



Hand in hand for tomorrow



Product data sheet

Jaw quick-change system BSWS-PGZN-plus 160

Productive. Flexible. Cost-effective.

Jaw quick-change system BSWS

The jaw quick-change system BSWS allows top jaws to be exchanged on the gripper manually and rapidly. One adapter pin (BSWS-A) and a base (BSWS-B) are required for each gripper jaw. In case of reverse assembly and provided that no additional height is created, one adapter pin (BSWS-AR) and an assembly kit (BSWS-UR) per gripper jaw are required. Another effect of the BSWS-UR is that there are no more disturbing mounting holes in the finger contours.

Field of application

For handling of various components or frequent conversion of automated production lines in clean to dirty environments.

Advantages – Your benefits

Universal application possibilities By using the BSWS, just one single gripper is necessary for various applications

Manual jaw change via locking mechanics easy and fast for a high gripper flexibility

Saving time when converting applications Different workpieces can be handled by exchanging the gripper fingers

Alternative possibility of inserting the locking bolt into the base jaws The changeability and free choice of jaw design has no impact onto the inferring contours



Sizes
Quantity: 9



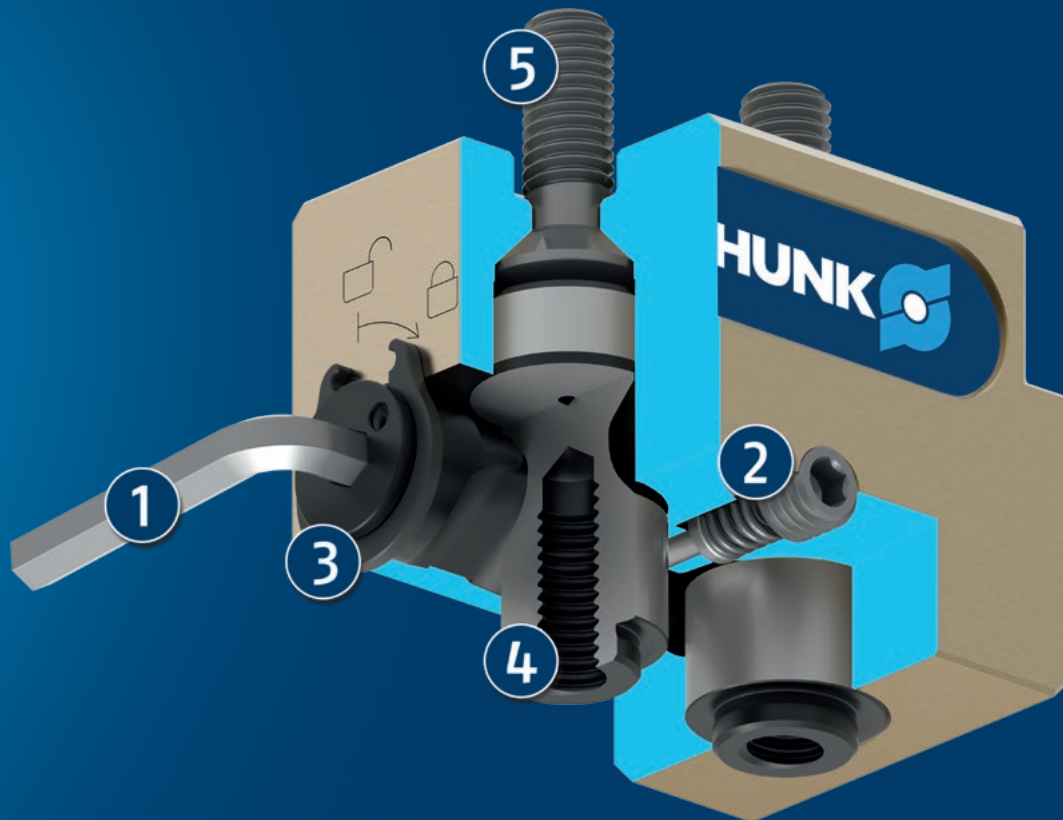
Weight
0.002 .. 5.15 kg

Functional description

One adapter pin (BSWS-A) and a base (BSWS-B) are required for each gripper jaw. In case of a reverse assembly and provided that no additional height is created, one adapter pin (BSWS-AR) and an assembly kit (BSWS-UR) are required per gripper jaw. The BSWS consists

of a base, which is firmly screwed to the gripper, and two adapter pins, which are fastened to the top jaws to be exchanged.

The form-fit locking mechanics ensures a fast exchange of the gripper fingers.



① Hexagon socket wrench

② Safety element

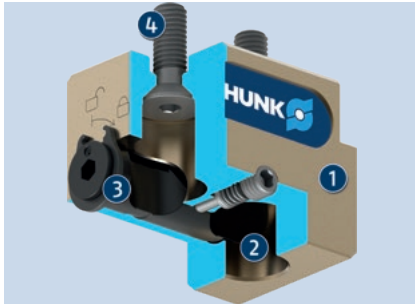
③ Locking pin

④ Adapter pin BSWS-A

⑤ Screw connection for mounting on the gripper

Detailed functional description

BSWS-B in unlocked state without adapter pins BSWS-A



The recesses of the locking bolt of the base unit BSWS-B enable the assembly/disassembly of the adapter pins BSWS-A in unlocked state.

- ❶ BSWS-B base
- ❷ Mounting bore for adapter pin BSWS-A
- ❸ Locking bolts with recesses
- ❹ Screw connection for mounting on the gripper

BSWS-B in unlocked state with BSWS-A adapter pins



Insert the BSWS-A adapter pins that are screwed onto the gripper fingers into the mounting bore of the base BSWS-B.

- ❶ BSWS-B base
- ❷ Adapter pin BSWS-A

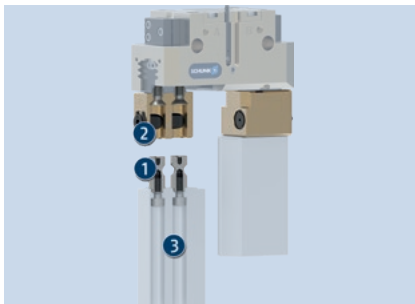
BSWS-B in locked state with BSWS-A adapter pins



An Allen key is required for locking the adapter pins BSWS-A in the base. By turning clockwise, a form fit locking between lock bolts and adapter pins is generated and it is held process-reliably in the base BSWS-B. The safety element prevents the locking bolt from twisting during operation.

- ❶ Hexagon socket wrench
- ❷ Safety element
- ❸ Locking pin

Jaw quick-change system BSWS-A/B



By combining BSWS-A and finger blank, a simple exchange of the gripper fingers is possible. The base BSWS-B with the locking mechanism remains on the gripper during the jaw change. Only the gripper fingers are replaced.

- ❶ BSWS-A
- ❷ BSWS-B
- ❸ Finger blanks ABR/SBR

Jaw quick-change system BSWS-AR with BSWS-ABR/SBR

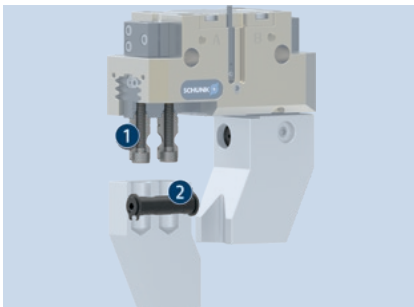


The BSWS-AR adapter pins are mounted in the gripper jaws and remain there during the finger change. The locking mechanism is integrated into the BSWS-ABR/SBR finger blanks. The clamping contour can be adapted for the specific workpiece over the entire finger length.

① BSWS-AR

② Finger blanks BSWS-ABR/SBR

Jaw quick-change system BSWS-AR with BSWS-UR



The BSWS-UR is designed for installation into workpiece-specific gripper fingers that cannot be produced by machining the BSWS-ABR or BSWS-SBR. The BSWS-UR contains the locking mechanism for installation into workpiece-specific gripper fingers.

① BSWS-AR

② BSWS-UR

General notes about the series

Adapter pin material: Steel

Actuation: Manually with hexagon socket wrench

Warranty: 24 months

Scope of delivery: Base and adapter separately in different quantities, safety information (product-specific instructions available online)

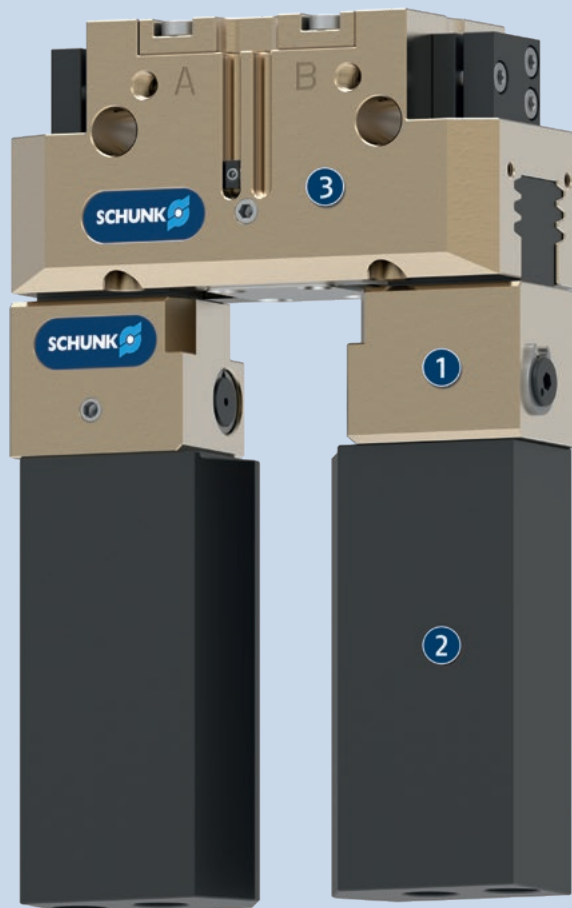
Load limits: The max. permissible moment of load resulting from the finger length, the force, as well as the loads occurring from acceleration/torques must not be exceeded. The same applies to the max. permissible force F_x . Independently of this, attention needs to be paid to the max. permissible finger length and the permissible load values for the gripper used.

Locking: The locking surfaces must be kept free of greases and oils.

Application example

Gripping unit with jaw quick-change system for changing the workpiece-specific gripper fingers

- ❶ Jaw quick-change system BSWS
- ❷ Finger blanks ABR/SBR
- ❸ 2-finger parallel gripper PGN-plus



SCHUNK offers more ...

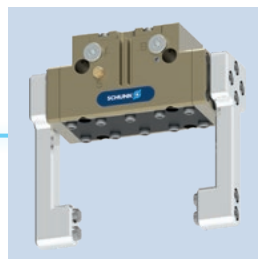
The following components make the product even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



2-finger parallel gripper



3-Finger Centric Gripper



Sealed universal gripper



Finger blank

① For more information on these products can be found on the following product pages or at [schunk.com](https://www.schunk.com).

Options and special information

BSWS-UR: Reversed assembly without additional height: If the additional attachment height of the BSWS system should have a negative impact, it is possible to fasten the BSWS adapter pins BSWS-AR in the base jaws of the gripper with screws. Then the changing system is more compact in height. The locking mechanism will be integrated into the top jaw. As another effect, there are no more problematic mounting bores in the finger contours. Please contact us for further informations.

BSWS-ABR-SBR: Top jaw blanks with integrated jaw quick-change system

BSWS-AR: It is not possible to combine BSWS-AR adapter pins with grippers in the dust-tight version. Please feel free to contact us for alternative solution proposals.

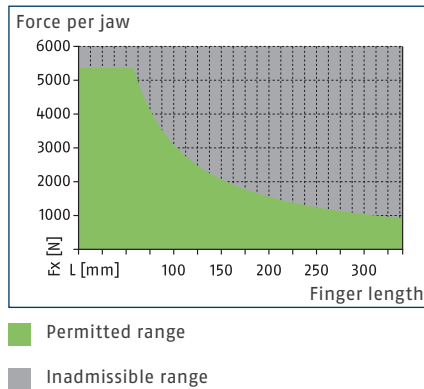
Food-grade lubrication: The product contains food-compliant lubricants as standard. The requirements of EN 1672-2:2020 are not fully met. The relevant NSF certificates are available at <https://info.nsf.org/USDA/Listings.asp> using the lubricant information in the operating manual.

BSWS-PGZN-plus 160

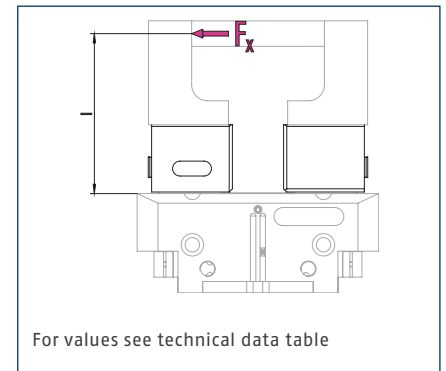
Jaw quick-change system



Load diagram



Max. loads



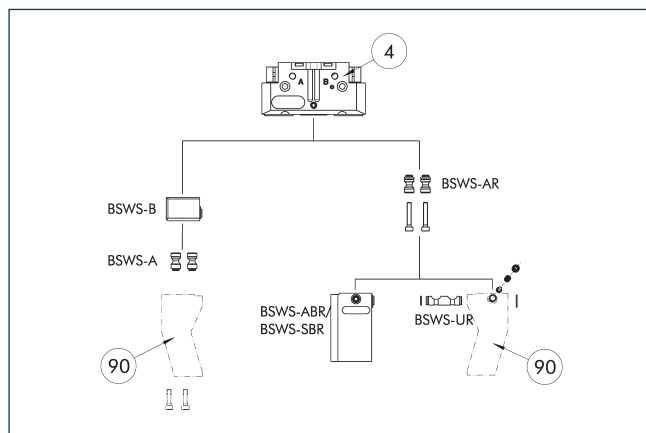
① The max. permissible moment of load ($M = F_x \cdot l$), resulting from the finger length (l), the force (F_x), and the loads occurring during application resulting from acceleration/torques must not be exceeded. The same applies to the max. permissible force F_x . Independently of this, attention needs to be paid to the max. permissible finger length and the permissible load values for the gripper used.

Technical data

Description		BSWS-B 160	BSWS-AR 160	BSWS-AR 160	BSWS-AR 25	BSWS-AR 25
ID		0303031	0300096	0300096	1515477	1515477
Weight	[kg]	0.48	0.19	0.19	0.19	0.19
Number per ID		1	2	2	2	2
Min./max. ambient temperature	[°C]	5/130				
Load limits						
Max. permissible loading torque	[Nm]	310	310	310	310	310
Max. perm. force F_x	[N]	5360	5360	5360	5360	5360
Jaw quick-change system						
Description		BSWS-A 160	BSWS-UR 160	BSWS-ABR-PGZN-plus 160	BSWS-UR 160	BSWS-ABR-PGZN-plus 160
ID		0303030	0302995	0300076	0302995	0300076
Weight	[kg]	0.077	0.094	1.7	0.085	1.7
Number per ID		2	1	1	1	1
Material BSWS adapter		42CrMo4+QT				
Material finger blank				Aluminum		Aluminum
Min./max. ambient temperature	[°C]		5/130	5/130	5/130	5/130
Finger blanks made of steel						
Description				BSWS-SBR-PGZN-plus 160		BSWS-SBR-PGZN-plus 160
ID				0300086		0300086
Weight	[kg]			3.5		3.5
Number per ID				1		1
Material finger blank				Steel		Steel
Max. permissible loading torque	[Nm]			310		310
Max. perm. force F_x	[N]			5360		5360
Min./max. ambient temperature	[°C]			5/130		5/130

① The evenness in height of the BSWS-B is +/- 0,05 mm and the replacement accuracy of a top jaw in connection with the BSWS-A is +/- 0,02 mm.

Jaw quick-change system BSWS

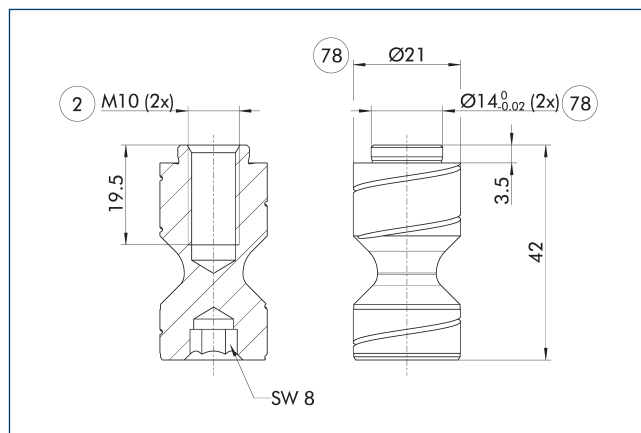


④ Grippers

⑨ Customized gripper fingers

The drawing shows an overview of the BSWS jaw quick-change system's application possibilities.

Adapter pin BSWS-A

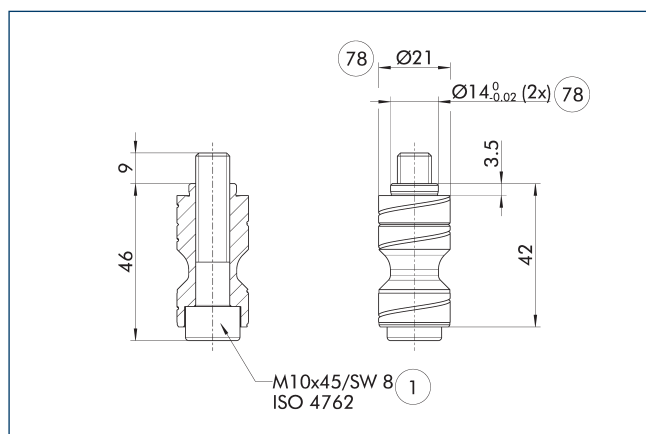


② Finger connection

⑦ Fit for centering

① Two adapter pins BSWS-A are included in the scope of delivery.

Adapter pin BSWS-AR 160



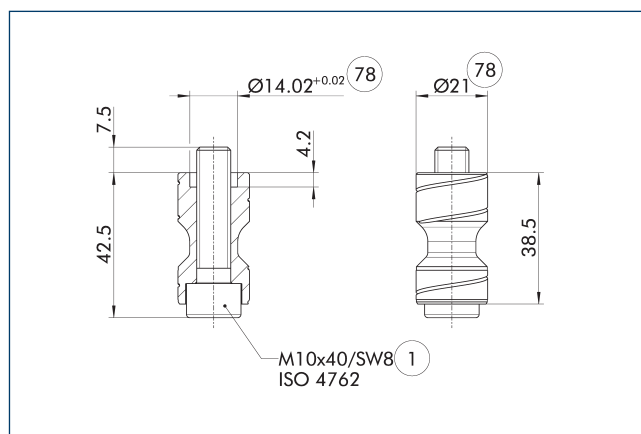
① Gripper connection

⑦ Fit for centering

BSWS-AR is not compatible with the precision versions 788864 of the grippers, as the connection fits are of different sizes.

① Two adapter pins BSWS-AR, incl. screws, are included in the scope of delivery.

Adapter pin BSWS-AR 25



① Gripper connection

⑦ Fit for centering

These BSWS-AR bolts are particularly suitable for the gripper series PGL-plus-P, for which the centering sleeves are milled on the base jaw of the gripper.

① Two adapter pins BSWS-AR, incl. screws, are included in the scope of delivery.

Jaw quick-change system

[illegible]

- i** The adapter pins BSW5-A shown are not included in the scope of delivery for the BSW5-B and must be ordered separately.

Technical drawing of a mechanical assembly, showing three views: front, top, and side. The drawing includes dimensions and tolerances in millimeters.

Front View Dimensions:

- Overall length: 49 ± 0.02
- Shaft diameter: $\varnothing 21^{+0.0}_{-0.02}$ (2x)
- Top flange thickness: $20^{+0.1}_{0}$
- Internal hole diameter: $\varnothing 16^{+0.018}_{0}$
- Internal hole length: 17 ± 0.05
- Internal hole diameter: $\varnothing 18$
- Internal hole length: 10
- Internal hole diameter: $\varnothing 9^{+0.015}_{0}$
- Internal hole length: 18.5
- Internal hole diameter: $\varnothing 8^{+0.015}_{0}$
- Internal hole length: 21
- Internal hole diameter: $\varnothing 7^{+0.015}_{0}$
- Internal hole length: 21

Top View Dimensions:

- Overall width: 80
- Overall height: 43
- Internal hole diameter: $\varnothing 16^{+0.018}_{0}$
- Internal hole length: 17 ± 0.05
- Internal hole diameter: $\varnothing 18$
- Internal hole length: 10
- Internal hole diameter: $\varnothing 9^{+0.015}_{0}$
- Internal hole length: 18.5
- Internal hole diameter: $\varnothing 8^{+0.015}_{0}$
- Internal hole length: 21
- Internal hole diameter: $\varnothing 7^{+0.015}_{0}$
- Internal hole length: 21

Side View Dimensions:

- Overall width: 33 ± 0.02
- Overall height: 52
- Internal hole diameter: $\varnothing 16^{+0.018}_{0}$
- Internal hole length: 17 ± 0.05
- Internal hole diameter: $\varnothing 18$
- Internal hole length: 10
- Internal hole diameter: $\varnothing 9^{+0.015}_{0}$
- Internal hole length: 18.5
- Internal hole diameter: $\varnothing 8^{+0.015}_{0}$
- Internal hole length: 21
- Internal hole diameter: $\varnothing 7^{+0.015}_{0}$
- Internal hole length: 21

- ① Only the locking mechanism is included in the scope of delivery. The drawing shows the manufacturing dimensions for the customized fingers. The surfaces should be wear-resistant, e.g. hard-anodized aluminum.

- ❗ The adapter pins BSWS-AR shown are not included in the scope of delivery for the finger blanks BSWS-ABR/SBR-PGZN-plus and must be ordered separately.



SCHUNK SE & Co. KG

Spanntechnik

Greiftechnik

Automatisierungstechnik

Bahnhofstr. 106 - 134

D-74348 Lauffen/Neckar

Tel. +49-7133-103-0

Fax +49-7133-103-2399

info@de.schunk.com

schunk.com

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