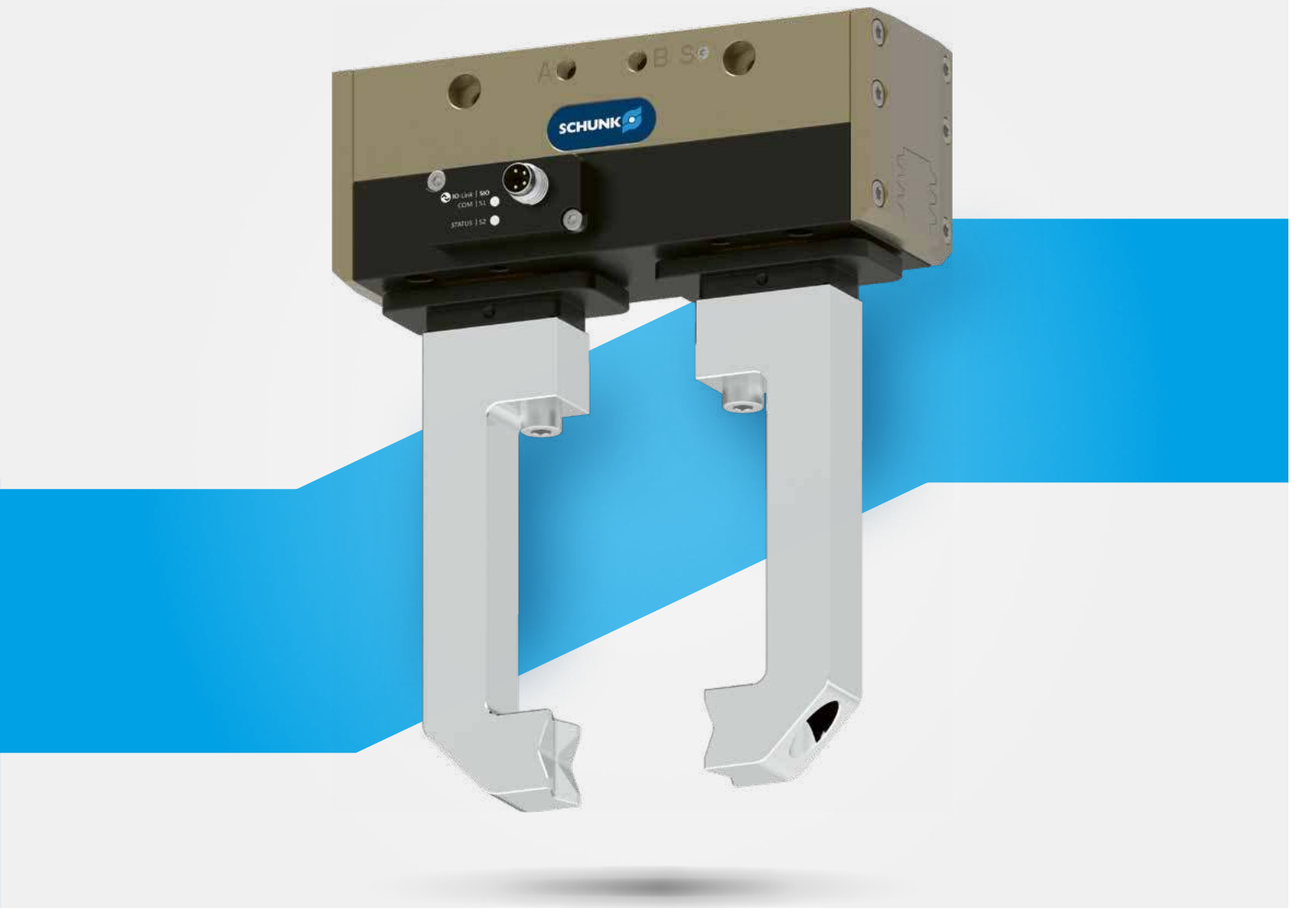
Universal gripper PGL-plus-P

Hand in hand for tomorrow



Flexible. Robust. Safe. Universal gripper PGL-plus-P

Universal 2-finger parallel gripper with a large jaw stroke, integrated sensor system and high payload due to use of a multi-tooth guidance.

PGL-plus-P
Universal gripper

Advantages – Your benefits

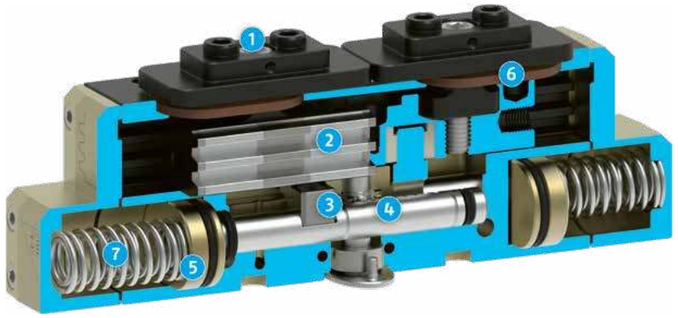
- **Secure, certified gripping force maintenance, GripGuard** holds the gripped workpiece safely and also ensures a permanent gripping force of min. 80% in case of pressure drop. It also ensures that no dangerous, spontaneous jaw movements can occur in the event of a pressure drop
- **Integrated sensor system** for precise and process-reliable monitoring of the complete gripper stroke via IO-Link
- **Large jaw stroke** enables flexible handling of a wide range of parts
- **Dirt protected** due to IP64 as standard and the metal-encapsulated, additionally sealed design at the base jaws
- **Robust interior multi-tooth guidance** for high moments and use of long gripper fingers
- **With food-compliant lubrication as standard** as a solution for an easy entry into medical technology, lab automation, pharmaceutical and food industry. The requirements of EN 1672-2:2020 are not fully met
- **Fastening on two gripper sides in four screw directions** for universal and flexible gripper assembly
- **Air supply via hose-free direct connection or screw connections** for universal and flexible gripper assembly

Technical specifications

Sizes	Weight	Gripping force	Stroke per jaw
Quantity: 5	0.46 .. 5.1 kg	220 .. 1,300 N	10 .. 25 mm

Gripping force maintenance version AS/IS

- Conventional gripping force maintenance via springs also ensures a minimum gripping force in case of a pressure drop
- The gripping force maintenance can also be used to increase the gripping force or for single actuated gripping



1 Base jaw
With standardized screw connection diagram for the connection of the workpiece-specific gripper fingers. The centering sleeves are attached so that they cannot be lost when exchanging fingers

2 Multi-tooth guidance
Maximum service life due to lubricant pockets in the robust multi-tooth guidance, and absorption of high forces and torques by means of the large guidance support

3 Driver
Direct power transmission of the drive pistons to the gripper fingers via a robust drive type fastening

4 Kinematics
The gear rack-and-pinion kinematics ensure synchronization of the base jaws and centric clamping

5 Pneumatic drive piston
Maximum power generation through two oval pneumatic pistons

6 Dust cover
The entire circumference of the gripper is encapsulated with metal and additionally sealed with a lip seal at the base jaws so that it is suitable for universal use, even in dirty environments

7 Gripping force maintenance by means of a pressure spring
Conventional gripping force maintenance via springs also ensures a minimum gripping force in case of a pressure drop. In the AS variant this acts as a closing force, and in the IS variant as an opening force.
The image shows the AS variant. The gripping force maintenance can also be used to increase the gripping force or for single actuated gripping

GripGuard: secure, certified gripping force maintenance version ASC/ISC

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- Secure GripGuard gripping force maintenance also ensures a permanent min. gripping force of 80%, even in case of a pressure drop
- As the base jaws do not move uncontrollably in the event of pressure drop, there is no risk of injury with this gripper
- The risk assessment is simplified, since gripping force maintenance is already certified as a safety function

HIGHLIGHT

1 Base jaw

2 Multi-tooth guidance

3 Driver

4 Kinematics

5 Pneumatic drive piston

6 Dust cover

7 Pinion shaft
The one-piece pinion shaft connects the pinion of the jaw synchronization with the mechanics of safe ripping force maintenance

8 Clamping element
In the event of a pressure drop where a workpiece is not gripped, the clamping element will prevent the pinion from rotating. This prevents any potentially dangerous movements of the gripper fingers

9 Elastomer
In the event of a pressure drop while gripping the workpiece, the gripping force accumulated in the elastomer (energy storage) will retain the workpiece securely. The clamping element prevents the gripper fingers from opening in such cases

10 Spring-loaded pneumatic piston
In normal gripper operation, the pneumatic piston is always actuated with compressed air. This does not require a separate air supply. In the event of a malfunction, i.e. a sudden pressure drop, the piston is pushed back via the spring assembly and the clamping element blocks the pinion shaft so that movement of the gripper fingers is no longer possible

11 Pressure compensating valve
The pressure compensation valve ensures any excess pressure that has accumulated inside can escape to the outside. At the same time, it prevents dirt or liquids from entering the inside from the outside

Integrated sensor system IOL

- The gripper variant “IOL” with integrated sensor system enables precise and process-reliable monitoring of the complete gripper stroke via IO-Link
- Workpieces can be distinguished highly accurate. Up to 8 workpieces can be deposited in the sensor profile
- The integrated sensor system has a high dirt resistance, and is therefore less susceptible to faults

External sensor system with inductive proximity switches

- The “IN” gripper variant is supplied with the pre-assembled attachment kit for two inductive proximity switches. The positions “gripper open” and “gripper closed” are preset
- Optionally, another attachment kit for two additional inductive proximity switches can be inserted at the back of the gripper

External sensor system with magnetic switches

- For monitoring with magnetic switches, the gripper is equipped with two sensor slots. There is a choice of different sensors

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Universal gripper

Application example

Robust components are used for automated machine loading in dirty and harsh environments of machine tools. The sealed gripper PGL-plus-P is combined with a robot and enables reliable loading and unloading of workpieces. Due to the long jaw stroke, a wide range of parts can be handled without any additional effort.

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