



Superior Clamping and Gripping



Product Information

Gripper change system GWS 80

Flat. Robust. Strong.

GWS gripper change system

Pneumatic gripper change system

Field of application

Fast conversion of production lines for other products; the use of various different tools on a robot



Advantages – Your benefits

Integrated pneumatic feed-through for safe energy supply of grippers

Suitable storage racks for all sizes to ensure the optimum adaption to each application

Robust wedge-hook kinematics For a secure connection between the gripper change master and adapter

Two 18-pin electrical feed-throughs are sufficient for many applications

ISO mounting pattern for easy assembly to most types of robots without needing additional adapter plates



Sizes
Quantity: 3



Handling weight
60 .. 170 kg



Moment load M_x
75 .. 400 Nm



Moment load M_z
100 .. 600 Nm

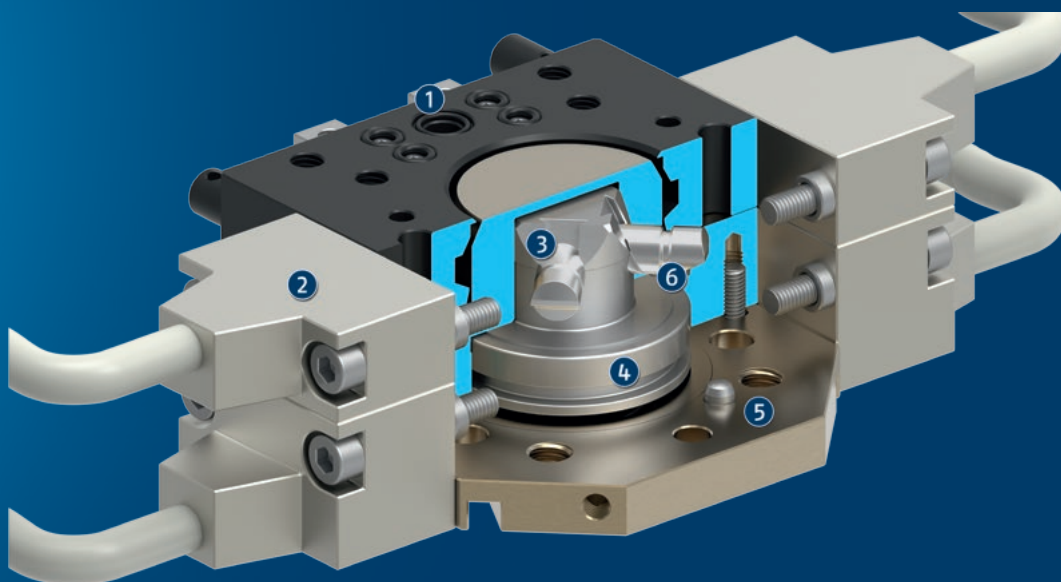
Functional description

Automatic exchange of the end effector (e.g. gripper, pallets, vacuum gripping systems, pneumatically or electrically driven tools, welding guns, etc.) increases the flexibility of your robot.

The gripper change system (GWS) consists of a gripper change master (GWK) and a gripper change adapter (GWA). The GWK, mounted onto the robot, couples up the GWA

mounted onto your tool.

The locking mechanism, based on a wedge hook system, provides a secure connection. Integrated springs maintain the locking force in the event of a pressure drop. After coupling, pneumatic and electric media feed-throughs automatically supply your robot tool.



- ① **Pneumatic feed-through**
no interfering contour, as integrated in the housing
- ② **Servo signal module**
for electrical energy and signal transmission
- ③ **Locking mechanism**
Wedge-hook system for high locking forces, integrated springs for maintaining the locking force in the event of a pressure drop

- ④ **Drive**
pneumatic, efficient, and easy to handle
- ⑤ **Housing**
is weight-optimized due to the use of high-strength aluminum alloy
- ⑥ **Locking**
For compensating positioning errors in the XY-plane

General notes about the series

Actuation: pneumatic, with filtered compressed air as per ISO 8573-1:2010 [7:4:4].

Operating principle: Wedge gear with surface power transmission

Energy transmission: for electrical Energy: 2x 18 pins 0.14 mm²; 60 V~; max. 1 A are included in the scope of delivery. Optionally available: 4 pins 2.5 mm²; 350 V/B~; max 25 A as per VDE guidelines

Housing: The housing consists of high-strength, hard-coated aluminum alloy. The functional components are made of hardened steel.

Scope of delivery: Operating and maintenance instructions, manufacturer's declaration, electronic modules

Warranty: 24 months

Harsh environmental conditions: Please note that use under harsh environmental conditions (e.g. in the coolant area, cast and grinding dust) can considerably reduce the service life of the units, and we will not take over any warranty. However, in many cases we can find a solution. Please contact us for assistance.

Handling weight: is the weight of the total load attached to the flange. When designing, the permissible forces and moments have to be paid attention to. Please note that exceeding the recommended handling weight will shorten the lifespan.

Application example

Exchange and depositing of tools in a gripper change rack

- ① Gripper change rack GWM
- ② Gripper change adapter GWA
- ③ Gripper change master GWK



SCHUNK offers more ...

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



Storage rack



Collision and overload sensors



Compensation units



Rotary feed-through



Sensor system



Angular gripper



Centric gripper



Parallel gripper

① For more information on these products can be found on the following product pages or at schunk.com. Please contact us: SCHUNK technical hotline +49-7133-103-2696

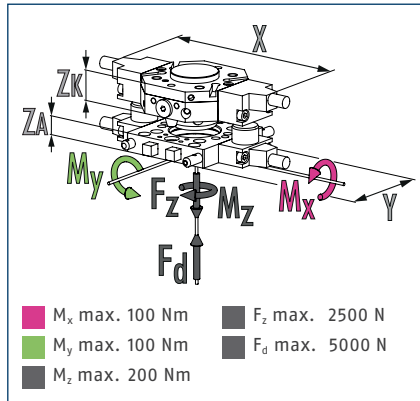
Options and special information

Wedge-hook kinematics: for secure locking

Piston stroke monitoring: for monitoring (optional)

Direct assembly: by using a standardized ISO 9409 interface for robots

Dimensions and maximum loads



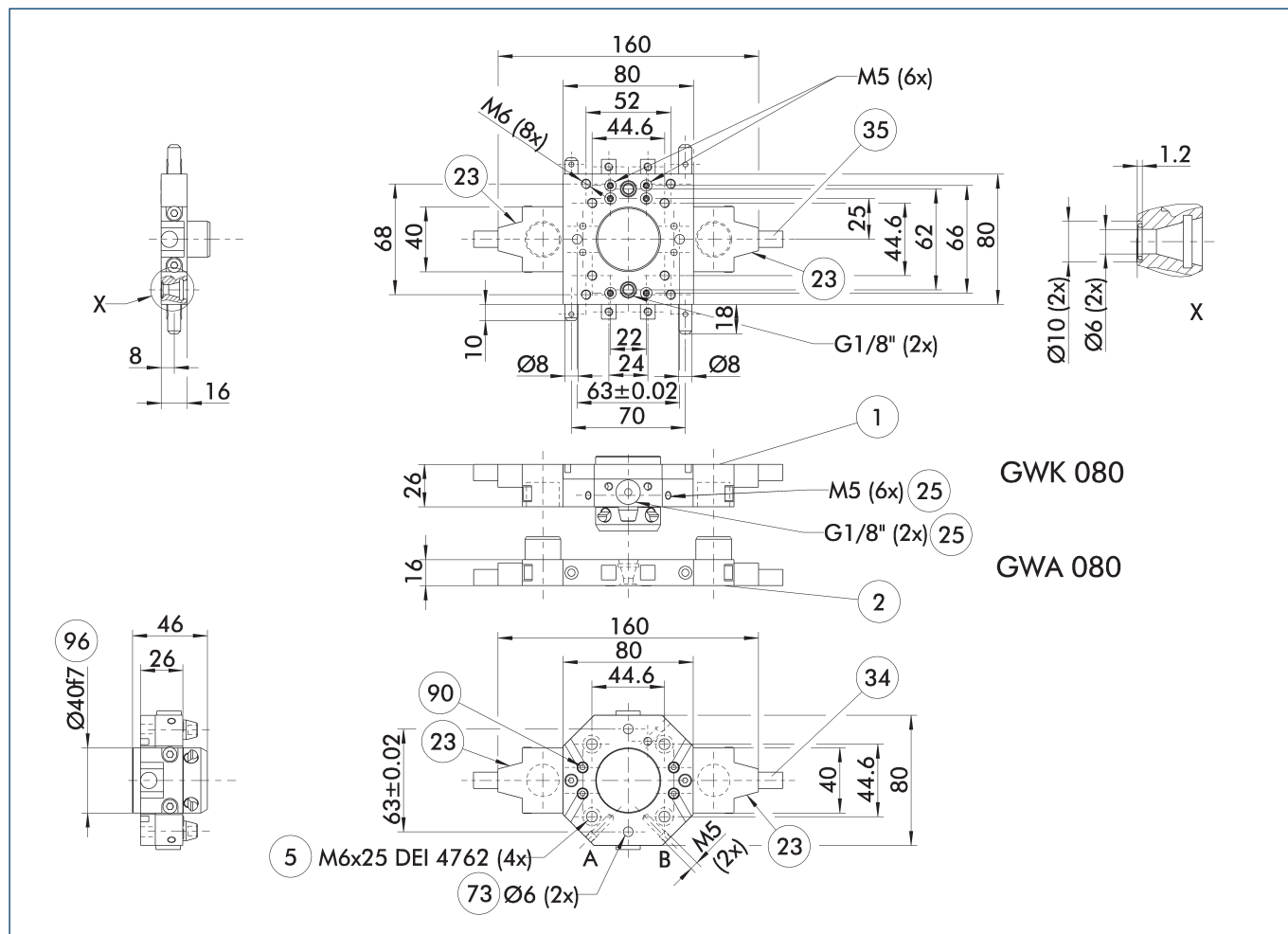
ⓘ This is the max. sum of all forces and moments which are permitted to act on the change system for ensuring proper functioning.

Technical data

Description		GWK-080	GWK-A-080	GWA-080
		Gripper change head	Gripper change head	Gripper change adapter
ID		0302509	0302535	0302520
Recommended handling weight	[kg]	86	86	86
Piston stroke monitoring		no	integrated	
Repeat accuracy	[mm]	0.04	0.04	0.04
Weight	[kg]	0.65	0.95	0.4
Max. distance when locking	[mm]	2	2	2
Number of pneumatic feed-throughs		6	6	6
Air connection thread pneumatic feed-through		M5	M5	M5
Number of pneumatic feed-throughs		2	2	2
Connection threads for fluid feed-through		G1/8"	G1/8"	G1/8"
Number of electrical feed-throughs		36	36	36
Max. permissible XY-axis offset	[mm]	±1.5	±1.5	±1.5
Max. permissible angular offset	[°]	±1	±1	±1
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Min./nom./max. operating pressure	[bar]	4.5/-/6	4.5/-/6	4.5/-/6
Dimensions X x Y x Z**	[mm]	80 x 160 x 26	80 x 160 x 47	80 x 160 x 16

** Please note that the heights of the change master (ZK) and change adapter (ZA) differ. The sum represents the total height of a coupled change system.

Main view

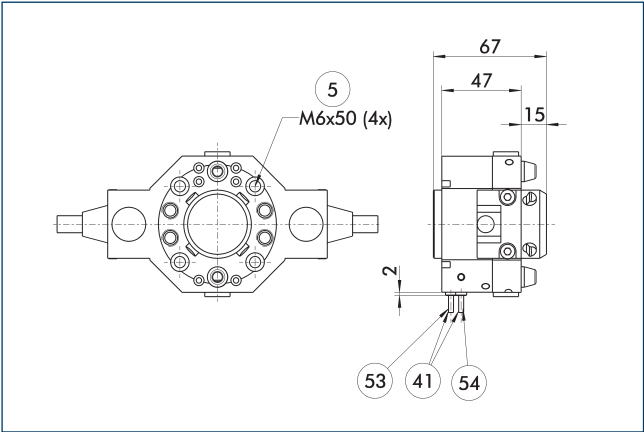


The drawing shows the basic design of the quick-change system without dimensional consideration of the options described below.

- A, a Air connection locked
- B, b Air connection unlocked
- ① Robot-side connection
- ② Tool-side connection
- ⑤ Through hole for connection with screws
- ②③ Electrical signal feed-through

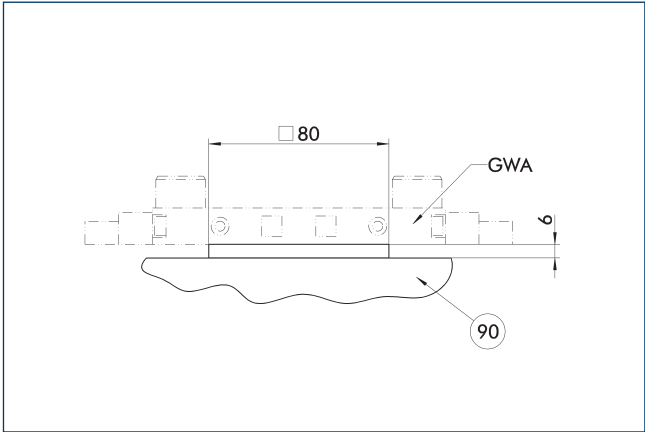
- ②⑤ Pneumatic feed-throughs
- ③④ Cable length robot side 5 m
- ③⑤ Cable length tool side 2 m
- ⑦③ Fit for centering pins
- ⑨⑦ Sensor IN ...
- ⑨⑥ Fit for centering

View of GWK-A with piston stroke control



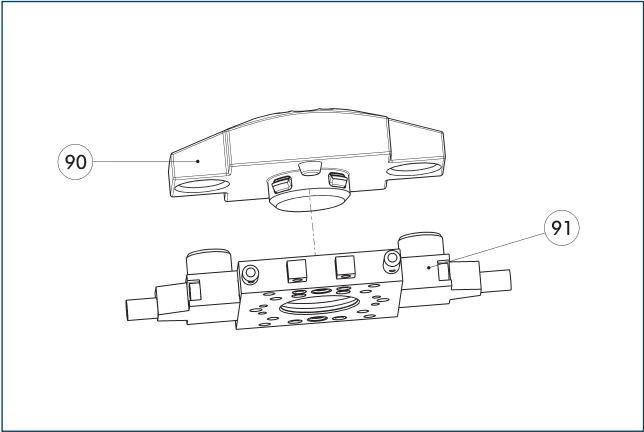
- 5 Through hole for connection with screws
- 41 Optional proximity switch
- 53 Monitoring Position unlocked
- 54 Monitoring Position locked

Adapter plate design



- 90 Tool

Dust cover GWD-080

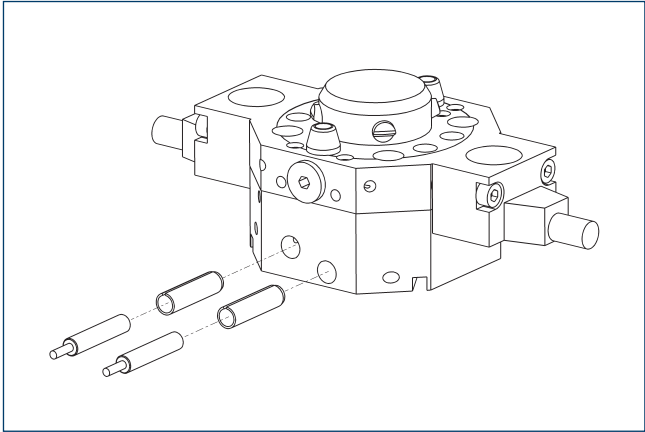


- 90 Dust cover GWD
- 91 Gripper change adapter GWA

The protection cover protects the quick-change adapter in the storage rack against dust and chips. The cover has an integrated clip mechanism which is actuated by locking/unlocking the changing master, allowing the robot to remove the cover from one adapter and placed on another adapter

Description	ID	
Dust cover		
GWD-080	0302541	

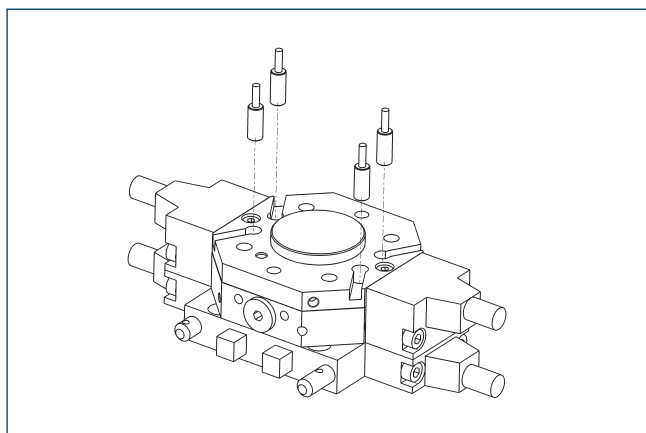
Installing the proximity switch in the GWK-A



Two sensors and optional extension cables are needed for each gripper change head.

Description	ID	
Inductive proximity switches		
IN 65-S-M8	0301476	

Installation of proximity switch for coding



A maximum of four sensors can be mounted per gripper change system. Therefore maximum 15 tools can be given binary codes.

Description	ID	Often combined
Inductive proximity switches		
IN 60-S-M12	0301585	
IN 60-S-M8	0301485	
IN 65-S-M12	0301576	
INK 60-S	0301553	
INK 65-S	0301554	
Cable extension		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
clip for plug/socket		
CLI-M12	0301464	
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Sensor distributor		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M12	0301747	
V4-M8	0301746	
V8-M12	0301752	
V8-M8	0301751	

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