

Dear customer,

Congratulations!

You have chosen the best product we know how to make with our 30 years of experience and passion for precision.

Please follow the instructions in this manual to avoid mistakes and save time.

In case you need further information or you have further requests we will be glad to be at your disposal.

With best regards

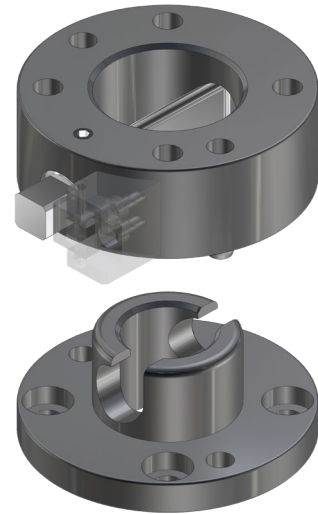
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SWS Connector

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1 Operation

To open the change system, insert the square socket key on the square of the semi-cylindrical bolt and turn counter-clockwise ("to the left") by 180 ° to the stop. The upper and lower assembly can now be pulled apart. When joining the parts, the hand lever must be set to open position. Now, upper and lower assembly can be pushed into each other.

By turning the semi-cylindrical bolt clockwise ("to the right") 180° up to the stop, the system is locked. Afterwards the hand lever is folded and latched.

2 Safety

2.1 Symbol



This symbol indicates possible hazards to persons or the SWS Connector.

2.2 Intended purpose

The SWS Connector has been designed as an interface between special solutions and automation (e.g. gripper). Furthermore, the SWS can also be used as an interface between handling device and tool. In dynamic applications, it can only be used with the locking piston. The unit may only be used in the context of its technical specifications. The system is intended for the installation in a machine. The requirements of the applicable instructions must be considered and adhered to.

2.3 Environmental and operating conditions

Use this unit only in dry and splash-proof environments at room temperature as well as within the application parameters defined in the technical specifications. If this is not the case, warranty cannot be accepted. Exceptions are units designed especially for the respective conditions.

2.4 Safety indication

Dangers may arise from the unit, if:

- the product is not installed or inserted properly,
- the system is not used for its intended purpose,
- the safety and installation notes are not observed.

Everyone who is responsible for assembly, commissioning and maintenance must read and understand the complete operating instructions. Improper use, which affects the function and operational safety of the SWS Connector, is prohibited.

CAUTION! Never operate the semi-cylindrical bolt when the load is suspended!



In order to prevent damage to the connector as well as injuries to the operator, the lower assembly or the tool must be secured by hand or other devices before opening the change system. Otherwise there is a risk that irreparable damages to the tool or injury to the operator are caused by the unit falling down.



NOTICE!

The unit may only be operated if the machine in which the unit is installed complies with the relevant provisions of the machinery directive 2006-42-EC.



NOTICE!

A semi-cylindrical bolt safety device must be used for dynamic applications. Otherwise boundary conditions supplied by the customer, e.g. vibrations can lead to automatic lock-out release.

3 Warranty

If the product is used as intended in 1-shift operation the warranty is valid for 24 months from the ex-works delivery date under observance the mandatory maintenance and lubrication intervals and the given operating conditions. Generally parts touching the work piece and wear parts are not part of the warranty. Wear parts are listed in chapter 8.1. The unit is considered to be defective if its basic function "Lock" is no longer functioning.

4 Scope of Delivery

- SWS as painted in Image 6 depending on the order number of the upper or lower assembly.
- The semi-cylindrical bolt safety device (VS2) is available as an option for sizes SWS050, SWS063, SWS080, SWS100 and SWS125. The sizes SWS160, SWS200 and SWS250 are always equipped with a semi-cylindrical bolt safety device.

5 Technical Data

Behold technical data sheets: TD-SWS050-EN, TD-SWS063-EN, TD-SWS080-EN, TD-SWS100-EN, TD-SWS100-B02-EN, TD-SWS125-EN, TD-SWS160-EN, TD-SWS200-EN, TD-SWS250-EN

6 Assembly

The upper assembly of the SWS Connector is mounted on the robot flange, the manipulator or similar actuators. It can be centered with the help of a centering disc. The angular orientation is determined by means of a fitting bore. The lower assembly is mounted on grippers, measuring instruments or other tools. If the SWS Connector can not be installed directly, adapter flanges must be used. Use screws according to DIN 912. For the sizes 50, 63 and 80, screws according to DIN 7984 are to be used on the gripper side. The screw-in depth of the screws must be observed. We recommend the use of a "medium-tight" screw lock.

Depending on the size one (SWS050 to 080) or two (SWS100 to 250) fitting bores according to ISO 9409 are available on the robots or grippers side.

Optionally, the SWS can be provided with a MEK Energy Coupling. To mount the MEK the "E" option must be specified when ordering the SWS. The MEK is available in different versions. The MEK enables the simultaneous coupling of electrical and pneumatic lines when opening or closing the SWS. The MEK is mounted with two cylinder screws to the upper and lower assemblies. For further installation instructions, please refer to the assembly and operating instructions of the MEK.



CAUTION!

Perform assembly work only when the power supply is switched off!



CAUTION! Risk of pinching the fingers when closing the SWS

When assembling, the upper and lower assemblies do not have to be inserted into each other as far as they will go. By turning the semi-cylindrical bolt, the lower assembly is pulled around the locking stroke (see technical description „VH“).

Image 1

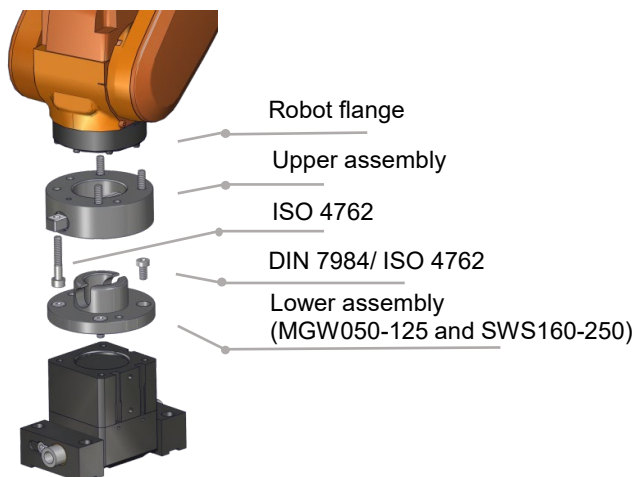
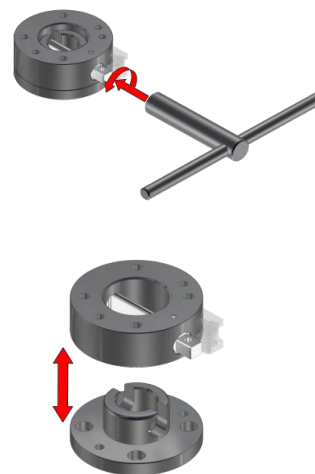


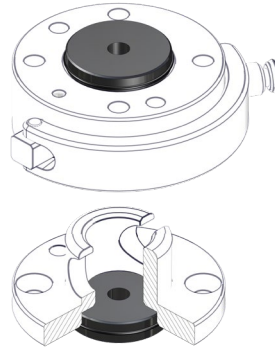
Image 2



Centering disc

In order to achieve a precise fit, centering discs in every size are offered (as shown in image 3).

The use of a centering disc ensures that the upper assembly and/or lower assembly of the Connector are properly centered. Installation on both the upper assembly and lower assembly is possible (as shown in image 4).

Image 3**Image 4**

7 Maintenance and care

The SWS is virtually maintenance-free. Check the semi-cylindrical bolt in regular intervals for correct function. Keep the mating surface and the moving parts clean and lubricate them slightly. Spare parts and component parts of the SWS can be found on our homepage: www.grip-gmbh.com

7.1 Disassembly of the SWS

(Behold Image 5)

1. Disassemble the SWS.
2. Loosen the Setscrew (Pos. 3).
3. To disassemble the semi-cylindrical bolt (Pos. 2) from the other component parts (Pos. 5, 6, 7 and 8), remove the cylinder bolt (Pos. 8).
4. Clean all parts thoroughly. Inspect for wear and defects.
5. Lubricate all mating surfaces.

For assembly, reverse the order.

7.2 Torque specifications

M6 – 8,5 Nm; M8 – 20,6 Nm; M10 – 41 Nm; M12 – 71 Nm

8 Parts list**size 050-125**

| Pos. | Description | Quantity |
|------|------------------------------|----------|
| 1 | Upper assembly | 1 |
| 2 | Semi-cylindrical bolt | 1 |
| 3 | Setscrew | 1 |
| 4 | Index pin | 1 |
| 5 | Housing VS2 (optional) | 1 |
| 6 | Screw VS2 (optional) | 2 |
| 7 | Flap VS2 (optional) | 1 |
| 8 | Cylinder bolt VS2 (optional) | 1 |
| 9 | Lower assembly MGW | 1 |

size 125-250

| Pos. | Description | Quantity |
|------|-----------------------|----------|
| 1 | Upper assembly | 1 |
| 2 | Semi-cylindrical bolt | 1 |
| 3 | Setscrew | 1 |
| 4 | Index pin | 1 |
| 5 | Housing VS2 | 1 |
| 6 | Screw VS2 | 2 |
| 7 | Flap VS2 | 1 |
| 8 | Cylinder bolt VS2 | 1 |
| 9 | Lower assembly SWS | 1 |

8.1 Spare and wear parts, depending on size

| Pos. | Description | Order-No. | Quantity |
|------|--------------------------|-----------------|----------|
| 2 | Semi-cylindrical bolt | EG-SWS...-HB | 1 |
| 10 | Square Socket Key | ZG-VKS...-SW... | 1 |
| 11 | Anti-rotation-protection | EG-SWS...-VS2 | 1 |

9 Exploded view

Image 5

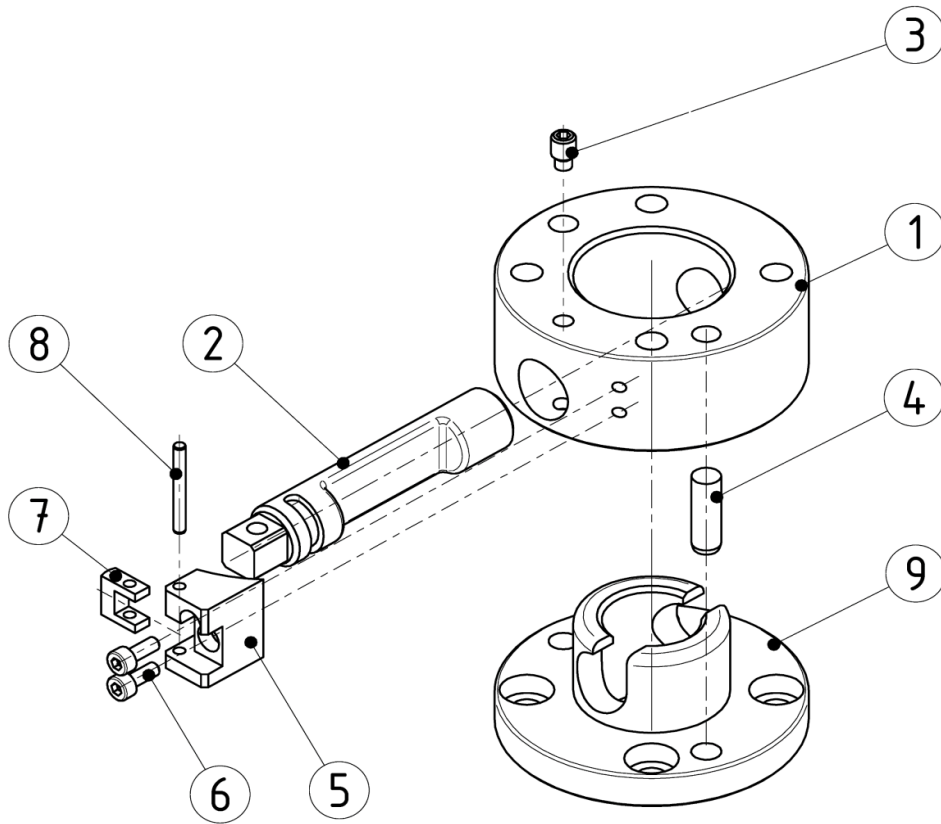


Image 6



Upper assembly

Lower assembly

10 EC - Declaration of incorporation

according to the Machinery Directive 2006/42/EC, annex II B

The producer / distributor GRIP GmbH Handhabungstechnik
Alter Hellweg 70
D-44379 Dortmund, Germany

hereby declares that the following products

Product designation: Quick change system (SWS)

Functional description: Systems for the manual and form-closed exchange of components such as grippers and tools on robots or receptacles

Type designation: G-SWS050 to 250

The provisions of the above-mentioned directives -including their effective amendments- comply with the time of the declaration.

He further states that the following essential requirements of the Machinery Directive 2006/42/EC were applied and observed:
annex I, numerics: 1.1.2; 1.1.3; 1.1.5; 1.3.2; 1.7.4

He further states that the specific technical documentation has been drawn up in accordance with annex VII, Part B.

The following harmonized standard has been applied:

EN ISO 12100:2010 Safety of Machinery- Basic concepts, general principles for design- Part 1:
Basic terminology and methodology

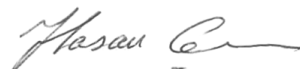
Safety of Machinery- Basic concepts, general principles for design- Part 2:
Technical principles

In the case of reasoned requests, the specific documents shall be sent to the national authorities as follows: Post

The product mentioned above may only be put into operation if it has been established applicable that the unit, into which the above-mentioned product is to be incorporated, complies with the provisions of the Machinery Directive 2006/42/EC.

Authorized representative Dipl.-Ing. (FH) Hasan Canti

Location: Dortmund
Date: 13.09.2020



Dipl.-Ing. (FH) Hasan Canti
Executive Director