

# <image>

# BALL JOINT - VICES BALL JOINT - HOLDER AND EQUIPMENT

Vers.01

#### GET IN CONTACT WITH US

#### BERNSTEIN

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#### **VISIT US ON THE WEB**

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

#### www.bernstein-tools.de

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

#### SYMBOL LEGEND



New product

Number of tools in sets



Weight



Dimensions



ESD protection (EPA suitable)



VDE tested





# BALL JOINT CLAMPING DEVICES FIRM HOLD IN EVERY POSITION

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

We offer various retaining tools to overcome such challenges. Our SPANNFIX product series ranges from classic vice heads to special equipment for the electronics industry to variable and versatile bases.

In all of our SPANNFIX products, we manufacture our high-grade, precise ball joint from steel, the ball joint can be moved in many different positions and fixed steplessly with a simple press of the lever. The different heads and bases in our SPANN-FIX product line allow flexible working in any place or situation. Depending on the application, they can be combined with each other.

For example, many of our various bases are used to hold cameras, monitors or other components. The possibilities are endless.

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

sales@bernstein-tools.de

clamping width 70 - 100 mm

# **CLAMPING TOOLS** WITH BALL JOINT

#### WHAT OUR CLAMPING TOOLS DISTINGUISHES

These are multifunctional clamping devices, the perfect third hand at the workplace, extremely flexible, can be fixed very quickly with high holding force.

Individual adjustment of the working height offers an ergonomic posture standing or sitting work. Soldering, gluing, drilling, sawing, grinding, filing, milling, cutting, much more.

Individual adjustment of the working angle the workpiece can be held as required in the respective application.

With a simple lever movement the ball is locked or released.

The mobility of the ball can be set more tightly or loosely using the adjusting screw on the lower seat of the ball.

Long product life is guaranteed by the bullet-free cast aluminium, the high-quality powder coating and the refined steel parts. 100% Made in Germany.

With the lever, the ball can be locked and released in one quick movement.

> table thickness up to 80 mm

head 360° rotatable 45° inclination

Base for clamping on the workbench HEAD

BASE

# **AROUND THE BALL**

#### MANUFACTURE AND MATERIAL

The ball and connecting parts are made of free-cutting steel with a high-gloss chrome plating. The high-precision manufacture of the ball guarantees absolute roundness in order to ensure permanent ease of movement. The powder-coated parts are made of an aluminum alloy with high strength values. Our quality management carries out constant controls during the manufacturing process. During disassembly, every vice and ball joint holder is subject to a quality and function control. The individual parts are made in Germany from Remscheid, eco-friendly and sustainably produced. When procuring raw materials and accessories, we work with selected suppliers who adhere to environmental compliance and ethical principles.

The traditional brand BERNSTEIN stands for durable products for professionals, which many customers have enjoyed for decades.

#### **CLAMPING FORCE AND TORQUE**

The size of the steel ball determines the holding force

#### Ø 40 mm

Maximum torque in the ball socket	approx. 24 Nm
Holding force at height of threaded pin	approx. 45 kg (441 N)
Ø 60 mm	
Maximum torque in the ball socket	approx. 100 Nm
Holding force at height of threaded pin	approx. 140 kg (1372 N)

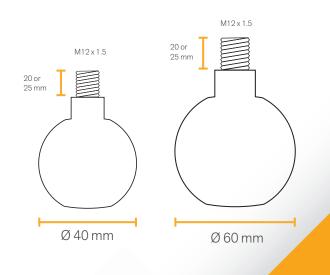
By degreasing the ball, you increase the maximum holding or clamping force.

For safety-relevant parts, please note that we cannot give a guarantee of the holding forces without knowing your specific application. The ball may behave differently under different physical conditions than it does in our test laboratory in an optimal test environment.

#### THREADED CONNECTION

The threaded pin on the ball has an M12 thread with a 1.5 mm pitch (special thread).

We offer matching threaded connection adapters 1/4 inch or metric threads from M6 to M12. With internal or external thread, straight or 45° bent length from 50 to 100 mm. Other threaded connections are available on request.



# BALL JOINT VICE MODELS

The BERNSTEIN ball joint vice has a continuously adjustable joint head that can be **rotated 360° and inclined \pm 45°**. The upper part of the vice can thus be tilted in any direction and allows work in front of or above the table. With a simple lever movement, the vice head is loosened in the ball socket, individually aligned and clamped again. Despite stepless locking, the ball clamp offers an **extremely strong hold**.

The ESD versions have a dissipative powder coating and an earthing connection push button (10 mm) on the back.

The article numbers in the table are explained in detail on the following pages.



#### Vice for clamping

Art-No.	Ball/torque	Clamp.force	Jaw width/material	Weight	Colour	Special feature
9-205	Ø 40 mm/ approx 24 Nm	1470 N	50 mm / plastic	1450 g	grey metallic	
9-205-ESD	Ø 40 mm/ approx 24 Nm	1470 N	50 mm / plastic	1450 g	ESD black	dissipative, with earthing connection
9-205-K	Ø 40 mm/ approx 24 Nm	1470 N	50 mm / plastic	1450 g	grey metallic	with Velcro (hook ripening together)
9-290	Ø 60 mm / approx 100 Nm	12,000 N	100 mm / steel	5500 g	grey metallic	the professional with pins and spirit level

#### Vice for screwing on

Art-No.	Ball/torque	Clamp.force	Jaw width/material	Weight	Colour	Special feature
9-215	Ø 40 mm/ approx 24 Nm	1470 N	50 mm / plastic	1310 g	grey metallic	
9-215-ESD	Ø 40 mm/ approx 24 Nm	1470 N	50 mm / plastic	1310 g	ESD black	dissipative, with earthing connection
9-292	Ø 60 mm/ approx 100 Nm	12,000 N	100 mm / steel	4720 g	grey metallic	the professional with pins and spirit level

#### Vice with magnets

	Art-No.	Ball/torque	Clamp.force	Jaw width/material	Weight	Colour	Special feature
	9-287	Ø 40 mm/ approx 24 Nm	1470 N	50 mm / plastic	1310 g	grey metallic	4 high-performance magnets
NEW	9-297	Ø 60 mm/ approx 100 Nm	12,000 N	100 mm / steel	4720 g	grey metallic	the professional with pins and spirit level and 4 high-performance magnets

# BALL JOINT HOLDER MODELS

The BERNSTEIN ball joint brackets enable precise and secure positioning in all directions, e.g. of sensors, measuring instruments, monitors and surveillance cameras, **inclination angle \pm 45°.** The thread pin has an M12 x 1.5 mm thread (special thread), the scope of delivery includes a sschnorr washer, lock nut and lock nut for the thread. We offer suitable **threaded connection adapters from M6 to M12 or 1/4 inch.** With internal or external thread, straight or 45° bent, from 50 to 100 mm. Other threaded connections are available on request.

The ESD versions have a dissipative powder coating and an earthing connection push button (10 mm) on the back.

The item numbers in the table are explained in detail on the following pages.



#### Ball Joint Holder for clamping

Art-No.	Ball/holding force	Thread length	Support surface	Clamping range	Colour	Dissipative
9-251	<b>Ø 40 mm</b> / approx 45 kg	20 mm	Ø 20 mm	max. 80 mm	grey metallic	
9-251-ESD	<b>Ø 40 mm</b> / approx 45 kg	20 mm	Ø 20 mm	max. 80 mm	ESD black	10 <sup>7</sup> - 10 <sup>8</sup> Ohm
9-251-SW	<b>Ø 40 mm</b> / approx 45 kg	20 mm	Ø 20 mm	max. 80 mm	black matt	
9-291	<b>Ø 60 mm</b> / approx140 kg	20 mm	Ø 20 mm	max. 80 mm	grey metallic	

#### Ball Joint Holder for screwing on

Art-No.	Ball/holding force	Thread length	Support surface	Boreholes	Colour	Dissipative
9-261	<b>Ø 40 mm</b> / approx 45 kg	20 mm	Ø 20 mm	4 x Ø 9 mm	grey metallic	
9-261-ESD	<b>Ø 40 mm</b> / approx 45 kg	20 mm	Ø 20 mm	4 x Ø 9 mm	ESD black	10 <sup>7</sup> - 10 <sup>8</sup> Ohm
9-261-SW	<b>Ø 40 mm</b> / approx 45 kg	20 mm	Ø 20 mm	4 x Ø 9 mm	grey metallic	
9-262	<b>Ø 40 mm</b> / approx 45 kg	25 mm	Ø 36 mm	4 x Ø 9 mm	grey metallic	
9-262-SW	<b>Ø 40 mm</b> / approx 45 kg	25 mm	Ø 36 mm	4 x Ø 9 mm	black matt	
9-281	<b>Ø 40 mm</b> / approx 45 kg	20 mm	Ø 20 mm	4 x Ø 6.5 mm	grey metallic	
9-281-ESD	<b>Ø 40 mm</b> / approx 45 kg	20 mm	Ø 20 mm	4 x Ø 6.5 mm	ESD black	10 <sup>7</sup> - 10 <sup>8</sup> Ohm
9-281-SW	<b>Ø 40 mm</b> / approx 45 kg	20 mm	Ø 20 mm	4 x Ø 6.5 mm	black matt	
9-293	<b>Ø 60 mm</b> / approx140 kg	20 mm	Ø 20 mm	4 x Ø 9 mm	grey metallic	
9-294	<b>Ø 60 mm</b> / approx140 kg	25 mm	Ø 36 mm	4 x Ø 9 mm	grey metallic	

#### Ball Joint Holder with magnets

ArtNo.	Ball/holding force	Thread length	Support surface	Colour	Magnete
9-284-SW	Ø 40 mm / approx 45 kg	20 mm	Ø 20 mm	black matt	4 magnets with protective cap, adhesive force
9-296	<b>Ø 60 mm</b> / approx140 kg	20 mm	Ø 20 mm	grey metallic	without cap: horizontally 32 kg, vertically 15 kg

# **BALL JOINT VICE - JAWS 50 MM** FOR CLAMPING

#### Product family 9-205



For workbenches or tabletops with a maximum table thickness of 80 mm. The small vice with ball joint can be quickly and easily connect to any table tops thanks to its smooth-running table clamp. A little pressure of the lever is enough and that the clamped workpiece can be fixed steplessly and in any practical working position. He had stable 50 mm ribbed plastic jaws (waffle pattern).



Clamping pressure:14Clamping width:70Clamping depth:38Jaw width:50

1470 N 70 mm 38 mm 50 mm



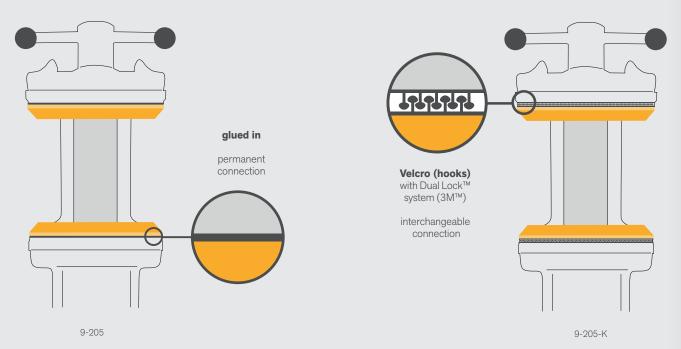


Position as shown approx 310 x 170 x 75 mm (dimensions for orientation)



**GLUE AND VELCRO** 

We offer replacement jaws for permanent gluing 9-205 or with exchangeable Velcro connection 9-205-K. In addition to smooth and ribbed plastic jaws, we offer cork, leather and felt jaws for optimum surface protection of the workpiece.



# **VARIANTS**

In electronics, PCBs (especially small circuit boards) are clamped into the conductive plastic jaws with a waffle pattern for soldering sensitive compo- nents. This <b>SPECIALIST</b> is EPA suitab- le (for electrostatically protected areas, ESD workplace, ESD protection zone) the foot section can be connected to the grounding point on the back with a 10 mm push button.			
Art-No.	9-205	9-205-K	9-205-ESD
Colour variation and coating	grey metallic	grey metallic	black, dissipative
Protective jaws glued in	$\checkmark$	-	$\checkmark$
Velcro fastened protective jaws (Dual Lock™)	-	$\checkmark$	-
Dissipative	-	-	10 <sup>7</sup> - 10 <sup>8</sup> Ohm
Application specialty	BASIC	ALLROUNDER	SPECIALIST with earth connector button

# **SETS**

The **BASIC** and **ALLROUNDER** are used in model making and precision mechanics. The high-quality covering protects sensitive parts from scratches or damage.







Art-No. 9-205-SET1 9-205-K-SET1 9-205-ESD-SET1 9-205 Ball Joint Vice 9-205-K Ball Joint Vice 9-205 ESD Ball Joint Vice Glue jaws: 99-900-K50-FILZ (FELT) Velcro jaws: 99-900-K50-FILZ (FELT) ESD Accessories: 9-359-2 ESD Earth bonding plug 9-900-K50-KORK (CORK) 9-343-1 ESD Grounding cable 9-900-K50-KORK (CORK) Content 9-900-K50-LEDER (LEATHER) 9-900-K50-LEDER (LEATHÉR) 9-900-K50-KST (plastic ribbed) 9-900-K50-KST (plastic ribbed) 9-900-K50-KSTG (plastic ribbed) 9-900-K50-KSTG (plastic ribbed) 2-123 Lever tool

Application specialty

BASIC

ALLROUNDER

SPECIALIST with earth connector button

# **BALL JOINT VICE - JAWS 50 MM** FOR SCREWING

#### Product family 9-215



Suitable for all workbenches and work tables, space dimensions  $150 \times 106$  mm. The vice can be connected to any table tops with four bore holes (Ø 9 mm). A drilling drawing can be downloaded from the website. A small pressure of the lever is sufficient and the clamped workpiece can be fixed steplessly and in any convenient working position.



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



Position as shown approx 220 x 180 x 115 mm (dimensions for orientation)

BASIC





# VARIANTS AND SETS

Colour variation and coating

Velcro jaws (Hook Dual Lock™)

Art-No.

Jaws glued on

Dissipative

Spare parts

Application specialty

9-215	9-215-ESD	9-215-ES
grey metallic metallic	black, dissipative	black, diss
<ul> <li>Image: A second s</li></ul>	✓	

107 - 108 Ohm

SPECIALIST with

earth connector button

9-215-ESD-SET1 black, dissipative

10<sup>7</sup> - 10<sup>8</sup> Ohm

ESD Accessories: 9-359-2 ESD Earth bonding plug 9-343-1 ESD Grounding cable

SPECIALIST with earth connector button



# **PROTECTIVE JAWS** VELCRO (HOOKS)

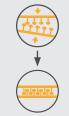
#### Quick change protective jaws 50 mm firm, stable, precise and pinpoint connection different versions, scope of delivery 2 pieces (one pair)

different versions, scope of delivery 2 pieces (one pair)
Art-No
Material

	Art-No.	Material
NEW	9-900-K50-KORK	cork oak
NEW	9-900-K50-FILZ	felt lint-free
NEW	9-900-K50-LEDER	genuine leather hard-wearing
NEW	9-900-K50-KST	plastic ribbed (waffle pattern)
NEW	9-900-K50-KSTG	plastic smooth

completely: 9-900-K50-SET (5 pair) including replacement Velcro pads 10 pieces (Art: KLETT-K050x25)





#### FLEXBLE

By simply pressing together - small mushroom heads interlocked - a very firm but removable connection is created. The snap fastener can be crossed, staggered or overlapped. It provides a permanent fastening that will not loosen even with sustained shaking. Dual Lock™ technology (3M™) Velcro instructions see YouTube video BERNSTEIN vice jaws.



9-900-K50-SET

• Quick change protective jaws 50 mm firm, stable, precise and pinpoint connection different versions, scope of delivery 2 pieces (one pair)

	Art-No.	Material
NEW	9-900-K50-KSTP	plastic prisms
NEW	9-900-K50-ALP	alu prisms
NEW	9-900-K50-ALG	alu with rubber, abrasion resistant

# GLUING

#### Protective jaws 50 mm

with a smooth plastic surface to stick on yourself various designs, scope of delivery 2 pieces (one pair)

NEW
NEW

Art-No.	Material
9-900-E50-KORK	cork oak
9-900-E50-FILZ	felt lint-free
9-900-E50-LEDER	genuine leather hard-wearing
9-900-E50	plastic ribbed (waffle pattern)
9-900-E50-ESD	plastic smooth

completely: 9-900-E50-SET (5 pair) including lever tool (Art: 2-123 ESD)







#### DURABLE

For continuous use, we recommend replacement jaws for gluing in. The replacement jaws, once fitted, provide a comfortable, safe and durable solution.



# **BALL JOINT VICE - JAWS 50 MM** WITH MAGNETS

#### Ball Joint Vice 9-287



With 4 high-performance magnets (including protective caps) for fixing to steel surfaces. Holding force 32 kg horizontal, 15 kg vertical (magnets without caps). The magnets are firmly connected to the base by screws. A small lever pressure is sufficient and the clamped workpiece can be fixed steplessly and in any practical working position.



Clamping pressure: Clamping width: Clamping depth: Jaw width:

1470 N 70 mm 38 mm 50 mm

kg

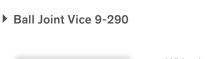


approx 240 x 170 x 75 mm (dimensions for orientation)



2020 awarded with the **EISEN-AWARD** 

# **BALL JOINT VICE - JAWS 100 MM FOR CLAMPING**





With a jaw width of 100 mm, the ball joint vice 4.0 is the largest ball joint vice on the market. It convinces with its unique selling points, the dowel pins, its changeable jaws, its center eye (spirit lever) and the very high ball clamping force. For workbenches or tabletops with a maximum table thickness of 80 mm.



Clamping pressure: Clamping width: Clamping depth: Jaw width:

12000 N 100 mm 50 mm 100 mm

kg



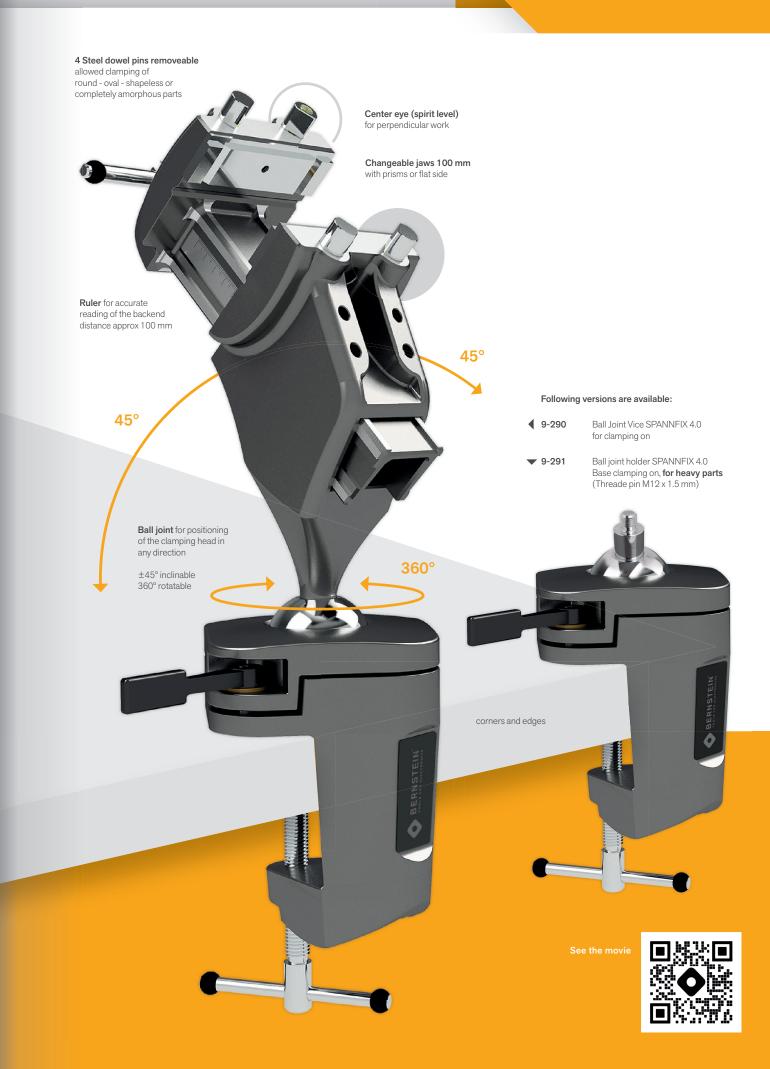






### ▶ 9-290-SET1 consisting of:

9-290 Ball joint vice SPANNFIX 4.0 for clamping 9-900-SET-100 SET protective jaws 100 mm m



# FOR SCREWING ON OR MAGNETIC - JAWS 100 MM

#### Product family 9-292 and 9-297



The vice can be screwed to the workbench through 4 through holes (152 x 151 mm space) or fixed to steel surfaces with 4 magnets. The 4 heavy-duty magnets with protective caps have a holding force of 32 kg horizontally and 15 kg vertically (magnets without caps). The magnets are firmly connected to the housing by screws. A tapping drawing can be downloaded from the website. 12000 N Clamping pressure: Clamping width: 100 mm

50 mm



VARIANTS

Jaw width: 100 mm Position as shown approx 290 x 160 x 190 mm

Clamping depth:



Weight 4720 g

9-297

Art-No.	9-292	9-297	
Colour variation and coating	grey metallic	grey metallic	
Bore holes	$\checkmark$	-	
High performance magnets	-	$\checkmark$	
Application specialty	for screwing on	Magnetic base for steel surfaces	

**SPARE PARTS** 4444 **DOWEL PINS** 9-900-S1000 9-900-S1002 9-900-S1003 9-900-S1004 Art-No. Material steel plastic steel plastic With integrated spirit level  $\checkmark$ 172 g 100 g Weight 18 g 32 g Ø8mm Ø8mm Mounting Ø8mm Ø8mm

approx 15 mm

approx 30 mm

#### ▶ 9-900-0773-1

Height

#### Changeable steel jaws 100 mm

Can be used on both sides, smooth surface and profile side for pipe clamping or round material; with stepped edge (groove) for square material or thick sheets. Dimensions 100 x 30 x 6 mm, weight 83 g

approx 15 mm



approx 30 mm

## **PROTECTIVE JAWS**

in various designs, with magnetic strips or magnetic dots suitable for clamping scratch and impact sensitive parts, scope of delivery 2 pieces (one pair)



NEW	
NEW	

	100 mm	125 mm	150 mm
Cork (yellow prismatic plastic jaws with abrasion-resistant, soft cork oak coating)	9-900-S4100	9-900-S4125	9-900-S4150
Leather (yellow prismatic plastic jaws with hard-wearing genuine leather covering)	9-900-\$5100	9-900-S5125	9-900-S5150
Felt (yellow prismatic plastic jaws with robust, lint-free felt fleece fibre covering)	9-900-S6100	9-900-S6125	9-900-S6150
Plastic (yellow prismatic plastic jaws, smooth on one side, robust hard plastic)	9-900-S7100	9-900-S7125	9-900-S7150
Rubber (aluminium jaws with profiled rubber coating)	9-900-\$8100	9-900-S8125	9-900-S8150
Aluminium prisms (aluminium jaws with prisms and angular clamping grooves)	9-900-S9100	9-900-S9125	9-900-S9150

#### Protective jaws set 6 pcs

Packed in a plastic bag that can be hung on the wall or rolled up to save space. Bag dimensions: approx. 430 x 390 mm

#### Content

Pocket, 6 pockets 80x130 mm Plastic protective jaws cork (pair) Plastic protective jaws leather (pair) Plastic protective jaws felt (pair) Plastic protective jaws (pair) Aluminum protective jaws rubber (pair) Aluminum protective jaws prisms (pair)







100 mm	125 mm	150 mm
9-900-SET-100	9-900-SET-125	9-900-SET-150

# SPARE PARTS ADHESIVE STRIPS

For all types of vice protective jaws or replacement jaws to stick on, as protection for sensitive parts that have to be fixed, clamped and processed.



		50 mm	100 mm	125 mm	150 mm
NEW	Velcro self-adhesive (VE10)	KLETT-050x25x3	-	-	-
NEW	Cork self-adhesive (VE10)	KORK-050x25x3	KORK-100x25x3	KORK-125x25x3	KORK-150x25x3
NEW	Leather self-adhesive VE10)	LEDER-050x25x3	LEDER-100x25x3	LEDER-125x25x3	LEDER-150x25x3
NEW	Felt self-adhesive (VE10)	FILZ-050x25x3	FILZ-100x25x3	FILZ-125x25x3	FILZ-150x25x3

90°

# **BALL JOINT HOLDER FOR CLAMPING**

Product family 9-251



For workbenches or tabletops with a maximum table thickness of 80 mm. The holder can be guickly and easily connect to any workbench or tabletop thanks to its smooth-running table clamp. A little pressure of the lever is enough and that the clamped workpiece can be fixed steplessly and in any practical working position.



Ball size: Ø 40 mm Holding force: approx 80 mm Clamping range:

approx 45 kg (441N)





Position as shown approx 220 x 170 x 75 mm (dimensions for orientation)



# VARIANTS

Included in delivery: schnorr washer, lock nut and lock nut for the thread.



Art-No.	9-251	9-251-SW	9-251-ESD
Colour variation and coating	grey metallic	black matt	black, dissipative
Thread pin	M12 x 1.5 mm	M12 x 1.5 mm	M12 x 1.5 mm
Thread length	20 mm	20 mm	20 mm
Dissipative	-	-	10 <sup>7</sup> - 10 <sup>8</sup> Ohm
Application specialty	BASIC	BASIC	SPECIALIST with earth connector button

A quick clamping to optimally align cameras, monitors, sensors or measuring instruments. Used in woodworking as carving plates, carving balls or various clamping and holding tool. Wide variety of clamping and holding devices are screwed on for instrument and model making. Suitable adapters and extensions of all types can be screwed on via the thread on the ball. An optimal hold to repair e-scooters, e-bikes and bicycles free-floating. Used for years in universities, research centers and laboratories have appreciated the many possible applications.



90°

# **BALL JOINT HOLDER FOR SCREWING**

Product family 9-261 and 9-262



Suitable for all workbenches and tables. Place dimensions 150 x 106 mm. The holder can be screwed on with four through holes ( $\emptyset$  9 mm). A drilling drawing can be downloaded from the website. A small lever pressure is sufficient to fix the ball steplessly and in any practical working position.



Ball size: Holding force: Bore hols:

> Position as shown 90 x 180 x 110 mm

(dimensions for orientation)

Ø 40 mm approx 45 kg (441N) Ø9mm



# **VARIANTS**

Included in delivery: schnorr washer, lock nut and lock nut for the thread.



Art-No.	9-261	9-261-SW	9-261-ESD	9-262	9-262-SW
Colour variation and coating	grey metallic	black matt	black, dissipative	grey metallic	black matt
Thread pin	M12 x 1.5 mm	M12 x 1.5 mm	M12 x 1.5 mm	M12 x 1.5 mm	M12 x 1.5 mm
Thread length	20 mm	20 mm	20 mm	25 mm	25 mm
Support surface	Ø 20 mm	Ø 20 mm	Ø 20 mm	Ø 36 mm	Ø 36 mm
Dissipative	-	-	10 <sup>7</sup> - 10 <sup>8</sup> Ohm	-	-

BASIC

Application specialty BASIC

SPECIALIST with earth connector button

EXTRA with large pin

EXTRA with large pin



90°

# **BALL JOINT HOLDER** FOR SCREWING ON OR MAGNETIC

#### Product family 9-281 and 9-284-SW



This slim holder is the lightweight among the BERNSTEIN holders. At  $110 \times 72$  mm, it can be screwed onto any tabletop with 4 through holes (Ø 6.5 mm) to save space, or fixed to steel surfaces with 4 magnets. A drilling drawing can be downloaded from the website. The 4 heavy-duty magnets with protective caps have a holding force of 32 kg horizontally and 15 kg vertically (magnets without caps). The magnets are firmly connected to the base by screws.



Ball size: Ø 40 mm Holding force: approx 45 kg (441 N)



Position as shown 80 x 170 x 75 mm (dimensions for orientation)



# VARIANTS

Included in delivery: schnorr washer, lock nut and lock nut for the thread.



Art-No.	9-281	9-281-SW	9-281-ESD	9-284	9-284-SW
Colour variation and coating	grey metallic	black matt	black, dissipative	grey metallic	black matt
Thread pin	M12 x 1.5 mm	M12 x 1.5 mm	M12 x 1.5 mm	M12 x 1.5 mm	M12 x 1.5 mm
Thread length	20 mm	20 mm	20 mm	20 mm	20 mm
Dissipative	-	-	10 <sup>7</sup> - 10 <sup>8</sup> Ohm	-	-
High performance magnets	-	-	-	<ul> <li>Image: A second s</li></ul>	

Application specialty

BASIC

BASIC

SPECIALIST with earth connector button Magnetic base for steel surfaces Magnetic base for steel surfaces



# **BALL JOINT HOLDER FOR HEAVY PARTS**

Included in delivery: schnorr washer, lock nut and lock nut for the thread.

#### Product family 9-291



For workbenches or tabletops with a maximum table thickness of 80 mm. The holder can be quickly and easily connect to any workbench or tabletop thanks to its smooth-running table clamp. A little pressure of the lever is enough and that the clamped workpiece can be fixed steplessly and in any practical working position.

Ø 60 mm

approx 80 mm

approx 45 kg (441N)



Clamping range:

Ball size:

Holding force:

Position as shown 240 x 220 x 200 mm (dimensions for orientation)



# 

#### Product family 9-293/9-294/9-296



The holder can be screwed to the workbench through 4 through holes (space dimensions 152 x 151 mm), or it can be fixed to steel surfaces with 4 magnets. The 4 high-performance magnets with protective caps have a holding force of 32 kg horizontally and 15 kg vertically (magnets without caps). The magnets are firmly connected to the housing with screws. A drilling drawing can be downloaded from the website.

Ball size: Holding force: Ø 60 mm approx140 kg (1372N)









# **BALL JOINT HOLDER SINGLE PARTS VARIO**

All these accessories can be connected to the holders (base parts) via the M12 screw connection.

#### Vice Head

Jaw width 50 mm, clamping pressure 1470 N clamping width 70 mm, clamping depth 38 mm Glued-in ESD conductive plastic jaws corrugated (waffle iron pattern) Dimensions for orientation 180 x 70 x 50 mm, weight 560 g

- **9-252** Colour dark gray metallic, surface structure
- ▶ 9-252 ESD Colour black ESD dissipative 10<sup>7</sup> 10<sup>8</sup> Ohm, EPA suitable



9-252

9-252 ESD

#### 9-253-ESD PCB / Circuit Board Holder

two black ESD holders with suspension for sensitive circuit boards adjustable span up to 270 mm, with internal groove for a tight fit of the PCB Height of the support rods 70 mm, steel parts nickel-plated Dimensions for orientation  $310 \times 120 \times 30$  mm, weight 280 g

stable assembly frame rotatable, PCB holder for SMD / THT fits on quick turn device 9-257 or angle adapter 9-255 mostly used with 9-256 cover plate

#### 9-256 Cover plate ESD soft foam for THT equipment

is pushed from the right or left onto 9-253, so that the components to be soldered are held in the right place by the foam, so that after the circuit board holder has been turned all parts and components remain in their place Soft foam size 240 x 130 mm, thickness 20 mm ESD plastic, ESD foam, chrome-plated steel parts Overall dimensions for orientation 280 x 130 x 20 mm, weight 260 g

#### 9-257-ESD Quick turn device for 9-253

enables the circuit board holder with the circuit board to be rotated by  $180^{\circ}$  at lightning speed without loosening an adjusting screw, stops automatically due to the rotation limiter, Color black ESD dissipative 107 - 108 Ohm, EPA suitable Orientation dimensions approx.  $280 \times 130 \times 20$  mm, weight 270 g

#### 9-255-ESD Angle adapter turning circle extension

to expand the turning circle of the joint ball in the ball joint holder with easy-to-use adjusting screw for quick tightening and loosening Color black ESD dissipative 107 - 108 Ohm, EPA suitable Orientation dimensions approx. 100 x 55 mm, weight 95 g

#### Universal machining plate to screw on

3 elongated holes 62 x 6 mm for fastening individual devices Slots for common standard screws up to M12 for setting up stops, tuners, line transformers, prototypes and much more is also often used in woodworking Orientation dimensions Ø100 x 14 mm, weight 95 g

- 9-254 Colour dark gray metallic, surface structure
- ▶ 9-254-ESD Colour black ESD dissipative 10<sup>7</sup> 10<sup>8</sup> Ohm, EPA suitable







9-254

9-254-ESD

# **ESD BALL JOINT HOLDER**

Included in delivery: schnorr washer, lock nut and lock nut for the thread.

These ball joint holders have a dissipative surface with a leakage resistance between  $10^7 - 10^8$  Ohm Ohm. EPA suitable (for electrostatically protected areas, ESD workplace, ESD protection zone) for working on and with sensitive parts and components. The base sections can be connected to the grounding point on the back with a 10 mm push button.



Art-No.	9-251-ESD-SET1	9-261-ESD-SET1
Ball Joint Holder	9-251-ESD	9-261-ESD
9-343-1 ESD grounding cable 1 MOhm, 1.8 m	✓	✓
9-359-2 ESD Earthing plug 2 x 1 MOhm, screw connection M5 for 4 mm eyelet	$\checkmark$	✓

# **ESD BALL JOINT HOLDER VARIO**

With the SPANNFIX VARIO, PCBs / circuit boards up to a length of 270 mm can be clamped. Thanks to the infinitely adjustable ball, the PCB can be positioned and held securely in all directions. Quick turning of the PCBs is possible thanks to the adapter. Very useful as a third hand when soldering or assembling, sensible clamping and holding device with quick release mechanism.

Thanks to the practical **cover plate\*** all inserted components are held in place when turning the PCB and can be soldered conveniently from the other side.







Art-No.	9-240-ESD	9-270-ESD	9-250-ESD
Ball Joint Holder	9-251-ESD	9-251-ESD	9-251-ESD
9-343-1 ESD grounding cable 1 MOhm, 1.8 m	<ul> <li>Image: A second s</li></ul>	✓	
9-359-2 ESD Earthing plug 2 x 1 MOhm	-	-	-
9-253-ESD PCB Holder	$\checkmark$	<ul> <li>Image: A second s</li></ul>	
9-255-ESD Angular Adapter	<b>v</b>	-	-
9-257-ESD Rapid turning device	-	<ul> <li>Image: A start of the start of</li></ul>	
9-256-ESD Cover Plate*	-	<ul> <li>Image: A start of the start of</li></ul>	-
9-252-ESD Vice head - jaws 50 mm	-	-	
9-254-ESD Universal screw-on plate	_	-	<b>_</b>

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#### https://ec.europa.eu/consumers/odr/

In order to settle dispute arising from a contractual relationship with a consumer or from whether such a contractual relationship exists at all, we will participate in dispute settlement proceedings before a consumer dispute resolution body. Consumers can contact their national European Consumer Centre in this regard. The respective contact details of the individual ECCs can be found at

https://www.evz.de/en/alternative-dispute-resolution/adr-in-europe/.





# A little story about the word amber (BERNSTEIN)

The greek word for amber is "elektron": the root of today's term electronics. Even the greeks discovered the special feature of amber: by rubbing the natural amber can be electrostatically charged. The charged stone can attract dust particles.

Today you can use this property to check the authenticity of an amber. If it is real, it can be tested through charge rubbing on a cotton cloth.

You can also wear it as jewellery: it should protect from evil magic and give joy of life.

Just like our high-quality BERNSTEIN ESD Tools - them protect against electrostatics and give joy with the daily work.

(Autor Max Walter Hartmut Blombach)

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