 mm	.319" 8.10 mm

3-0611	220	8 3/4"	burnished-insulated	530
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### Crimping tool

for insulated and uninsulated terminals

3-0856	230	9 1/4"	black-insulated	295
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### Automatic Crimping pliers

with ratchet mechanism for crimping of isolated terminals

3-0612	220	8 3/4"	0.5 - 1.0 / 1.5 - 2.5 / 4 - 6 mm <sup>2</sup> (AWG 22 - 18 / 16 - 14 / 12 - 10)	520
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## STRIPPING TOOLS

No.	Length		Working range / Finish	Weight
	mm	Inch		

### Stripping and crimping tool

for easy stripping, crimping and cutting only with one tool, the special scanning system adjusts automatically to the wire diameter

5-532	160	6 1/4"	easy stripping from 0.5 - 6.0 mm <sup>2</sup> 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>	115
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### Stripping tool Data-Strip

for stripping of data cord, telephone wire, control lines and special purpose cables

5-533	125	5"	data cord 4 - 10 mm Ø control lines 0,2 - 0,8 mm Ø adjustable inner knife 0,2 - 1,4 mm Side cutters up to 8 mm Ø (solid conductor up to 2 mm Ø)	60
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### Coax cable stripper

for two-or-three-level stripping of all common coaxial cables (e.g. antenna- and transmission cables) and flexible cables

5-535	110	4 3/8"	coax cable from 4.8 - 7.5 mm outside-Ø for flexible cable 3 x 0.75 mm <sup>2</sup> ,  10 mm <sup>2</sup> and 16 mm <sup>2</sup>	30
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### Round cable stripper

with ergonomical handles

5-536	125	5"	round and continental type cable from 8 - 13 mm Ø z.B. NYM 3 x 1.5 mm <sup>2</sup> bis 5 x 2.5 mm <sup>2</sup>	45
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### Swivel-blade cable strippers

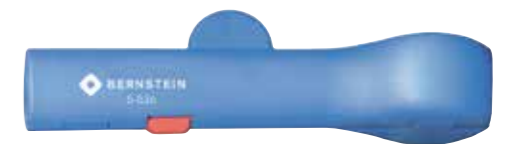
for accurate, fast and safe stripping of all common round cables of 4 - 28 mm Ø, cutting depth and adjustment via adjusting screw at end of handle, moving inner blade automatically adjusts itself from circular to longitudinal cuts

5-502	145	5 3/4"	without blade	4 - 28 mm Ø	61
5-505	170	6 3/4"	hook blade	4 - 28 mm Ø	80
5-506	180	7"	straight blade	4 - 28 mm Ø	85
5-507	145	5 3/4"	hook blade retractable	4 - 28 mm Ø	72

### Automatic wire stripper Super

fully insulated automatic wire stripper for all common stranded and solid conductors of 0.2 - 6.0 mm<sup>2</sup>, adjustable length stop of 5 - 12 mm, removable if required

5-531	200	8"	built-in side cutters for max. 2 mm Ø	105
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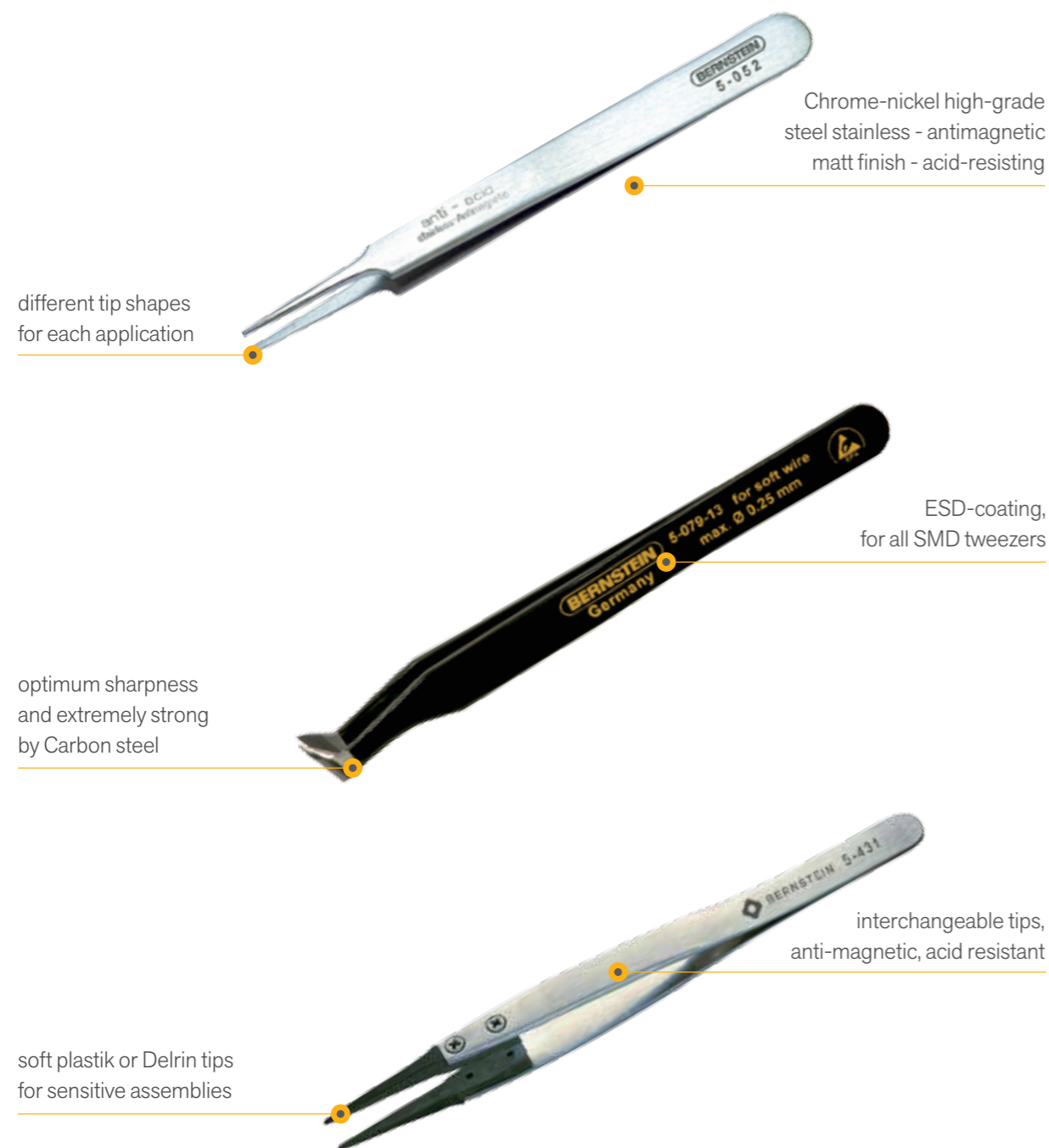
BERNSTEIN 5-117

## BERNSTEIN TWEEZERS

Depending on the requirements the tweezers are manufactured from different material. The selection covers high quality special steel, stainless high grade steel and Titan alloys. In the electronic industry the tweezers are preferable manufactured out of stainless high grade steel.

# TWEEZERS

Depending on the requirements the tweezers are manufactured from different material. The selection covers high quality special steel, stainless high grade steel and Titan alloys. In the electronic industry the tweezers are preferable manufactured out of stainless high grade steel. The advantages of this material are the excellent corrosion immunity with a very high consistency. Out of this reason the tiny tips of the SMD/ESD tweezers are extremely hard and tough. The advantage of Titan tweezers is their tremendous heat resistant. The melting point is about 1677o C. Above all these tweezers are super light.



## SURFACES

We manufacture tweezers with different surface treatments.

### Steel tweezers

All stainless steel tweezers are protected by a nickel-plated surface polished- against corrosion.

Additionally there are some special executions available:

- polished, with antiallergical coating for persons with nickel allergy
- nickel-plated strong PVC-insulated for works under voltage
- with VDE insulation for works under voltage up to 1000 V
- teflon-coated, no adherence of solder

### High grade tweezers

All tweezers of this high grade execution are matt finished. The tweezers are stainless, anti-magnetic and acid-resistant. For the special ESD protection these tweezers are available with a dissipative ESD surface coating.

### Titan tweezers

All Titan tweezers are matt finished. Material-caused they are anti-magnetic, anti-bacterial, solder-repellent and immunity to corrosion and to aggressive acids.

### Ceramic tweezers

We distinguish between full ceramic tweezers and plastic tweezers with ceramic tips. Ceramic tweezers are anti-magnetic, antistatic, solder-repellent, acid- and heat-resistant and very hard.

### Plastic tweezers

consist of conductive black plastic material, reinforced with glass fibre.

## TWEEZERS EXECUTIONS

Bernstein manufactures different executions of tweezers.

The selection includes finest SMD tweezers, engineer's tweezers, wafer and cutting tweezers.

### Component tweezers

The pick-up jaws of the component tweezers are dimensional shaped for exact positioning of round and cubical assemblies.

### SMD tweezers

Because of the filigran assemblies the SMD technique requires finest precision tweezers. The variety of shapes and jaw executions enables an easy and precise handling of the assembly even in smallest space.

### Wafer tweezers

are special tweezers for the careful handling of sensitive semiconductors.

### Cutting tweezers

are destined for cutting of fine and soft wires and tiny assemblies. Hardened tips guarantee a long life time.

### Engineer's tweezers

are used for different handlings.

## ENGINEERS' TWEEZERS AND SET FOR SPECIAL TWEEZERS

No.	Length		Finish	Weight
	mm	Inch		

### Component tweezers

made from steel, with insulated jaws, a special tool for easy insertion and removal of plug-in transistors of various sizes

5-006	140	5 1/2"	nickel-plated	23
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### Component tweezers

made from steel, with semi-circular jaws, 5 mm wide, to facilitate the insertion and removal of horizontally positioned components of various sizes

5-007	140	5 1/2"	nickel-plated	25
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### Component tweezers

made from steel, with jaws bent inwards at right angles, 5 mm wide, to facilitate the removal of round or cube-shaped components

5-008	140	5 1/2"	nickel-plated	23
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### Component tweezers

made from steel, with insulated jaws, 5.5 mm wide, for gripping flat components

5-009	140	5 1/2"	nickel-plated	22
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### Heat dissipating tweezers

made from steel, for use when soldering transistors, gold-bonded diodes etc., the flat, wide points of the tweezers are narrow and provided with copper jaws

5-115	165	6 1/2"	nickel-plated	35
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### Jeweller's tweezers

made from steel, fine-rounded tips, with X-serration

5-119	140	5 1/2"	nickel-plated	19
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### Sheet-metal tweezers

straight, flat and pointed

5-125	110	4 3/8"	nickel-plated	12
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### Sheet-metal tweezers

with sliding fastener for a firm grip, straight, with narrow pointed tips

5-126	160	4 1/4"	nickel-plated	22
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### IC-tweezers

for gripping, insertion and removal of IC's

2-601	125	5"	nickel-plated	20
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## 5-100 12-piece set special tweezers and tools

No.	Description of individual tools			
2-126	Desoldering lever, slotted at one end, with plastic handle, 115 mm			
2-127	Tin knife with plastic handle, 115 mm			
2-601	IC-tweezers, nickel-plated, 125 mm, for gripping, inserting and removing of IC's			
5-006	Component tweezers, nickel-plated, with insulated jaws, a special tool for easy insertion and removal of plug-in transistors of various sizes, 140 mm			
5-078	Anti-magnetic tweezers, tapering chisel, 1.0 mm width, matt finish, stainless and acid-resistant, 130 mm			
5-107	Engineer's tweezers, made from steel, with bent tips, nickel-plated, 150 mm			
5-107-6	Engineer's tweezers, as above, strong PVC-insulation			
5-115	Heat dissipating tweezers, nickel-plated, 165 mm, for soldering transistors, gold-bonded diodes etc.			
5-117	Engineer's tweezers, straight, flat, wide, nickel-plated, 145 mm			
5-117-6	Engineer's tweezers, as above, strong PVC-insulation			
5-121	Engineer's tweezers, straight, with narrow pointed tips, 120 mm, nickel-plated			
5-156	Crossed soldering tweezers, (self-locking tweezers), made from steel, with bent tips and gripping well hand-guard, nickel-plated, 160 mm			



## ENGINEER'S TWEEZERS

No.	Length		Finish	Weight
	mm	Inch		

### Engineer's tweezers

made from steel, with fine, bent tips, finely serrated

5-107	150	6"	nickel-plated	20
5-107-1	150	6"	polished with antiallergical coating	23
5-107-6	150	6"	nickel-plated, strong PVC-insulated	27
5-107 VDE	150	6"	with VDE insulation	37
5-107-9	150	6"	teflon-coated	22

### Engineer's tweezers

made from steel, heavy type, straight, flat and wide, tips with serration

5-117	145	5 3/4"	nickel-plated	25
5-117-1	145	5 3/4"	polished with antiallergical coating	26
5-117-6	145	5 3/4"	nickel-plated, strong PVC insulated	31
5-117 VDE	145	5 3/4"	with VDE insulation	39
5-117-9	145	5 3/4"	teflon-coated	29

### Engineer's tweezers

made from steel, straight, with narrow pointed tips, finely serrated

5-121	120	4 3/4"	nickel-plated	14
5-121-1	120	4 3/4"	polished with antiallergical coating	14
5-121-6	120	4 3/4"	nickel-plated, strong PVC insulated	17
5-121 VDE	120	4 3/4"	with VDE insulation	13
5-122-9	155	6 1/8"	teflon-coated	24

### Crossed tweezers (self-locking tweezers)

made from steel, jaws 5 mm wide, finely serrated

5-155	160	6 1/4"	nickel-plated	35
5-155-1	160	6 1/4"	polished with antiallergical coating	36

### Crossed soldering tweezers (self-locking tweezers)

made from steel, with bent tips and gripping well hand guard

5-156	160	6 1/4"	nickel-plated	29
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## SPECIAL TWEEZERS SETS

### 5-030 3-piece set of electronic tweezers from titan non-reflective, stainless, solder-repellent in a wallet

No. Description of individual tools Weight: 60 g

- 5-031 Titan-tweezers, sharply pointed, 110 mm
- 5-036 Titan-tweezers, straight, round, wide, 145 mm, with serration
- 5-037 Titan-tweezers, fine bent tips, 150 mm



5-030

### 5-110 3-piece set of Engineer's Tweezers made from steel, nickel-plated in a wallet

No. Description of individual tools Weight: 95 g

- 5-107 Engineer's tweezers, fine, bent tips, finely serrated, 150 mm
- 5-121 Engineer's tweezers, narrow pointed tips, finely serrated, 120 mm
- 5-155 Crossed tweezers, (self-locking) jaws 5 mm wide, finely serrated, 160 mm



5-110

### 5-050 6-piece set of special tweezers for the SMD-technique, matt finish, stainless, anti-magnetic in a wallet

No. Description of individual tools Weight: 135 g

- 5-051 SMD-tweezers, straight pointed, 115 mm
- 5-052 SMD-tweezers, bent, very sharply pointed, 110 mm
- 5-054 SMD-tweezers, sickle-shaped curved, very sharply pointed, 120 mm
- 5-058 SMD-tweezers, crossed, bent, pointed, 120 mm
- 5-061 SMD-tweezers, bent, flat tips 2 mm wide, 115 mm
- 5-062 SMD-tweezers, bent, flat tips, with gripping cavity, 115 mm



5-050

### 5-060 6-piece set ESD-Tweezers for the SMD-Technique in a wallet made from dissipative material

No. Description of individual tools Weight: 155 g

- 5-049-13 SMD-tweezers, straight, very sharply pointed, 110 mm
- 5-055-13 SMD-tweezers, sickle-shaped, very sharply pointed, 120 mm
- 5-059-13 SMD-tweezers, flat, rounded tips, 2 mm width, 120 mm
- 5-067-13 SMD-tweezers, tip 45° angled, 2.0 mm width, 120 mm
- 5-068-13 SMD-tweezers, tip angled, 1,6 mm, 120 mm
- 5-078-13 SMD-tweezers, tapering, chisel, 1,0 mm width, 130 mm



5-060

## SPECIAL-TWEEZERS FOR SMD-TECHNIQUE

high precision tweezers from special steel stainless – matt finish – anti-magnetic – acid –resisting - alternative with ESD coating (-13) -

No.	Length		Finish / Model	Weight g
	mm	Inch		
5-048	110	4 3/8"	straight, very sharply pointed, 5 SA	12 g
5-048-13	110	4 3/8"	as above, with ESD coating	12 g
5-049	110	4 3/8"	straight, very sharply pointed, 4 SA	12 g
5-049-13	110	4 3/8"	as above, with ESD coating	12 g
5-051	115	4 1/2"	straight pointed, 2 SA	15 g
5-051-13	115	4 1/2"	as above, with ESD coating	15 g
5-052	110	4 3/8"	bent, very sharply pointed, 5b SA	13 g
5-052-13	110	4 3/8"	as above, with ESD coating	13 g
5-059	120	4 3/4"	flat, rounded tips, 2.0 mm width, 2a SA	15 g
5-059-13	120	4 3/4"	as above, with ESD coating	15 g
5-078	130	5 1/8"	tapering, chisel, 1.0 mm width, PSF SA	16 g
5-078-13	130	5 1/8"	as above, with ESD coating	16 g
5-053	110	4 3/8"	obliquely angled, very sharply pointed, 51 SA	13 g
5-053-13	110	4 3/8"	as above, with ESD coating	13 g
5-054	120	4 3/4"	sickle-shape-curved, very sharply pointed, 7abb SA	16 g
5-054-13	120	4 3/4"	as above, with ESD coating	16 g
5-055	120	4 3/4"	sickle-shaped, very sharply pointed, 7a SA	15 g
5-055-13	120	4 3/4"	as above, with ESD coating	15 g
5-056	120	4 3/4"	slightly bent, very sharply pointed, 7 SA	15 g
5-056-13	120	4 3/4"	as above, with ESD coating	15 g
5-057	120	4 3/4"	self-locking, straight-pointed, 31 SA	13 g
5-057-13	120	4 3/4"	as above, with ESD coating	13 g
5-058	120	4 3/4"	self-locking, bent, pointed, 31b SA	13 g
5-058-13	120	4 3/4"	as above, with ESD coating	13 g
5-061	115	4 1/2"	bent, flat rounded tips, 2ab SA	16 g
5-061-13	115	4 1/2"	as above, with ESD coating	16 g
5-062	115	4 1/2"	35° angled, 2.0 mm width, with gripping cavity Ø 0.8 mm, 59 SA	16 g
5-062-13	115	4 1/2"	as above, with ESD coating	16 g
5-063	115	4 1/2"	35° angled, 3.5 mm width, with gripping cavity Ø 0.8 mm, 58 SA	16 g
5-063-13	115	4 1/2"	as above, with ESD coating	16 g



TWEEZERS



No.	Length		Finish / Model	Weight g
	mm	Inch		
5-065	120	4 3/4"	straight, 3.0 mm width, with gripping cavity Ø 0.8 mm, 50 SA	16 g
5-065-13	120	4 3/4"	as above, with ESD coating	16 g
5-066	120	4 3/4"	30° angled, 2.5 mm width, 8b SA	15 g
5-066-13	120	4 3/4"	as above, with ESD coating	15 g
5-067	120	4 3/4"	tip 45° angled, 2.0 mm width, 12 SA	15 g
5-067-13	120	4 3/4"	as above, with ESD coating	15 g
5-068	120	4 3/4"	tip angled, 1.6 mm width, 13 SA	13 g
5-068-13	120	4 3/4"	as above, with ESD coating	13 g
5-071	85	3 3/8"	thin, straight-pointed, OC SA	8 g
5-072	110	4 3/8"	thin, straight-pointed, 3c SA	11 g
5-073	140	5 1/2"	long-thin, straight, very sharply pointed, SS SA	13 g
5-073-13	140	5 1/2"	as above, with ESD coating	13 g
5-074	120	4 3/4"	straight, pointed, 1 SA	14 g
5-075	140	5 3/4"	straight, very sharply pointed, grip surface offset, 60 SA	13 g
5-076	120	4 3/4"	rigid, straight, pointed, 00 SA	19 g
5-076-13	120	4 3/4"	as above, with ESD coating	19 g
5-077	130	5 1/8"	wide, tapering, pointed, AA SA	16 g
5-077-13	130	5 1/8"	as above, with ESD coating	16 g



## CUTTING TWEEZERS

made from Carbon Steel, extremely hard, excellent sharpness at the cutting edges. For cutting of soft copper, gold and silver wires up to 0.25 mm Ø.

5-079	115	4 1/2"	Carbon Steel, matt finish 15 AGW	25 g
5-079-13	115	4 1/2"	as above, with ESD coating	25 g



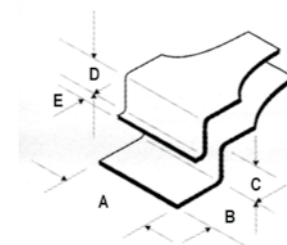
## WAFER-TWEEZERS

for positioning of flat and fine components, e.g. extremely sensitive and breakable wafer (glass-wafer etc.) fine PCB's and LCD's very smooth and non-reflective surface  
high grade steel SA, anti-magnetic

No.	Length		Finish / Modell	Weight g
	mm	Inch		
5-411	130	5 1/8"	with graduated lower paddle and 3 teeth 3 DWF small	14
5-411-13			as above, with ESD coating	
5-412	130	5 1/8"	with graduated lower paddle and 3 teeth 3 DWF	14
5-412-13			as above, with ESD coating	
5-413	130	5 1/8"	with graduated lower paddle and 4 teeth 4 DWF	17
5-413-13			as above, with ESD coating	
5-414	130	5 1/8"	with graduated lower paddle and 5 teeth 5 DWF	20
5-414-13			as above, with ESD coating	
5-415	130	5 1/8"	with graduated lower paddle and 6 teeth 6 DWF	20
5-415-13			as above, with ESD coating	
5-421	130	5 1/8"	with graduated lower paddle, no teeth 3 DW small	14
5-421-13			as above, with ESD coating	
5-422	130	5 1/8"	with graduated lower paddle, no teeth 4 DW	17
5-422-13			as above, with ESD coating	
5-423	130	5 1/8"	with graduated lower paddle, no teeth 5 DW	20
5-423-13			as above, with ESD coating	
5-424	130	5 1/8"	with graduated lower paddle, no teeth 6 DW	20
5-424-13	130	5 1/8"	as above, with ESD coating	

	Dimension					for
	A	B	C	D	E	Wafer Size
	mm	mm	mm	mm	mm	Inch
5-411	6	6	4	4	3,2	2"
5-412	9	6	2,5	3	3,2	2"
5-413	12	8	4	5	3,2	3"
5-414	16	6	4	5	3,2	4" - 5"
5-415	20	8	4	5	3,2	6"
5-421	6	6	4	5	3	2"
5-422	12	8	4	5	3	3"
5-423	16	8	4	4	3	4" - 5"
5-424	20	8	4	5	3,5	6"

Replacement tips available:  
5-452-0  
5-454-0



## TWEEZERS WITH INTERCHANGEABLE PLASTIC TIPS

Special tweezers with soft and ESD safe tips

Tweezers: anti-magnetic, acidfree, ESD safe

Tips: soft, conductive plastic tips for very sensitive assemblies

No.	Length		Finish / Modell	Weight g
	mm	inch		
5-431	125	5"	rounded tips 1.5 mm wide, 70 CV	17
5-431-0			replacement tips for 5-431	
5-432	125	5"	flat tips 2 mm wide, 72 CV	17
5-432-0			replacement tips for 5-432	
5-433	125	5"	fine flat tips 1 mm wide, 74 CV	17
5-433-0			replacement tips for 5-433	
5-434	125	5"	very fine rounded tips, 76 CV	17
5-434-0			replacement tips for 5-434	
5-435	125	5"	fine rounded tips, 80 CV	17
5-435-0			replacement tips for 5-435	



## SPECIAL TWEEZERS WITH „DELFIN“ TIPS

Tweezers: anti-magnetic, acidfree

Tips from Delrin: highest consistency, stiffness and hardness, ductile, fatigue-steady

No.	Length		Finish / Modell	Weight g
	mm	Inch		
5-441	125	5"	rounded tips 1.5 mm wide, 70 DV	17
5-441-0			replacement tips for 5-441	
5-443	125	5"	fine flat tips 1 mm wide, 74 DV	17
5-443-0			replacement tips for 5-443	



## SPECIAL TWEEZERS WITH INTERCHANGEABLE ESD CERAMIC TIPS

Tweezers: anti-magnetic, acidfree

Tips: ESD Ceramic

No.	Length		Finish / Modell	Weight g
	mm			
5-452	125		rounded tips, 2 mm wide	17
5-452-0			replacement tips for 5-452	
5-454	125		fine rounded tips, 0,7 mm wide	17
5-454-0			replacement tips for 5-454	



## ESD-TWEEZERS

made from conductive, black plastic material, reinforced with glass fibre, conductive and acid-resistant, melting point 175° C

No.	Length		Finish	Weight
	mm	Inch		
5-191	120	4 3/4"	straight, rounded tips, 2 mm wide	5 g
5-192	120	4 3/4"	straight, 3 mm flat-hand tips, grip surface offset	4 g
5-193	120	4 3/4"	straight, flat, 6 mm wide tips	5 g
5-194	120	4 3/4"	bent, pointed tips	5 g
5-195	120	4 3/4"	straight, pointed tips, grip surface offset	4 g

### 5-190 V 6-piece set of ESD tweezers

strung on the ESD tool holder "VARIO"

**Contents:** 5 tweezers made from conductive black plastic material, No. 5-191, 5-192, 5-193, 5-194, 5-195, 1 tweezers with ceramic tips No. 5-454

**Weight:** 125 g

### 5-090 V 5-piece set of ESD tweezers

strung on the ESD tool holder "VARIO"

**Contents:** 5 tweezers made from conductive black plastic material, No. 5-191, 5-192, 5-193, 5-194, 5-195

**Weight:** 94 g

## TITAN TWEEZERS

tweezers made from Titan are for highest demands, have a light weight, immunity to corrosion, even to aggressive acids, they are antimagnetic, antibacterial, solder-repellent, and non-reflective. The melting point is 1677°C.

5-031	110	4 3/8"	matt-stainless, sharply pointed	9 g
5-035	120	4 3/4"	matt-stainless, sharply pointed	9 g
5-036	145	5 3/4"	matt-stainless, straight - round - wide tips with fine serration	15 g
5-037	150	6"	matt-stainless, fine bent tips tips with fine serration	12 g

## IC-TWEEZERS

for gripping, inserting and removing of IC's

2-601-13	125	5"	with ESD-coating	22 g
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5-190



5-090







## BERNSTEIN SCREWDRIVERS

EUROLINE Power series covers the main common screwdriver applications. Particularly for the demand in the electronics the different kinds of screw heads can be served with the ESD screwdriver solutions.

## SCREWDRIVERS EUROLINE-POWER

with ergonomical formed 2 component handles (yellow-black)

Blade : chrom vanadium, hardened over its full length,  
matt chrome-plated, with black tip

Handle: impact-resistant, two-coloured plastic, with slip off  
protection and practical hanging up hole

### Workshop-Screwdrivers



No.	Blade-length mm	Blade-width mm	Blade-thickness mm	Handle size mm	Weight g
4-504	100	5,5	1.0	107 x 27	62
4-506	125	6,5	1.2	114 x 32	93
4-508	150	8,0	1.2	121 x 35	141
4-509	200	10,0	1.6	121 x 35	170

### Electrician's Screwdrivers



No.	Blade-length mm	Blade-width mm	Blade-thickness mm	Handle size mm	Weight g
4-521	75	2,5	0.4	100 x 21	26
4-522	100	3,0	0.5	100 x 21	27
4-523	100	4,0	0.8	100 x 21	36
4-524	150	5,5	1.0	107 x 27	74
4-525	200	5,5	1.0	107 x 27	80

### Cross-recess screwdrivers



No.	Size	Blade-length mm	Blade-Ø mm	Handle size mm	Weight g
4-532	0	60	3.0	100 x 21	28
4-533	1	80	4.5	107 x 27	55
4-534	2	100	6.0	114 x 32	90
4-535	3	150	8.0	121 x 35	160

### Cross-recess screwdrivers



No.	Size	Blade-length mm	Blade-Ø mm	Handle size mm	Weight g
4-542	0	60	3.0	100 x 21	28
4-543	1	80	4.5	107 x 27	55
4-544	2	100	6.0	114 x 32	90
4-545	3	150	8.0	121 x 35	162



### TORX-Screwdrivers

from size T 9 with bore-hole in the tip



No.	Size	Blade-length mm	for metric Thread	Handle size mm	Weight g
6-979	T 5	55	M 1.6 - 2	100 x 21	25
6-981	T 6	65	M 2	100 x 21	29
6-982 L	T 7	65	M 2.5	100 x 21	29
6-983 L	T 8	75	M 2.5	100 x 21	29
6-984 L	T 9	75	M 3	100 x 21	29
6-985 L	T 10	85	M 3-3.5	100 x 21	32
6-986 L	T 15	85	M 3.5-4	100 x 21	34
6-987 L	T 20	100	M 4-5	100 x 21	35
6-988 L	T 25	100	M 4.5-5	107 x 27	57
6-989 L	T 27	105	M 4.5-5-6	107 x 27	63
6-991 L	T 30	115	M 6-7	114 x 32	90

### 4-530 7-piece screwdriver set from the series EUROline-Power visible packed in a carton box

Content: 2 workshop-screwdriver No. 4-504, 4-506  
2 electrician's-screwdriver No. 4-523, 4-524  
2 cross-recess screwdriver PH No. 4-533, No. 4-534  
and 1 voltage tester No. 4-343 VDE

Weight: 520 g



### 6-100 7-piece socket wrench set in a plastic wallet

Content: 7 socket wrenches  
No. 6-101 - 6-102, 6-104 - 6-108

Weight: 650 g

No.	Size	Blade-length mm	Handle size mm	Weight g
6-101	3.0	125	100 x 21	47 g
6-102	4.0	125	100 x 21	49 g
6-104	5.0	125	100 x 21	50 g
6-105	5.5	125	100 x 21	50 g
6-106	6.0	125	100 x 21	61 g
6-107	7.0	125	100 x 21	78 g
6-108	8.0	125	107 x 27	102 g



## SCREWDRIVERS

### Chubby screwdrivers and Cross screwdrivers

Blade: chrome vanadium, hardened over its full length, nickel-plated  
Heft: impact-resistant, transparent plastic



No.	Size	Blade-length mm	Blade Ø mm	Handle size mm	Weight g
4-261	01	25	4.5	55 x 30	30
4-262	02	25	6.0	55 x 30	35

No.	Blade-length mm	Blade-width mm	Blade-thickness	Handle size mm	Weight g
4-321	25	4.0	0.8	55 x 30	30
4-322	25	6.5	1.2	55 x 30	35

### Miniature screwdriver

Blade: Special steel, nickel-plated  
Heft: transparent yellow plastic



4-301	40	1.8	0.5	45 x 9	3
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### Screwdriver for grub screws

Blade: chrome vanadium, plane-parallel, nickel-plated  
Heft: impact-resistant, transparent yellow plastic



4-311	80	2.8	0.6	60 x 11	12
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### Installation screwdriver

Blade: Special steel, vernickelt  
Heft: multi component handle



4-331	65	6.0	1.0	100 x 21	40
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### VDE-voltage testers, 220 - 250 V, to VDE regulations 0426

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



4-343 VDE	60	3.0	0.7	76 x 15	15
4-344 VDE	100	3.5	0.7	92 x 18	31

### Offset screwdrivers

Material: chrome vanadium, nickel-plated, plastic handle



No.	Total-length mm	Blade-width mm	Blade-thickness mm	Blade Ø mm	Weight g
4-351	100	4.0	0.65	4.5	12
4-352	125	6.0	0.80	6.0	32

### 4-820 60-piece miniature screwdriver stand

Content: 60 screwdrivers with tool steel blades, 40 x 1.8 mm and transparent yellow plastic handles  
Weight: 235 g



## WATCHMAKER'S SCREWDRIVERS



### Watchmaker's screwdrivers

Blade: chrome vanadium, burnished  
Handle: metal, nickel-plated, with swivel top

No.	Blade length mm	Blade width mm	total length mm	Weight g
4-371	14	1.0	85	7
4-372	18	1.5	90	7
4-373	21	2.0	105	18
4-374	24	2.5	108	18
4-375	24	3.0	120	37
4-376	27	3.5	123	38

### Cross-recess watchmaker's screwdrivers

Blade: chrome vanadium, burnished  
Handle: metal, nickel-plated, with swivel top

No.	Size	Blade length mm	total length mm	Weight g
4-364	000	21	92	9
4-366	00	21	92	23
4-367	0	21	105	33
4-368	1	21	117	37

### 4-360 3-piece watchmaker's screwdriver set

in a plastic wallet

Content: 2 watchmaker's screwdrivers No. 4-372 + 4-374,  
1 cross-recess watchmaker's screwdriver No. 4-367  
Weight: 360g

### 4-365 3-piece watchmaker's screwdriver set

in a plastic wallet

Content: 3 cross-recess watchmaker's screwdrivers No. 4-366, 4-367 + 4-368  
Weight: 100g

### 4-370 6-piece watchmaker's screwdriver set

in a metal case

Content: 6 watchmaker's screwdrivers No. 4-371 - 4-376  
Weight: 480g

### 4-379 6-piece watchmaker's screwdriver set

in a wallet

Content: 6 watchmakers screwdrivers No. 4-371 - 4-376  
Weight: 165g





### Watchmakers screwdrivers

Blade: Chrom-Vanadium, burnished  
 Handle: black plastic, with swivel top and colour coding

No.	Blade length mm	Blade width mm	total length mm	Weight g
4-381	18	1.0	104	5
4-382	18	1.5	104	6
4-383	18	2.0	104	6
4-384	18	2.5	104	6
4-385	18	3.0	104	6



### 4-380 5-piece watchmaker's screwdriver set

in a plastic box

Content: 5 watchmakers screwdrivers No. 4-381 - 4-385,  
 Weight: 64g

### Watchmaker's storage screwdrivers with interchangeable blades

Blades: chrome vanadium, burnished  
 Handle: metal magazine, nickel-plated, with swivel top



#### 4-391 Watchmaker's screwdriver

with 4 bits 1.5 – 2.0 – 2.5 – 3.0 mm blade width, in magazine  
 Weight: 31 g

#### 4-392 Watchmaker's screwdriver

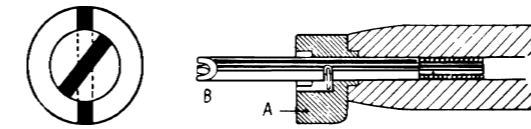
with 4 bits 1.5 – 2.0 – 2.5 – 3.0 mm blade width  
 and 1 cross-recess blade size 0, in magazine  
 Weight: 32 g

#### 4-393 Watchmaker's screwdriver magazine

with 3 bits 1.5 – 2.0 – 2.5 mm blade width and  
 2 cross-recess blades Size 00 and 000, in magazine  
 Weight: 32 g

## RETAINING SCREWDRIVERS

for inserting slotted screws into places difficult to reach



"TRIC" is especially easy to use. Push lever A as far as the stop with your thumb; insert blade B into the screw slot and release lever A. The screw is tight and can now be inserted into the hole. Release the holder by pressing lever A lightly in the same direction.

Special advantage:  
 Projecting controls do not hamper vision

Blade: special steel, plane-parallel, nickel-plated  
 Handle: impact-resistant, transparent yellow plastic

**Do not use for tightening or loosening screws!**

No.	Blade-length mm	Blade-width mm	Blade-Ø mm	Handle size mm	Weight g
4-407	110	4.0	4.0	70 x 15	25
4-408	200	4.0	4.0	70 x 15	35

### Retaining screwdrivers

for inserting and tightening slotted screws

Blade: chrome vanadium, burnished, insulated  
 Heft: impact-resistant, black plastic

No.	Blade-length mm	Blade-width mm	Blade-thickness mm	Handle size mm	Weight g
4-431	100	3.0	0.5	90 x 18	35
4-432	125	4.0	0.6	100 x 22	65
4-433	150	5.0	0.8	105 x 24	93

### Retaining screwdrivers

for inserting and tightening cross-recess screws

Blade: chrome vanadium, burnished, insulated  
 Heft: impact-resistant, black plastic

No.	Size	Blade-length mm	Blade-Ø mm	Handle size mm	Weight g
4-436	0	125	4.0	100 x 22	63
4-437	1	150	5.0	105 x 24	93
4-438	2	175	6.0	105 x 24	117



## WRENCHES, SOCKET WRENCHES SPECIAL WRENCHES

**Socket wrenches without handles** with tangs for interchangeability

Material: chrome vanadium, nickel-plated

No.	Schlüsselweite mm	Bladlength mm	Weight g
6-201	4,0	140	30
6-202	5,5	140	35
6-203	6,0	140	35
6-204	7,0	140	40
6-205	8,0	140	40
6-206	9,0	140	43
6-207	10,0	140	45

**6-200 8-piece socket wrench** in a plastic wallet

Content: 7 socket wrenches No. 6-201 – 6-207  
1 plastic spring handle. 4-775

Weight: 310 g

**6-210 6-piece socket wrench set** in a plastic wallet

Content: 5 socket wrenches No. 6-201 – 6-205  
1 plastic spring handle No. 4-775

Weight: 220 g

**Sets of socket wrenches in metal cases**

Type: 1/4 square drive, chrome vanadium, chrome-plated

**6-320 15-socket wrench set in metal case**

Content: 11 sockets: A / F 4 - 4.5 - 5 - 5.5 - 6 - 7 - 8 -  
9 - 10 - 11 - 13 mm, ratchet, rigid extension,  
socket wrench holder, sliding tee bar, universal joint

Weight: 870 g

**6-500 5-piece double open-ended wrench set**

Content: 5 double open-ended wrenches  
6 x 7 - 8 x 9 - 10 x 11 - 12 x 13 and 14 x 17 mm

Weight: 370 g

**6-550 5-piece ring wrench set** double-offset

Content: 5 ring wrenches 6 x 7 - 8 x 9 - 10 x 11 - 12 x 13  
and 14 x 17 mm

Weight: 630 g



## WRENCHES, SOCKET WRENCHES, SPECIAL WRENCHES

**6-600 7-piece combination wrench set**

Content: 7 combination wrenches 6 - 7 - 8 - 9 - 10 - 11 und 13 mm

Weight: 290 g

**6-550 5-piece ring wrench set** 15° angled

Content: 5 ring wrenches 6 x 7 - 8 x 9 - 10 x 11 - 12 x 13  
and 14 x 15 - 17 x 19 mm

Weight: 210 g

**6-750 6-piece extra slim double open-ended wrench set** in plastic case

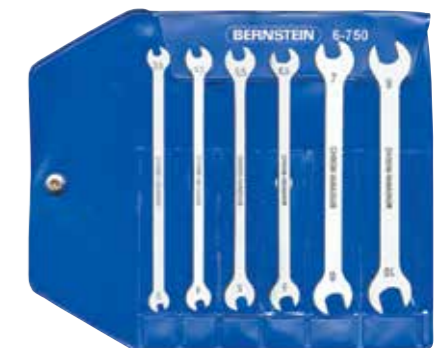
Material: chrome vanadium, bright nickel-plated

Content: 4 double open-ended wrenches 3.0 x 3.5 - 4.0 x 4.5 - 5.0 x 5.5 - 6.0 x

6.5 mm

Material thickness 1.5 mm, 120 mm long  
double open-ended wrenches 7 x 8 and 9 x 10 mm  
material thickness 2 mm, 125 mm long

Weight: 85 g



**Adjustable wrenches**

Material: chrome vanadium, chrome-plated

No.	Jaw opening mm	Total length mm	Jaw length mm	Weight g
6-771	0 - 12	100	12	55
6-772	0 - 18	150	22	135
6-773	0 - 25	200	25	265

**6-950 8-piece ballpoint wrench key set** in a plastic wallet

Material: chrome vanadium, burnished, offset model

Content: 8 wrench keys 1.5 - 2.0 - 2.5 - 3.0 - 4.0 - 5.0 - 6.0 - 8.0 mm

Weight: 200 g



## SPECIAL WRENCHES



### 6-995 8-piece TORX-wrench keys with bore-hole

Material: chrome vanadium, burnished, offset model

Content: 8 TORX wrench keys T9, T10, T15, T20, T25, T27, T30, T40  
Weight: 205 g

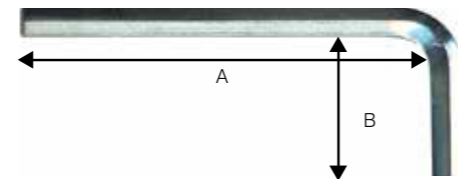


### Wrench keys angle-shaped screwdrivers for hex socket-head screws.

Material: special steel, nickel-plated



No.	A/F mm	No.	A/F		Leg length		Weight g
			inches	≈ mm	A	B	
6-811	0.89	-	-	-	30 x 10	1	
6-812	1.0	6-851	3/64"	1.19	46 x 10	1	
6-813	1.5	6-852	1/16"	1.59	50 x 12	1	
6-814	2.0	6-853	5/64"	1.98	55 x 15	2	
6-815	2.5	6-854	3/32"	2.38	60 x 18	3	
6-816	3.0	6-855	1/8"	3.18	65 x 20	5	
6-817	3.5	6-856	9/64"	3.56	68 x 22	8	
6-818	4.0	6-857	5/32"	3.97	72 x 25	11	
6-819	4.5	6-858	3/16"	4.76	75 x 27	13	
6-821	5.0	-	-	-	80 x 28	19	
6-822	5.5	6-859	7/32	5.56	85 x 30	22	
6-823	6.0	6-861	1/4	6.35	90 x 32	28	
6-825	7.0	6-862	9/32	7.14	95 x 34	41	
6-826	8.0	6-863	5/16	7.94	100 x 36	60	
6-827	9.0	6-864	11/32	8.73	105 x 38	81	
6-828	10.0	6-865	3/8	9.53	112 x 40	105	



### 6-810 8-piece wrench key set

offset model, on ring

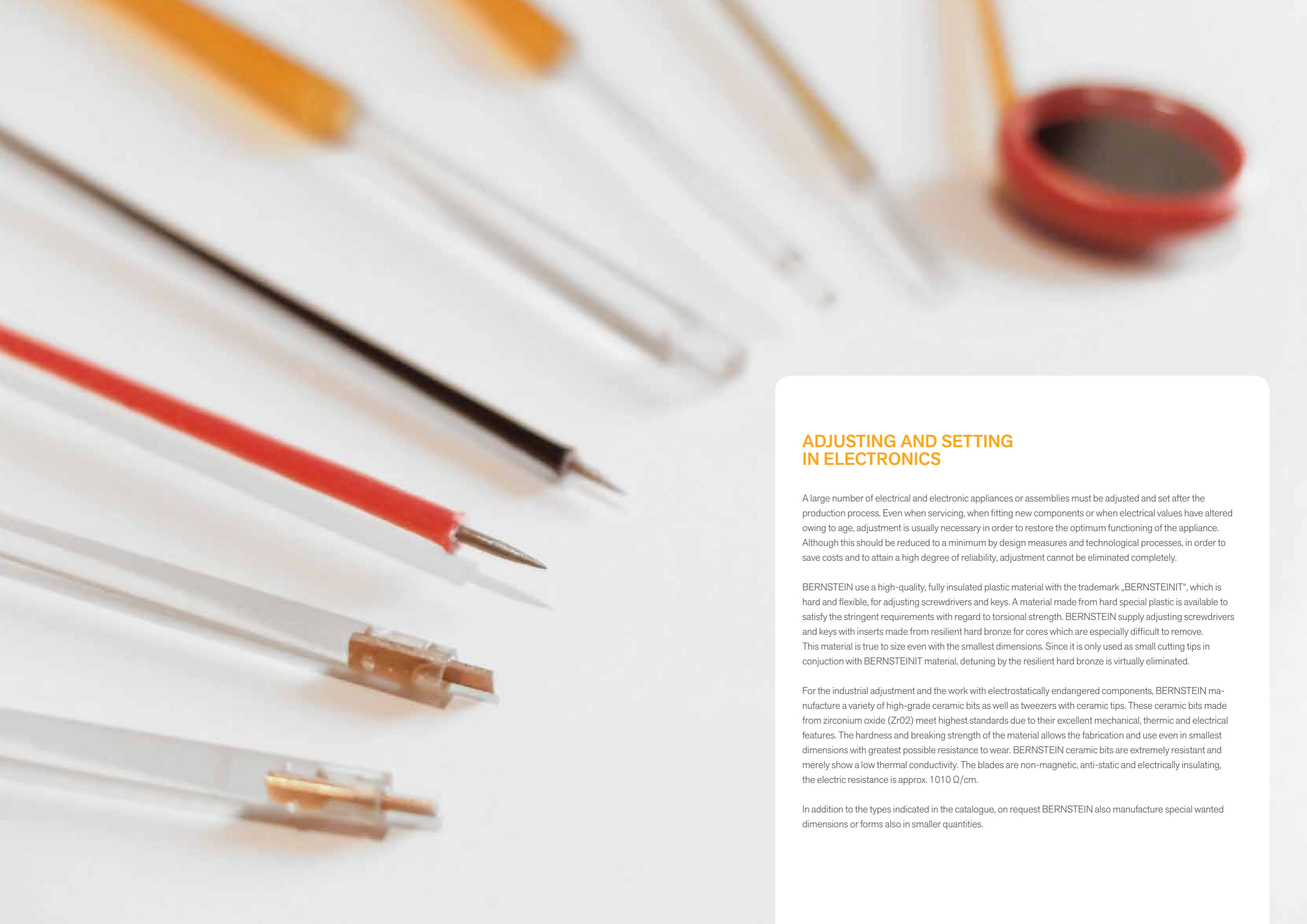
Content: 8 wrench keys 2.0 – 2.5 – 3.0 – 4.0 – 5.0 – 6.0 – 8.0 – 10.0 mm  
Weight: 255 g

### 6-820 8-piece wrench key set

offset model, in a plastic wallet

Content: 8 wrench keys 1.5 – 2.0 – 2.5 – 3.0 – 4.0 – 5.0 – 5.5 – 6.0 mm  
Weight: 100 g





## ADJUSTING AND SETTING IN ELECTRONICS

A large number of electrical and electronic appliances or assemblies must be adjusted and set after the production process. Even when servicing, when fitting new components or when electrical values have altered owing to age, adjustment is usually necessary in order to restore the optimum functioning of the appliance. Although this should be reduced to a minimum by design measures and technological processes, in order to save costs and to attain a high degree of reliability, adjustment cannot be eliminated completely.

BERNSTEIN use a high-quality, fully insulated plastic material with the trademark „BERNSTEINIT“, which is hard and flexible, for adjusting screwdrivers and keys. A material made from hard special plastic is available to satisfy the stringent requirements with regard to torsional strength. BERNSTEIN supply adjusting screwdrivers and keys with inserts made from resilient hard bronze for cores which are especially difficult to remove. This material is true to size even with the smallest dimensions. Since it is only used as small cutting tips in conjunction with BERNSTEINIT material, detuning by the resilient hard bronze is virtually eliminated.

For the industrial adjustment and the work with electrostatically endangered components, BERNSTEIN manufacture a variety of high-grade ceramic bits as well as tweezers with ceramic tips. These ceramic bits made from zirconium oxide (ZrO<sub>2</sub>) meet highest standards due to their excellent mechanical, thermic and electrical features. The hardness and breaking strength of the material allows the fabrication and use even in smallest dimensions with greatest possible resistance to wear. BERNSTEIN ceramic bits are extremely resistant and merely show a low thermal conductivity. The blades are non-magnetic, anti-static and electrically insulating, the electric resistance is approx. 1010 Ω/cm.

In addition to the types indicated in the catalogue, on request BERNSTEIN also manufacture special wanted dimensions or forms also in smaller quantities.

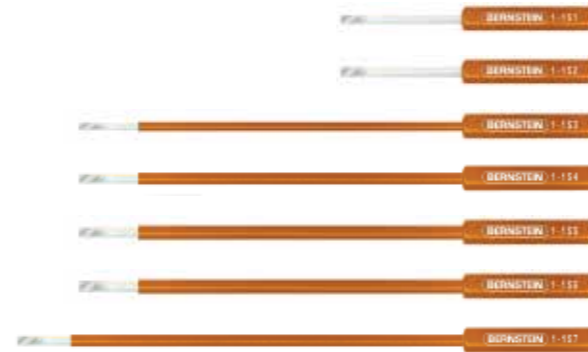
## ADJUSTING SCREWDRIVERS

For all adjusting work which requires a ground blade

### Adjusting screwdrivers with blade-tip made from special hard plastic

BERNSTEINIT with insert made from special plastic (German Federal Registered Pattern) The BERNSTEINIT blade makes the screwdriver flexible, and the hard special plastic insert at the tip gives the blade exceptional torsional strength.

No.	Total length mm	Blade-length mm	Blade Ø mm	Blade width mm	Weight g
1-151	85	40	3.0	3.0	3
1-152	85	40	4.0	4.0	3
1-153	175	130	3.0	2.0	4
1-154	175	130	4.0	3.0	5
1-155	175	130	5.0	3.5	6
1-156	175	130	5.0	4.0	6
1-157	225	180	4.0	3.0	6



1-150  BERNSTEIN

Abgleichschraubendreher-Satz  
7-teilig wie oben beschrieben im  
übersichtlichen Kunststoffetui  
Weight: 75 g



## ADJUSTING SCREWDRIVERS WITH METAL INSERTS MADE FROM RESILIENT HARD BRONZE

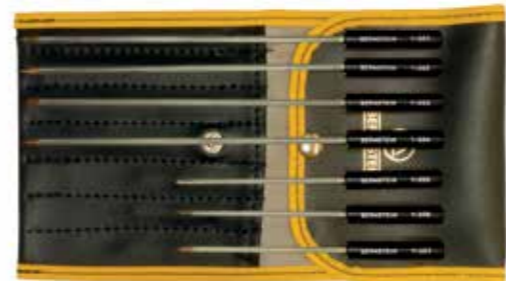
For extremely firm cores or extremely small dimensions  
Handle made from BERNSTEINIT, blades made from special plastic with  
bronze tips

No.	Total length mm	Blade-length mm	Blade Ø mm	bronze-insert mm	Weight g
1-301	200	155	2.7	1.4x0.5	4
1-302	200	155	2.7	2.0x0.5	4
1-303	200	155	2.7	2.5x0.5	4
1-304	200	155	2.7	1.7x0.7	4
1-305	125	80	2.4	1.1x0.5	3
1-306	125	80	2.4	1.7x0.7	3
1-307	125	80	2.4	2.0x0.5	3



1-300  BERNSTEIN

Adjusting screwdrivers,  
7-piece set, as described above,  
clearly arranged in a wallet  
Weight: 70



## ADJUSTING TOOL SETS

1-180  BERNSTEIN

Adjusting tools  
7-piece set in a wallet  
Weight: 70 g



No. Description of individual tools

- 1-151 total length 85 mm, Blade 40 x 3,0 mm
- 1-152 total length 85 mm, Blade 40 x 4,0 mm
- 1-153 total length 175 mm, Blade 130 x 2,0 mm
- 1-155 total length 175 mm, Blade 130 x 3,5 mm
- 1-181 Double-ended adjusting key made from BERNSTEINIT with hard special plastic inserts, overall length 180 mm, one end hexagonal 1.85 mm A/F, other end square 1.5 mm A/F
- 1-182 Double-ended adjusting key made from BERNSTEINIT with hard special plastic inserts, overall length 180 mm, one end hexagonal 2.6 mm A/F, other end square 3.0 mm A/F
- 1-306 Adjusting screwdriver made from special plastic, overall length 125 mm, blade 80 x 2,4 mm, with bronze insert 1.7 x 0,7 mm



1-250  BERNSTEIN

Special tools and adjusting tools  
15-piece set in a leather case  
Weight: 175 g


No. Description of individual tools

- 1-151 Abgleich-Schraubendreher aus BERNSTEINIT, mit Blade aus harter Spezialplastik, total length 85 mm, Blade 40 x 3,0 mm
- 1-153 Adjusting screwdriver made from BERNSTEINIT, with hard special plastic insert, overall length 175 mm, blade 130 x 2,0 mm
- 1-154 Adjusting screwdriver made from BERNSTEINIT, with hard special plastic insert, overall length 175 mm, blade 130 x 3,0 mm
- 1-181 Double-ended adjusting key made from BERNSTEINIT, with hard special plastic inserts, overall length 180 mm, one end hexagonal 1.85 mm A/F, other end square 1.5 mm A/F
- 1-182 Double-ended adjusting key made from BERNSTEINIT, with hard special plastic inserts, overall length 180 mm, one end hexagonal 2.6 mm A/F, other end square 3.0 mm A/F
- 1-305 Adjusting screwdriver made from special plastic, overall length 125 mm, blade 80 x 2,5 mm, with bronze insert 1.1 x 0,5 mm
- 1-307 Adjusting screwdriver as above, with bronze insert 2.0 x 0,5 mm
- 1-978 Engineer's mirror with extension handle, made entirely from BERNSTEINIT, handle ground as 6 mm screwdriver
- 2-126 Desoldering lever, slotted at one end, nickel-plated and insulated, with plastic handle
- 2-128 Tin switch blade into sharper chisel shape
- 2-265 Pair of test prods, red and black, extremely slim, pointed and flexible, 155 mm, blade made from 1 mm steel wire, with banana plug connection, fully insulated
- 2-605 PLCC - puller for excavating plugged PLCC, Length 135 mm
- 4-301 Miniature screwdriver, overall length 85 mm, blade 40 x 1,8 mm
- 4-311 Screwdriver for grub screws, overall length 140 mm







**1-200**  **BERNSTEIN** Special tools and adjusting tools 12-piece set in an imitation leather case  
Weight: 160 g

No.	Description of individual tools
1-153	Adjusting screwdrivers made of amber, with use of harder special plastic, total length 175 mm, Blade 130 x 2,0 mm
1-181	Double-ended adjusting key made from BERNSTEINIT, with hard special plastic inserts, overall length 180 mm, one end hexagonal 1.85 mm A/F, other end square 1.5 mm A/F
1-182	Double-ended adjusting key made from BERNSTEINIT, with hard special plastic inserts, overall length 180 mm, one end hexagonal 2.6 mm A/F, other end square 3.0 mm A/F
1-301	Adjusting screwdriver made from special plastic, overall length 200 mm, blade 155 x 2.7 mm, with bronze insert 1.4 x 0.5 mm
1-304	Adjusting screwdriver as above, bronze insert 1.7 x 0.7 mm
1-505	Slotted key made from special plastic, 120 x 3 mm Ø, 1 mm slot at both ends
1-978	Engineer's mirror with extension handle, made entirely from BERNSTEINIT, handle ground as screwdriver
2-265	Pair of test prods, red and black, extremely slim, pointed and flexible, 155 mm, blade made from 1 mm steel wire, with banana plug connection, fully insulated
4-301	Miniature screwdriver, overall length 85 mm, blade 40 x 1.8 mm
5-107	Steel tweezers with bent tips, 150 mm long
5-301	Special sheet-metal scissors, serrated, 110 mm long



## INTERCHANGEABLE BLADES

made from special hard plastic

Nr.	Blade length mm	Cutting mm	Weight g
1-738	32	1,5 x 0,5	1
1-739	32	3,0 x 0,5	1

**1-725** **Adjusting screwdriver handle for interchangeable blades,** made from BERNSTEINIT with swivel top, for 3 mm Ø blades 5

**1-735** **Adjusting screwdriver handle for interchangeable blades,** double ended, for 3 mm Ø blades 6



## SPECIAL TOOLS

No.	Description of individual tools	Length	Weight g
2-265	Test prods, extremely slim, pointed and flexible, blade made from 1 mm steel wire, with banana plug connection, fully insulated, available in red (2-265-1) and black (2-265-2)	155 mm	9
2-126	Desoldering lever, slotted at one end, nickel-plated, round, black dissipative handle	115 mm	10
2-127	Tin knife with pointed, sharp blade, for cutting circuit paths and working printed circuit boards, round, black dissipative handle	115 mm	14
2-128	Tin scraper with blade of sharp parting tool shape for scraping off excess solder and solder bridges, round, black dissipative handle	115 mm	14
2-101	Tin knife with ceramic blade for working printed circuit boards, handle from conductive black plastic	105 mm	9
2-145	Screwdriver with guide sleeve for easy and accurate setting of spindle resistors and potentiometers with slotted axles up to 3.2 mm Ø, nickel-plated blade, plastic-handle	140 mm	12
2-152	Tool holder, nickel-plated brass, with collets at both ends for holding tools from 0 to 3 mm Ø	110 mm	32
2-155	Claw-type gripper, with 3 hardened wire claws, max. 12 mm opening, with clip	165 mm	49
2-157	Flexible claw-type grip with 4 sprung claws, to reach inaccessible areas with free play, nickel-plated, long version	600 mm	75
2-161	Magnetic bar with double ball-and-socket joint, slewable into any position, diameter of bar 8 mm	215 mm	37
2-163	Brass contact cleaner brush, Ø 4 mm, with rotary mechanism, plastic casing	120 mm	10
2-164	Replacement brass brush for 2-163	40 mm	1
2-165	Contact cleaner, brush-type, with wire bristles, nickel-plated	35 mm	2
2-166	Glass fibre contact cleaner brush with rotary mechanism, plastic casing	120 mm	10
2-167/10	Replacement glass fibre for 2-166, 10 pieces	40 mm	12
2-168	Glass fibre contact cleaner brush, Ø 2 mm	135 mm	9
2-169	Replacement glass fibre for 2-168	110 mm	1



## SPECIAL TOOLS

No.	Description of individual tools	Length	Weight g
1-909	Engineer's mirror, magnifying, concave mirror 23 mm Ø, with extension handle, made entirely from BERNSTEINIT, fully insulated version	145/ 260 mm	9
1-978	Engineer's mirror as above, but extension handle with ground 6 mm screwdriver blade, made from BERNSTEINIT	145/ 260 mm	9
2-275	Repair mirror, stainless, magnifying, concave mirror 21 mm Ø, with BERNSTEINIT handle	180 mm	7
2-281	Double-jointed mirror, slewable into any position, nickel-plated, with insulated handle and clip, mirror 30 mm Ø	195 mm	33
2-282	Telescopic mirror with double joint, slewable into any position, nickel-plated, pocket clip, mirror 23 mm Ø	150 bis 460 mm	21
2-292	Plastic magnifying glass with biconvex lens 45 mm Ø, 3,25	70 mm	6
2-293	Hand magnifier, biconvex PMX-lightweight lens with antistatic coating, 65 mm Ø, 3.0 x magnification	180 mm	52
2-295	Hand magnifier, illuminated with aspherical PMX-light-weight lens, 35 mm Ø, 7x magnification, 28.0 dpt., with 2 batteries type Mignon 1.5 V	125 mm	80
2-297	Magnifying glasses Max Detail for easy and precise viewing, 2 x magnification (galilean system), large field of view: about Ø 15 cm, with 40 cm distance, large working distance: 40 cm, magnifying glasses with +/- 3 diopter adjustment, independently adjustable		52
2-655	Pocket inspection lamp MITILITE LASER SPOT with bent fibre optic adaptor for close inspection of small, tight, hard-to-see areas. The most powerful pocket lite with pre-focused reflector, clip and magnet, handy, watertight and unbreakable incl. 2 Alkaline-batteries ea. 1.5 V	125 mm	52

## SPECIAL TOOLS

No.	Description of individual tools	Length mm	Weight g
2-701	Krone Insertion tool with sensor, wire connection, without soldering, screwing and stripping, cutting the remaining length, all in one operation	185	63
2-130	Set of spring hooks, 6-piece, nickel-plated, for gripping and straightening, inserting and removing tension and compression springs of various kinds, hook screwing onto handle, in a plastic case	205	42
2-131	Spring hook, nickel-plated and insulated, for inserting and removing tension and compression springs	205	10
2-132	Spring hook, nickel-plated and insulated, for inserting and removing tension springs	175	8
2-133	Spring hook with ring, nickel-plated, for inserting and removing strong tension springs	195	13
2-601	IC tweezers for gripping, inserting and removing, especially suitable for narrow components, nickel-plated	125	20
2-601-13	IC-tweezers with ESD-coating description as before	125	22
2-605	PLCC-puller for lifting out plug-in PLCC's	135	6
2-620	PLCC extractor for easy removal of plug-in PLCC's	100	22





## 9-101 LUXO LED-LUPENLEUCHTE

The high level of flexibility between the lamp head and the arm enables an easy and precise positioning of the lens.  
Light Magnifying Lamp with a circular LED module and total energy consumption of 9.5 W.

<b>Housing</b>	
colour	weiß
<b>Optics</b>	
Primary lens	3 Dioptrien
extensible with top lens	um 4, 6 bzw. 10 Dioptrien
Total magnification	175
Focal length	330
<b>Light source</b>	
Light source	LED
Number of lamps	1
Lamp power (W)	10
with dimming	
<b>Technical data</b>	
IP-classification	20
Tension (V)	230
Arm length in cm	100



## 9-121 LUXO LED-LUPENLEUCHTE WAVE

with flexible, self-balancing luminaire. Shadow-free illumination with light from both sides, or the three-dimensional with light coming from the right or left side.

<b>Housing</b>	
colour	weiß
<b>Optics</b>	
Primary lens	3,5 Dioptrien
extensible with top lens	um 4, 6 bzw. 10 Dioptrien
Total magnification	188
Focal length	287,5
<b>Light source</b>	
Light source	LED
Number of lamps	2
Lamp power (W)	12
with dimming	
<b>Technical data</b>	
IP-classification	20
Tension (V)	230
Arm length in cm	105



## 9-125 LUXO ESD-safe LED Magnifier

Flexible self-balancing arm and shade neck for easy positioning.  
Equipped with two semi-circular LED modules with a total energy consumption of 11W.

<b>Housing</b>	
colour	black / dissipative
<b>Optics</b>	
Primary lens	3 diopter
extensible with top lens	with 4, 6 resp. 10 diopter
Total magnification	175
Focal length	330
<b>Light source</b>	
Light source	LED
Number of lamps	1
Lamp power (W)	11
with dimming	
<b>Technical data</b>	
IP-classification	20
Tension (V)	230
Arm length in cm	105



## 9-161 LUXO ESD-SAFE LED MAGNIFIER WAVE

with flexible self-balancing arm. Shadow-free magnification with light coming from both sides, as well three-dimensional magnification with light coming for the left or right.

<b>Housing</b>	
Colour	black / dissipative
<b>Optics</b>	
Primary lens	5 diopter
extensible with top lens	with 4, 6 resp. 10 diopter
Total magnification	225
Focal length	200
<b>Light source</b>	
Light source	LED
Number of lamps	2
Lamp power (W)	12
with three-step dimming	
<b>Technical data</b>	
IP-classification	20
Tension (V)	230
Armlength in cm	105



## 9-166 DETENTION LENS, 4 DIOPTRES

for use with following Magnifying Lamps 9-101, 9-121, 9-125, 9-161

## 9-167 DETENTION LENS, 6 DIOPTRES

for use with following Magnifying Lamps 9-101, 9-121, 9-125, 9-161

## 9-168 DETENTION LENS, 10 DIOPTRES

for use with following Magnifying Lamps 9-101, 9-121, 9-125, 9-161

Articlenumber	primary lens diopter	secondary lens diopter	total magnification	magnification in %	focal length
9-101	3.0		1.8X	175%	330 mm
	3.0	4.0	2.8X	275%	140 mm
	3.0	6.0	3.3X	325%	110 mm
	3.0	10.0	4.3X	425%	70 mm
9-121	3.5		1.9X	188%	285 mm
	3.5	4.0	2.9X	288%	130 mm
	3.5	6.0	3.4X	338%	105 mm
	3.5	10.0	4.4X	438%	75 mm
9-125	3.0		1.8X	175%	330 mm
	3.0	4.0	2.8X	275%	140 mm
	3.0	6.0	3.3X	325%	110 mm
	3.0	10.0	4.3X	425%	70 mm
9-161	5.0		2.3X	225%	200 mm
	5.0	4.0	3.3X	325%	110 mm
	5.0	6.0	3.8X	375%	90 mm
	5.0	10.0	4.8X	475%	50 mm

## MAGNIFYING LAMPS SLIM LINE

High quality magnifying lamps, perfect for precise inspection work

### 9-711 DAYLIGHT MAGNIFYING LAMPS ULTRA SLIM LED

Glas lens Ø 17.5 cm, magnification 1.75 x, 3 diopter  
60 ultra light LEDs (3.300 Lux on 26 cm) flicker-free light  
total arm length 130 cm including table bracket  
„Quick Lens Swap System“ for quick lens change  
resistant against scratches by special coating  
„Nanotechnology Hard Coating“



#### Accessories:

9-717 Glas lens for 9-711, magnification 2.25 x, 5 diopter



### 9-721 DAYLIGHT MAGNIFYING LAMPS SLIMLINE LED

2 Glas lenses each Ø 13 cm  
magnification 1.75 x, 2.25 x  
ultra light LEDs ( 6000 Lux on 15 cm )  
flicker-free light  
total arm length 95 cm including table bracket  
„Quick Lens Swap System“ for quick lens change

## STEREO MICROSCOPE

with light shadow-free illumination

The microscope is especially well suited for reliable monitoring details of materials and assemblies as well as precision work in SMD technology.

#### Technical data:

Stereo-Head:	45° oblique view, 360° rotating pupillary distance adjustable from 54 - 74 mm
Size of base:	200 x 150 mm
Magnification:	10 x / 20 x with attachment lens extensionable up to 40 x
Ocular:	wide field 10 x eyepiece with diopter adjustment +- 5 dpt, eyepiece cup
Support:	stable metal support, length 245 mm, black-white plastic plate for illumination
Illumination:	ED ring light source with light shadow-free illumination, fitted at turret head, life time 20.000 h, with flicker-free LED light (light colour 5800 K), luminosity 0 - 15.000 lux continuously adjustable (with 80 mm work distance), voltage variable from 100 V - 240 V / 60 / 50 Hz, output voltage 18 V / 3.6 W
Work Distance:	83 mm at magnification 10 x / 20 x
Visionfield:	Ø 19 mm 10 x, Ø 9,5 mm 20 x

### 9-155 STEREO-MICROSCOPE WITH TABLE STAND

### 9-158 STEREO-MICROSCOPE

as 9-155, however with stable hinge arm, 850 mm length with 3 setscrews in the spring arms, optional adjustable, with table clamp as well as screw down table foot





## VARIOUS HAND TOOLS

Tools for different applications,  
as far as possible, in accordance with DIN - standards established.

## HAND TOOLS

No.	Length mm	Head Weight	Weight g
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### Engineer's hammers to DIN 1041

swaged, accurately slided, stem and path finish grinded, lacquered and rustproof, with lacquered ash-handle

7-112	260	100	155
7-114	280	200	260
7-116	300	300	435
7-119	320	500	615

No.	Length mm	Kopf- Ø mm	Total-Weight g
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### Plastic hammers

with impact-resistant, cellidor plastic tops, lacquered wooden handle

7-121	255	22	130
7-122	265	27	225
7-123	285	32	330

No.	Blade-width mm	Blade length mm	length mm	Weight g
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### Firmer chisels with impact-resistant wooden handle

7-201	10	120	235	90
7-202	16	130	240	130
7-203	20	140	250	155

No.	Head width mm	length mm	Ø mm	Weight g
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### Flat chisels chrome vanadium, safety impact head

7-215	10	100	8	45
7-225	16	150	12	120
7-235	20	200	16	300

### Electrician's chisels chrome vanadium, safety impact head

7-245	8	200	6	60
7-255	10	200	8	140

No.	Head-Ø mm	length mm	Ø mm	Weight g
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### Centre-punch

to DIN 7250, chrome vanadium, safety impact head

7-281	5	120	12	90
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## HAND TOOLS MEASURING

No.	Length mm	Cross section mm	Weight g
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### Steel tape measure

stainless, lines and numbers etched and blank coloured

7-508	300	13 x 0,5	20
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No.	Measuring range mm	Nose mm	Display mm/inch	Weight g
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### Digital caliper DIN 862

with cross points, depth gauge, fixing screw, stainless, hardened, capacitive sensor-technic, with digital LCD-display, in a wallet

7-511	150	40	0,01 / 0,001	300
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### Miniature digital caliper DIN 862

with cross points, depth gauge, fixing screw, stainless, hardened, capacitive sensor-technic, with digital LCD-display, in a wallet

7-512	75	30	0,01 / 0,001	90
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No.	Handle-Ø mm	Needles-Ø mm	Total length mm	Weight g
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### Scriber

with roughened nickled handle, needles hardened and burnished, interchangeable

7-521	6	2,5	200	26
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No.	Needles-Ø	Weight g
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### Spirit level

made from plastic with 3 levels: horizontal, vertical and 45° angle

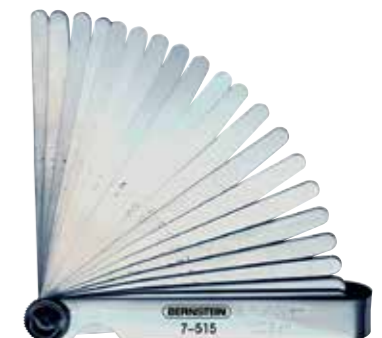
7-535		220	58
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No.	Measuring range	Blade length	Blade	Weight g
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### Feeler gauge

with tapered sheets

7-515	0.10 - 2.0	200	20	171
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## FILES

No.	Length		Finish	Weight g
	mm	Inch		

### Needle files without handle

5-201	140	5 1/2"	flat-dull	7
5-202	140	5 1/2"	flat pointed	6
5-203	140	5 1/2"	round	6
5-204	140	5 1/2"	half round	6
5-205	140	5 1/2"	triangular	6
5-206	140	5 1/2"	square	6

### 5-210 6-piece set of needle files

No. 5-201-5-206 in plastic wallet

50

### Warding files with wooden handle

overall length 175 mm - 6 3/4"

5-231	100	4"	flat-dull	17
5-232	100	4"	flach-pointed	14
5-233	100	4"	round	13
5-234	100	4"	half round	27
5-235	100	4"	triangular	18
5-236	100	4"	square	15

### 5-240 6-piece set of warding files

No. 5-231 - 5-236 with wooden handle, in plastic wallet

11

No.	Length		Finish	Weight g
	mm	Inch		

### Contact file

with fine cut

5-261	150	6"	flat-hand	9
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### Engineer's files with wooden handle

heavy type, fine cut, overall length 320 mm - 13 1/2"

5-271	200	8"	flat-hand	155
5-274	200	8"	half round	155



## HAND TOOLS

No.	Blade length mm		Length mm	Weight g

### Pocket hack saw „Puk“

with adjustable wooden handle, with saw blade for wood and metal, in a plastic wallet

7-616	150		300	140
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### Hack saw blade special for „Puk“ hack saws and pocket hack saw 7-620

7-617			150	3
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No.	Bore-Ø mm	Blade length mm	Total length mm	Weight g
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### Twist gimlets

black lacquered, with knurled ring handle

7-304	4		140	20
7-306	6		170	30

No.	Blade-Ø mm	Blade length mm	Total length mm	Weight g
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### Drill rasp

with plastic handle

7-316	6	100	185	80
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No.	Blade length mm	Total length mm	Weight g
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### Trowel

with conical forged blade and wooden handle

7-405	50	200	70
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### Slicker trowel

polished with round shank

7-410	16	220	25
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## HAND TOOLS

No.	Ø mm	Height mm	Weight g
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**Rubber beaker for plaster** (without picture) round, conical form

7-415	130	95	150
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No.	Finish mm	Borstenbreite mm	Totallength mm	Weight g
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**Dust brush**

7-425	white bristles, and plastic handle	25	195	10
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No.	Volumen ml	Totallength mm	Weight g
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**Oiler**

made from transparent plastic with brass rotating seal

7-435	40	110	15
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## MEASURING TOOLS

No.	Length m	Material	Width mm	Weight g
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**Folding rule**

7-502	2	wood	15	120
7-503	1	plastic	13	60

**Tape measure**

with impact-resistant plastic housing, steel tape for pulling out and in

7-506	2		13,0	71
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## SCISSORS - KNIVES - STRIPPERS

No.	Length mm	Inch	Finish	Weight g
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**Cable stripping shears**

made from stainless steel, with handy plastic handles, compression spring, self-locking. The sheathing of round, flat and shield cables may be removed easily

5-309	190	7 1/2"	stainless	125
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**Combination cutters** (general purpose cutters)

made from stainless steel, with serrated cutting edge, handy plastic handles and compression spring

5-304	190	7 1/2"	polished	120
5-305	140	5 1/2"	polished	60

**Wire scraper tweezers**

for stripping varnish or any other material on wires 0.6 mm Ø made from steel, with interchangeable cutters

5-181	130	5 1/8"	burnished	33
5-182			cutters (2 pieces)	2

**Electrician's knife**

with steel blade, wire scraper and wooden handle

5-501	200	8"	knife opened	77
	110	4 3/8"	knife closed	

**Pocket knife**

with one blade

5-511	180	7"	knife opened	44
	100	4"	knife closed	

**Universal blade knife**

made from plastic material with adjustable blade

5-515	140	5 1/2"		10
5-516			set of blades for 5-515 (10 pieces)	25
5-517	150	5"		46
5-518			set of blades for 5-517 (10 pieces)	73

**Rotary coaxial cable stripper**

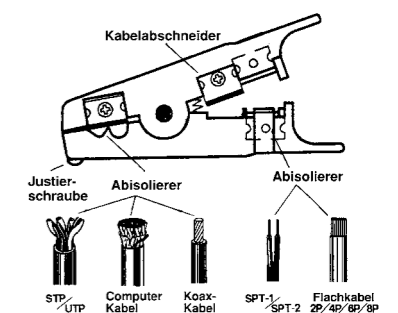
Handy plastic tool with adjustable cutters, for cable types RG 58, RG 59 and RG 62

5-0601	100	4"	black	51
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**Universal stripping tool**

Handy plastic tool with adjustable cutters, very easy to use

5-0605	100	4"		38
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## SCISSORS

No.	Length		Finish	Weight
	mm	Inch		
g				
<b>Universal cutting shears</b>				
5-306	180	7"	black-lacquered, polished head	85
<b>Telephone and cable shears</b>				
5-308	125	5"	nickel-plated	67
<b>Domestic scissors</b>				
5-311	180	7"	nickel-plated, polished	80
<b>Clamping scissors</b>				
5-161	130	7"	stainless, with serrated jaws	80
<b>Special scissors</b>				
5-301	110	7"	with teeth, particularly slim	80



## GAS SOLDERING IRONS

The progressive gas soldering iron is suitable for laboratories, service and production.

- 8-375 Ersa gas soldering iron Independent 75,**  
OGO 70KN with soldering tip OGO 72 KN adjustable gas supply 15 - 75 W, heating up time ca. 46 sek. (280° C) max. temperature ca. 580 °C.
- 8-396 PORTASOL gas soldering iron**  
with soldering tip 8-396-2 adjustable gas supply 10 - 60 W, heating up time ca. 20 sek. max. temperature ca. 450 °C



## DESOLDERING PUMPS

Ersa desoldering device VAC 2, VAC 3 und VAC X are distinguished by their high suction power. The antistatic design of the device allows desoldering work on electrostatically endangered assemblies.

- 8-385 Ersa Desoldering pump OVAC X,** suction capacity 11.3 cm<sup>3</sup>

### Desoldering suction pumps Praktik

Handy tools in an all-metal cabinet with interchangeable teflon bit, high suction capacity by dual-sealing of the bulb. Colour: gold

- 8-390 Desoldering pump** 195 mm long, 20 mm Ø



## VACUUM PUMPS

- 8-110 Ersa fine soldering iron Tip** 260 BN/230 V/16 W







