PGN
Pneumatic · 2-Finger Parallel Grippers · Universal Grippers

Sizes
50 .. 380

Weight
0.125 kg .. 28.0 kg

Gripping force
100 N .. 15100 N

Stroke per finger
2 mm .. 45 mm

Force-fit gripping
0.5 kg .. 75.0 kg

Application example

Horizontal turning station with 180° reorientation of the workpiece

1 2-Finger Parallel Gripper PGN 125
2 Rotary Actuator SRU 35.1-180-3-4
3 Gantry Axis LIRAX-P-SLF-01

www.schunk.com
Universal Gripper

Universal 2-finger parallel gripper with high gripping force and robust T-slot guidance. Please use the PGN only for replacement orders, for new designs please use the successor model PGN-plus.

Area of application

For universal use in clean to slightly dirty environments. Special solutions are available for use in high temperatures, with dust or corrosion protection. Please ask for more details!

Your advantages and benefits

High precision T-slot guidance
For precise handling of a varied range of workpieces

High maximum moments
Suitable for use with long gripper fingers

Can be attached from two sides in three screw directions
For universal and flexible gripper mounting

Air supply via hose-free direct connection or via fittings
For flexible pressure supply in all automated systems

Double-sided air purge connection
To keep dirt out of the guidance areas

General information on the series

Working principle
Wedge-hook kinematics

Housing material
Aluminum alloy, hard-anodized

Base jaws material
Steel

Actuation
Pneumatic, via filtered compressed air (10 µm): Dry, lubricated or non-lubricated
Pressure medium: Requirement on the quality class of compressed air according to DIN ISO 8573-1: Quality class 4

Warranty
24 months

Scope of delivery
Brackets for proximity switches (only for sizes 64, 80), dowel pins, O-rings for direct connection, guide sleeves, assembly and operating manual with manufacturers declaration

Maintenance of gripping force
Possible using variants with mechanical gripping force safety device or pressure maintenance valve SDV-P
Functional description
The round piston is pressed up or down by compressed air. Via its slanted working surfaces, the wedge hook redirects this movement into a lateral, synchronous gripping motion of the two base jaws.

Options and special information
Please use the PGN only for replacement orders, for new designs, please use the successor model PGN-plus.
Gripping force
is the arithmetic total of the gripping force applied to each base jaw at distance P (see illustration) measured from the upper edge of the gripper.

Finger length
is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy
is defined as the variance of the end position after 100 consecutive strokes.

Workpiece weight
The recommended workpiece weight is calculated for force-fit gripping with a friction coefficient of 0.1 and a safety of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit clamping.

Closing and opening times
Closing and opening times are the pure movement times of the base jaws or fingers. Valve switching times, hose filling times or PLC reaction times are not included and must be taken into consideration when determining cycle times.
Technical data

<table>
<thead>
<tr>
<th>Designation</th>
<th>PGN 64-1</th>
<th>PGN 64-2</th>
<th>PGN 64-1 AS</th>
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<th>PGN 64-1 IS</th>
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</table>

Moments and forces apply per base jaw and may occur simultaneously. \( M_y \) may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. The tool life may be reduced.
The mechanical gripping force safety device ensures a minimum gripping force, even with a drop in pressure. This works as a closing force for the AS version; for the IS version it works as an opening force. In addition, the gripping force safety device can also be used to increase the grip force or for single actuated gripping.
The flexible position sensor FPS can distinguish between five freely programmable areas or switching points for the stroke of a gripper and can be used in conjunction with a PC as a measuring system.

**Dust protected version**

The "Dust-proof" option increases the degree of protection against penetrating substances. The screw connection diagram moves by the height of the intermediate jaw. The finger length must still be measured from the upper edge of the gripper housing.

**Finger blanks**

<table>
<thead>
<tr>
<th>Designation</th>
<th>Material</th>
<th>Scope of delivery</th>
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<td>ABR 64</td>
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</table>

Finger blanks for customer-specific reworking, incl. screw connection diagram

**Mounting kit for FPS**

The flexible position sensor FPS can distinguish between five freely programmable areas or switching points for the stroke of a gripper and can be used in conjunction with a PC as a measuring system.

**Finger design**

You can find detailed information and components of the specified accessory in the "Accessories" catalog section.
Sensor systems

End position monitoring:
Inductive proximity switches, for direct mounting

Designation ID Recommended product
IN 80/S-M12 0301578
IN 80/S-M8 0301478
IN 80/S-M8 0301477
INK 80/S 0301550

Two sensors (NO contacts/S) are required per gripper as well as an optional extension cable.

Measuring system:
Position monitoring FPS

Designation ID
AS-PNG 64-100/H6N 80-100 0301710
FPS-A5 0301802
FPS-F5 0301805
FPS-F5 T 0301807
FPS-S 13 0301705

When using an FPS system, an FPS sensor (FPS-S) and an electronic processor (FPS-F5/F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as optional extras in the “Accessories” catalog section.

Extension cables for proximity switches/magnetic switches

Designation ID
GK 3-M8 0301622
KV 10-M12 0301596
KV 10-M8 0301496
KV 20-M12 0301597
KV 20-M8 0301497
KV 3-M12 0301595
KV 3-M8 0301495
W 3-M12 0301503
W 5-M12 0301507
WK 3-M8 0301594
WK 5-M8 0301502

For the sensor cables, observe the minimum permitted bending radii. Generally, these are 35 mm.