



1945 - 2015

**70** Years

Superior Clamping and Gripping

**SCHUNK** ®

## **SCHUNK Grippers**

Product Overview



## Superior Clamping and Gripping

Jens Lehmann stands for safe, precise gripping and holding. As a brand ambassador of the SCHUNK team, the No. 1 goalkeeper represents our global competence leadership for clamping technology and gripping systems. The top performance of SCHUNK and Jens Lehmann are characterized by dynamics, precision, and reliability.

For more information visit our website:  
[www.gb.schunk.com/Lehmann](http://www.gb.schunk.com/Lehmann)

*J. Lehmann*  
Jens Lehmann





Henrik A. Schunk, Kristina I. Schunk, brand ambassador Jens Lehmann, and Heinz-Dieter Schunk

## Top Performance in the Team

SCHUNK is the world's No. 1 for clamping technology and gripping systems – from the smallest parallel gripper to the largest chuck jaw program.

In order to boost efficiency, SCHUNK customers have bought more than 2,000,000 precision toolholders, 1,000,000 SCHUNK grippers, and 100,000 lathe chucks and stationary workholding systems so far.

This makes us proud and motivates us to attain new top performances.

As a competence leader, we recognize and develop standards with a large potential for the future, which will drive the rapid progress in many industries.

Our customers profit from the expert knowledge, the experience, and the team spirit of more than 2,500 employees in our innovative family-owned company.

The Schunk family wishes you improved end results with our quality products.



Heinz-Dieter Schunk



Henrik A. Schunk



Kristina I. Schunk

## SCHUNK Grippers The world's most proven Grippers on the Market.

Our pioneering spirit and perfectionism shape the future of gripping systems. SCHUNK offers the most extensive portfolio of grippers in the world.

Standard gripping modules, ready-to-install gripping system assembly groups and an extremely wide range of customized gripping system solutions for your handling and assembly, automation and robot end-of-arm solution.

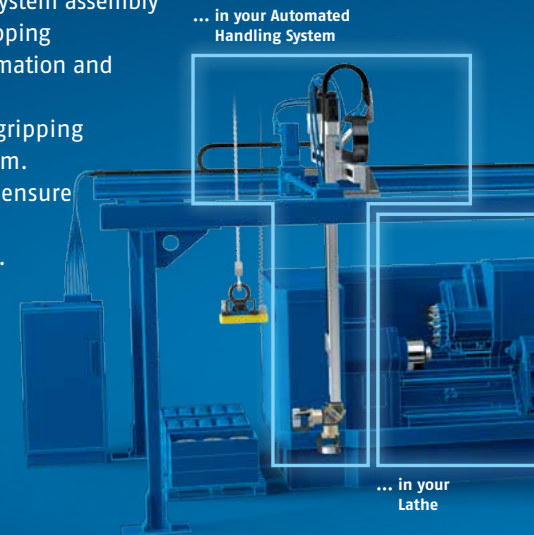
At the same time, we encounter amazingly complex gripping requirements time and time again, and we solve them. The result: robust and durable gripping systems that ensure guaranteeing maximum reliability in automated systems and machines all over the world for 30 years.

More than **2,500** standard grippers

More than **300** mechatronic grippers

More than **12,000** gripping system solutions implemented

More than **1,000,000** products in use worldwide



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### Pneumatic 2-Finger Grippers

Suitable for universal use in clean or dirty environments, or even in cleanrooms. Suitable for assembly automation and the handling of both small components and heavy loads.

- Gripping forces up to 21,150 N
- Stroke per jaw up to 300 mm
- Finger lengths up to 800 mm

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### Pneumatic 3-Finger Centric Grippers

For gentle and even gripping of rotationally symmetric, sensitive or even hollow parts. For use in small parts handling or a workpiece weight of up to 300 kg.

- High gripping forces
- High reliability, long life span
- Suitable for internal and external gripping

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### Pneumatic Angular Grippers

For trouble-free gripping of parts in pick & place applications, for swiveling away optimized with regard to interference contours with completely opened chuck jaws as well as workpiece transport.

- Opening angle up to 90°
- Workpiece weights up to 12 kg



The NEW PGN-plus



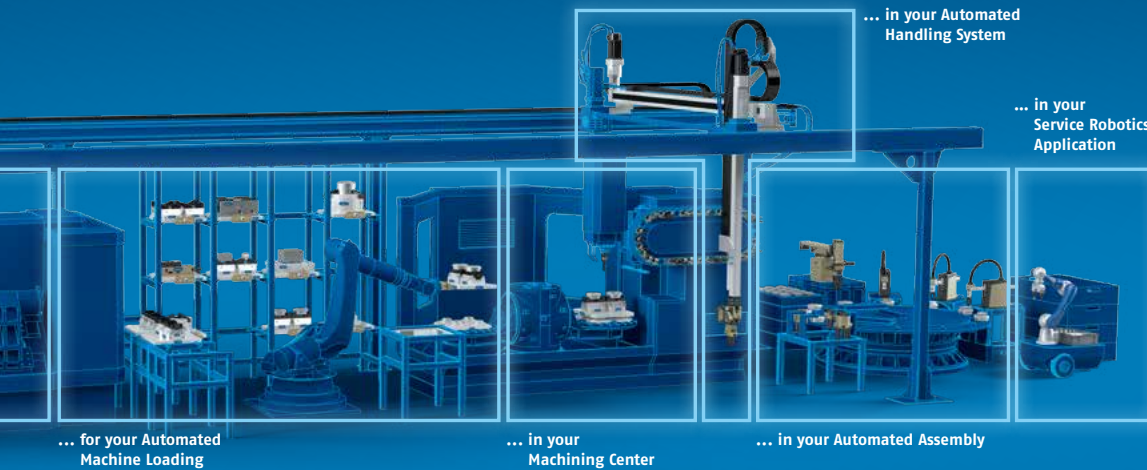
MPZ



PWG-plus

## It's time to use of your machine's full potential!

With superior components, find potentials in your machine, where you would least expect to find them. SCHUNK Synergy – the perfectly harmonized interplay between clamping technology and gripping systems – turns our customers into productivity champions.



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### Mechatronic Grippers

With MECHATRONIK<sup>3</sup>, SCHUNK is offering the most extensive range of electric modules with more than 300 standard components.

- Freely adjustable positions
- Flexibly adjustable gripping forces

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### SCHUNK Gripper Accessories

With around 150 sensor variants and a wide range of high-quality accessory components, SCHUNK offers the greatest variety on the market.

- Measure forces exactly
- Sense positions
- Monitor workpieces
- Minimize energy consumption
- Dust, corrosion protection, high-temperature

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### Special Grippers and customized Grippers

Over 10,000 implemented gripping system solutions for different industries

- Security in the selection for electric gripping system solutions
- Combination of all individual functions for your optimal production automation and robot equipment!



EGL



MMS 22-PI



GSW-B

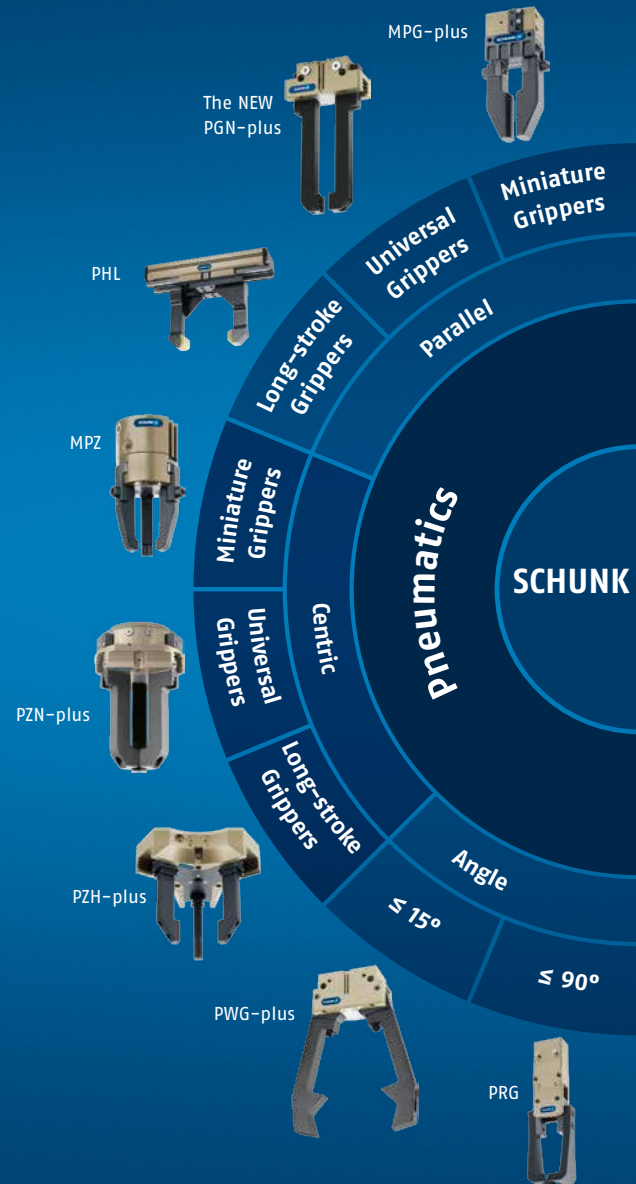
## SCHUNK Grippers. Technology delivers the Benefits. Force, Precision, and Variety – pneumatic and electric.

### Pneumatic SCHUNK Grippers

We offer a comprehensive range of pneumatic gripping modules distinguished by high product quality and precision with extensive query systems. The dimensions of the optimally differentiated series cover the full range of workpiece sizes. This leading technology "Made in Germany" is only possible through our constant innovation.

#### Pneumatics

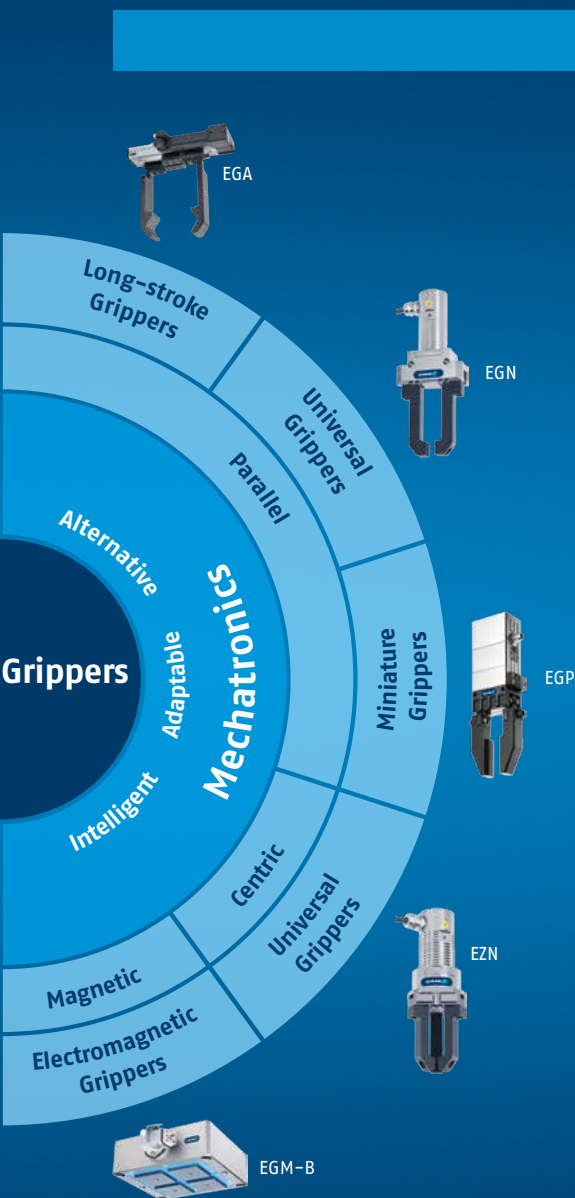
Pneumatic SCHUNK gripping modules are characterized by simple commissioning, high moment capacity, powerful kinematics for a long service life and high gripping forces as well as large stroke ranges compared to their size.



## Mechatronic SCHUNK Grippers

Alternative – Adaptable – Intelligent

SCHUNK is the first manufacturer with Mechatronics<sup>3</sup> strategy, which bundles a comprehensive electric gripper product portfolio. Its three pillars – **Alternative**, **Adaptable** and **Intelligent** – combine to form a unique modular system. This brings together our decades of experience in the field of pneumatics and our pioneering success in the field of mechatronics, and offers proven, efficient automation solutions for almost any mechatronic requirement.



## Mechatronics

Profit from the 3 main features of our leading modular system:

### Alternative

**Like-for-like pneumatic replacements with no change in power.**

Familiar pneumatics functions can be replicated with 100% accuracy using SCHUNK mechatronic components.

### Adaptable

**Driven by conventional servomotors.**

A motor adapter allows you to connect conventional servomotors to your SCHUNK components.

### Intelligent

**Fully integrated motor and control technology.**

The controller is either integrated into the SCHUNK component to save space or installed in the control cabinet.



# SCHUNK eGRIP Finger Designer Gripper Fingers at the Press of a Button.

Design and order  
in 15 minutes.

SCHUNK eGRIP is the first fully automatic, web-based 3D design tool for additively manufactured gripper fingers. The browser-based web tool does not require a license and drastically curtails the design and ordering time for customized gripper fingers.

## Your advantages with the SCHUNK eGRIP Finger Designer

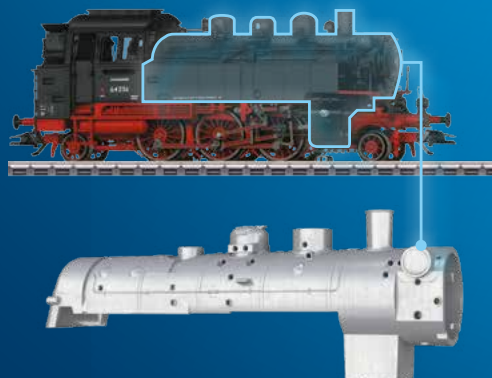
- ✓ Delivery in **1 week**
- ✓ **100%** customer-fit
- ✓ **50%** cost reduction in gripper fingers



[www.egrip.schunk.com](http://www.egrip.schunk.com)

## Practical example.

SCHUNK eGRIP also makes it possible to achieve **form-fit finger geometries** easily, as they eliminate the difficulties of manufacturing by metal cutting.



## Cast-iron workpiece

Steam boiler of a model railway locomotive



Pneumatic  
SCHUNK Gripper  
NEW PGN-plus



✓ Upload a part



Simply **upload** the **STEP** or **STL** file of the workpiece. Add the **specific requirements**, for example **weight**, **installation position** of the gripper or **finger length**.





Pneumatic  
SCHUNK gripper  
MPG-plus



Electric  
SCHUNK gripper  
EGP



Pneumatic  
SCHUNK gripper  
PGN-plus

**Individual gripper finger made of polyamide and now NEW made of steel and aluminum**

Customized for every user with a choice of three materials. In addition individual gripper fingers made of polyamide, SCHUNK eGRIP now extends the offer to include additive manufactured fingers made of aluminum and steel. An integrated lightweight structure lowers the weight of SCHUNK eGRIP metal fingers by up to 50 percent.

**Now NEW!**  
**Gripper fingers made of steel and aluminum**

Online design and  
webshop order in  
**15 minutes**



Delivery in  
**1 week**



SCHUNK eGRIP creates individual gripper fingers with **optimal 3D contouring** and a detailed quote with **price and delivery time**.

SCHUNK eGRIP quickly gives you individual SCHUNK gripper fingers.

# 2-Finger Parallel Grippers

Pneumatic

## The NEW SCHUNK Gripper PGN-plus

The world-proven Gripper on the market – Now NEW with Permanent Lubrication in the Multi-tooth Guidance. Lifelong maintenance-free.\* Guaranteed.

With the NEW PGN-plus-P, SCHUNK is once again raising the bar for pneumatically powered universal grippers. Due to consistent optimization of the multi-tooth and force, it sets the new benchmark for the market. At the same time, the NEW PGN-plus benefits from the unique SCHUNK accessory program for the nearly complete spectrum of feasible automation applications.

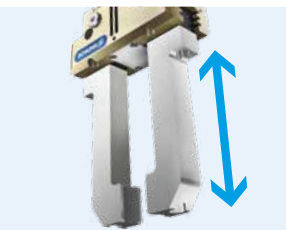
### Your benefits:

- **Up to 50% longer gripper fingers** – due to higher maximum moments
- **Higher force** with the enlarged surface of the drive piston
- **Longest life span** due to lubrication pockets in the durable multi-tooth guidance
- **Maximum process reliability** due to lower surface pressure
- **Diverse accessories**

\* Under normal, clean operating conditions more than 50 million cycles.

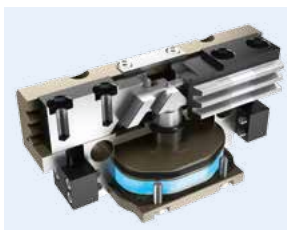


[www.gb.schunk.com/PGN-plus](http://www.gb.schunk.com/PGN-plus)



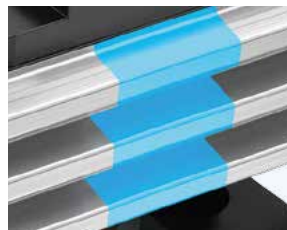
### Up to 50% longer gripper fingers – due to higher maximum moments

The improved multi-tooth guidance allows the use of even longer gripper fingers due to higher maximum moments while retaining the same gripper size, without overloading the guidances. Gripping with optimized interfering contours for spatially constrained handling tasks has been made even easier as a result.



### Higher force

With the enlarged surface of the drive piston in the existing and simultaneously compact installation space, the gripping force of the PGN-plus-P is increased. Higher workpiece weights can be handled in relation to the gripper size.



### Longest life span due to lubrication pockets in the durable multi-tooth guidance

Lubricant pocket through-holes ensure a permanent supply of lubricant. At the same time, they assure a quick and even formation of a lubricant film, also in the case of short strokes.






### Maximum process reliability

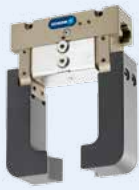




The new multi-tooth guidance allows a larger wedge hook surface and therefore lower surface pressure and therefore low-wear transmission of forces to the base jaw for a reliable process.






# 2-Finger Parallel Grippers

Pneumatic

2-Finger Parallel Grippers				
	MPG-plus	MPG	KTG	
				
<b>Technical data</b>				
Number of sizes	7	9	1	
Gripping force [N]	25 .. 350	7 .. 270	13	
Stroke per jaw [mm]	1.5 .. 10	1 .. 10	4.5	
Weight [kg]	0.022 .. 0.63	0.01 .. 0.7	0.08	
Recommended workpiece weight [kg]	0.17 .. 1.25	0.05 .. 1.0	0.07	
Closing/opening time [s]	0.011 .. 0.08/0.011 .. 0.08	0.01 .. 0.06/0.01 .. 0.06	0.05/0.05	
Max. permissible finger length [mm]	20 .. 80	10 .. 64	50	
Repeat accuracy [mm]	0.02	0.02	0.02	
Protection class IP	30	30	20	
Cleanroom class ISO 14644-1	5	5		
Sensor system	++	++	+	
Comprehensive ranges	++	++	+	
Description	The most powerful pneumatic miniature parallel gripper on the market with a unique combination of oval piston drive and junction roller guide	2-finger parallel gripper with smooth running base jaws guided on roller bearings	2-finger parallel gripper with center bore	
<b>Field of application</b>				
	<ul style="list-style-type: none"> <li>• Gripping and moving</li> <li>• For small to medium workpieces</li> <li>• In the areas of assembly, testing, laboratory, pharmacies</li> </ul>	<ul style="list-style-type: none"> <li>• Gripping and moving</li> <li>• For small to medium workpieces</li> <li>• In the areas of assembly, testing, laboratory, pharmacies</li> </ul>	<ul style="list-style-type: none"> <li>• Gripping and moving</li> <li>• For small to medium workpieces</li> <li>• Equipped with a continuous center bore for workpiece supply, sensor or actuator systems</li> </ul>	
<b>Ambient conditions</b>				
Clean	●	●	●	
Contaminated/coarse dust	○	○	○	
Contaminated/fine dust and liquids				
Contaminated/aggressive liquids				
High temperature range > 90 °C			●	
Cleanroom	○	○	○	





● = Highly suitable    ● = Suitable in special design (on request)    ○ = Suitable to a limited extent

KGG	RH	The NEW PGN-plus	PGN-plus	JGP	
					
7	10	5	11	10	
45 .. 670	13 .. 460	160 .. 2780	123 .. 21800	123 .. 7660	
10 .. 60	2.5 .. 40	2 .. 13	2.5 .. 45	2.5 .. 35	
0.09 .. 4.2	0.04 .. 1.1	0.17 .. 1.35	0.08 .. 39.5	0.08 .. 17.5	
0.23 .. 2.7	0.065 .. 2.3	0.8 .. 13.9	0.62 .. 80.5	0.62 .. 30	
0.03 .. 0.29/0.03 .. 0.25	0.06 .. 0.5/0.06 .. 0.5	0.02 .. 0.8/0.02 .. 0.8	0.02 .. 0.8/0.02 .. 0.8	0.02 .. 0.7/0.02 .. 0.7	
42 .. 160	20 .. 100	80 .. 200	54 .. 400	45 .. 300	
0.02 .. 0.1	0.01 .. 0.02	0.01 .. 0.05	0.01 .. 0.05	0.01 .. 0.05	
40	30	40/64	40/64	40	
			5		
+	+	+++	+++	++	
++	+	+++	+++	+	
Narrow 2-finger parallel gripper with large stroke	The RH series is a low-price gripping system, which is particularly suitable for light applications	Universal 2-finger parallel gripper with large gripping force and high maximum moments due to multi-tooth guidance	Universal 2-finger parallel gripper with large gripping force and high maximum moments due to multi-tooth guidance	Universal 2-finger parallel gripper of the compact class with T-slot guidance and best cost-performance ratio	
<ul style="list-style-type: none"> <li>• Universal use</li> <li>• For light to medium workpiece weights</li> <li>• With a large range of stroke</li> </ul>	<ul style="list-style-type: none"> <li>• With low process forces</li> </ul>	<ul style="list-style-type: none"> <li>• Optimal standard solution for many fields of application</li> <li>• Universal use</li> </ul>	<ul style="list-style-type: none"> <li>• Optimal standard solution for many fields of application</li> <li>• Universal use</li> </ul>	<ul style="list-style-type: none"> <li>• Optimal standard solution for many fields of application</li> <li>• Universal use</li> <li>• In the areas of machine and plant construction, assembly and handling as well as the automotive industry</li> </ul>	
●	●	●	●	●	
○		●	●	●	
		○	○	○	
		○	○	○	
●		●	●	●	
○		○	○	○	

PGF	PGB	DPG-plus	PHL	PFH-mini
				
5	4	10	5	3
240 .. 1970	90 .. 640	110 .. 11430	390 .. 4190	630 .. 2950
7.5 .. 31.5	4 .. 10	2.5 .. 45	30 .. 160	30 .. 100
0.3 .. 5.3	0.28 .. 1.32	0.12 .. 52	1.38 .. 24.18	2.65 .. 12.6
1.2 .. 7.1	0.7 .. 3.3	0.55 .. 46.35	1.95 .. 15.5	3.15 .. 13
0.03 .. 0.4/0.03 .. 0.4	0.02 .. 0.08/0.02 .. 0.08	0.03 .. 1.1/0.03 .. 1.1	0.12 .. 2.1/0.12 .. 3.34	0.3 .. 1.0/0.3 .. 1.2
50 .. 125	64 .. 125	40 .. 380	200 .. 800	100 .. 250
0.02 .. 0.03	0.01	0.01 .. 0.05	0.02	0.05
40	40	67	41	41
		5		
+	++	+	++	++
+	+	+	++	++
Universal parallel gripper with surface-guided base jaws	Universal 2-finger parallel gripper with high gripping force and high moment capacity due to the multi-tooth slideway as well as the center bore	Despite the high moment load of the base jaws, this sealed 2-finger parallel gripper conforms to the IP67 requirements and does not permit any substances from the working environment to penetrate the interior of the unit	2-finger parallel gripper with large jaw stroke for large parts and/or a broad range of parts	Gripper with large jaw stroke for large parts and a broad range of parts
<ul style="list-style-type: none"> <li>For high part diversities due to its long jaw stroke and high gripping forces</li> </ul>	<ul style="list-style-type: none"> <li>Universal use</li> <li>Suitable for applications that require a center bore, e.g. for workpiece feed, special sensor systems or optical recognition systems</li> </ul>	<ul style="list-style-type: none"> <li>Ideally suitable for handling of rough or dirty workpieces</li> <li>Its field of application extends from the loading and unloading of machines, such as in the case of sanitary blocks, grinding machines, lathes or milling machines, to handling tasks in painting plants, in powder-processing or underwater</li> </ul>	<ul style="list-style-type: none"> <li>Optimal standard solution for many fields of application</li> <li>Universal use</li> <li>In the areas of machine and plant construction, assembly and handling as well as the automotive industry</li> </ul>	<ul style="list-style-type: none"> <li>For precise handling of a wide variety of workpieces</li> </ul>
●	●	●	●	●
○	○	●	○	○
		●	○	○
		○		
●	●			●
○	○	○		

# 2-Finger Parallel Grippers

Pneumatic

PFH	CGH	PSH	SPG
			
4	1	4	1
2200	2500	320 .. 1760	11480
150 .. 300	100 .. 160	14 .. 100	100
18.9 .. 33.6	11.65	0.77 .. 8.05	35
11.2 .. 14.7	12.7	1.6 .. 8.8	50
0.7 .. 1.25/0.7 .. 1.25	0.85/0.85	0.15 .. 0.4/0.15 .. 0.4	1.5/1.5
450 .. 900	750	140 .. 300	500
0.02	0.05	0.1 .. 0.05	0.1
30	30	67	30
++	+	+	+
+	+	+	+
2-finger parallel gripper with large jaw stroke for large parts and/or a broad range of parts	2-finger parallel gripper with weight optimized carbon fiber housing and large, flexibly adjustable jaw stroke for efficient handling of large parts and/or a broad range of parts	2-finger parallel gripper with long jaw stroke and dirt-resistant round guidances	Sturdy 2-finger parallel gripper for heavy components and a broad part range, equipped with robust guidances and therefore suitable for high gripping forces and maximum moment loads.
<ul style="list-style-type: none"> <li>• Especially suited to handling motor vehicle wheel rims</li> </ul>	<ul style="list-style-type: none"> <li>• Especially suited to handling motor vehicle wheel rims</li> </ul>	<ul style="list-style-type: none"> <li>• For a wide range of parts</li> </ul>	<ul style="list-style-type: none"> <li>• Covering a wide range of parts with a large jaw stroke</li> <li>• High gripping force for heavy workpieces</li> </ul>
●	●	●	●
○		●	○
○		●	
		●	
●		●	
		○	

## SCHUNK MPG-plus

The most powerful pneumatic miniature parallel gripper on the market.

Highly efficient small parts handling in the most compact space. With its compact performance, the MPG-plus sets the new standard for handling small parts. The unique combination of oval piston drive and junction roller guide of the MPG-plus ensures higher efficiency because of higher force and load capacity.

### Your benefits:

- **25% higher gripping forces** with identical size
- **25% longer gripper fingers** with identical gripper size
- **30% higher basic load rating** by improved guidance (junction roller guide)
- **10% less weight** for higher dynamic properties
- **20% improved closing time** for shorter cycle times

comparison with the SCHUNK MPG, which until now defined the benchmark in small parts handling.



MPG-plus: award-winning at the AUTOMATICA show



[www.schunk.com/MPG-plus/en](http://www.schunk.com/MPG-plus/en)



#### Larger piston surface – more precise guidance

The larger oval piston surface and increase in the number of junction rollers ensure significantly improved efficiency. The improved junction roller guide with increase in the number of junction rollers permits higher gripping forces.



#### Variable screw connection – maximum flexibility

Diverse mounting options guarantee quick, easy gripper mounting and changes. The gripper can be easily positioned using the guide sleeves and can be screwed through and fixed either laterally or at the base.



#### From a single source – pick & place with MPG-plus

Combine the MPG-plus miniature parallel gripper with the PPU-P from SCHUNK, the quickest pneumatic pick & place unit on the market. Benefit from high-speed pick & place with 95 cycles per minute.



#### ABV add-on valve – shorter hosing, improved cycle time

The electrically controlled 3/2 pneumatic ABV micro-valves are screwed onto the gripper. This hose-free, direct assembly minimizes the hosing requirements and reduces cycle times.





# 3-Finger Centric Grippers

Pneumatic

				3-Finger Centric Grippers	
				MPZ	PZN-plus
					
<b>Technical data</b>					
Number of sizes		6		11	
Gripping force [N]		20 .. 340		255 .. 59500	
Stroke per jaw [mm]		1 .. 5		2.5 .. 45	
Dead weight [kg]		0.01 .. 0.29		0.13 .. 80	
Recommended workpiece weight [kg]		0.05 .. 1.15		1.3 .. 227	
Closing/opening time [s]		0.02 .. 0.06/0.02 .. 0.06		0.02 .. 4.6/0.02 .. 3	
Max. permissible finger length [mm]		16 .. 45		54 .. 250	
Repeat accuracy [mm]		0.01		0.01 .. 0.05	
Protection class IP		40		40/64	
Cleanroom class ISO 14644-1		5		5	
Sensor system		+		+++	
Comprehensive ranges		+		+++	
Description		Small 3-finger centric gripper with base jaws guided on T-slots		Universal centric gripper with high gripping force and maximum moments due to multi-tooth guidance	
<b>Field of application</b>					
				<ul style="list-style-type: none"> <li>• Universal use</li> <li>• Especially suitable for gripping small workpieces</li> </ul>	<ul style="list-style-type: none"> <li>• Universal use due to numerous product variants; also in areas where there are special demands on the gripper (temperature, chemical durability, contamination, and much more)</li> </ul>
<b>Ambient conditions</b>					
Clean		●		●	
Contaminated/coarse dust		○		●	
Contaminated/fine dust and liquids				○	
Contaminated/aggressive liquids				○	
High temperature range > 90 °C				●	
Cleanroom		○		○	

● = Highly suitable    ○ (with dot) = Suitable in special design (on request)    ○ (empty) = Suitable to a limited extent



JGZ	PZH-plus	PZB-plus	DPZ-plus
			
7	4	9	8
225 .. 22700	375 .. 4400	340 .. 27600	230 .. 17150
2.5 .. 35	20 .. 75	2.5 .. 35	2.5 .. 25
0.12 .. 8	1.5 .. 33	0.26 .. 53	0.2 .. 20.1
1.25 .. 30	1.9 .. 22	1.7 .. 100	1.15 .. 60
0.02 .. 0.8/0.02 .. 0.8	0.25 .. 1.05/0.2 .. 0.85	0.02 .. 2.5/0.02 .. 2.5	0.03 .. 1.8/0.03 .. 1.8
45 .. 200	150 .. 400	54 .. 250	30 .. 160
0.01 .. 0.02	0.02 .. 0.05	0.01 .. 0.05	0.01 .. 0.05
40	40	40	67
5	5		5
++	+	++	+
+	+	+	+
Universal 3-finger centric gripper of the compact class with T-slot guidance and best cost-performance ratio	Universal centric gripper with high gripping force and maximum moments due to multi-tooth guidance	Universal 3-finger centric gripper with large gripping force and high maximum moments per finger, plus center bore	Despite the high moment load of the base jaws, this sealed 3-finger centric gripper satisfies the requirements of IP67 and does not permit any substances from the working environment to penetrate the interior of the component
<ul style="list-style-type: none"> <li>• Optimal standard solution for many fields of application</li> <li>• Universal use</li> <li>• In the areas of machine and plant construction, assembly and handling as well as the automotive industry</li> </ul>	<ul style="list-style-type: none"> <li>• Universal use due to numerous product variants; also in areas where there are special demands on the gripper (temperature, chemical durability, contamination, and much more)</li> </ul>	<ul style="list-style-type: none"> <li>• Universal use</li> <li>• Suitable for applications that require a center bore, e.g. for workpiece feed, special sensor systems or optical recognition systems</li> </ul>	<ul style="list-style-type: none"> <li>• Ideally suitable for handling of rough or dirty workpieces</li> <li>• Its field of application extends from the loading and unloading of machines, such as in the case of sanitary blocks, grinding machines, lathes or milling machines, to handling tasks in painting plants, in powder-processing or underwater</li> </ul>
●	●	●	●
○	○	○	●
	○	○	●
	○	○	○
	○	●	○
			○

# 3-Finger Centric Grippers

Pneumatic

		Multi-finger Centric Grippers	
PZH-SF-mini	PZH-SF	PZH-SF	PZV
			
1	1	5	570 .. 7300
			4 .. 16
3.3	20	0.5 .. 10	
9.8	8	2.8 .. 34.5	
0.5/0.5	0.5/0.5	0.02 .. 0.15/0.02 .. 0.15	
80	140	64 .. 140	
0.05		0.01 .. 0.02	
64	40	40	
+	+	+++	
+	+	+	
Universal 3-finger centric gripper with a large, rotary finger stroke capable of handling a broad range of workpiece sizes and a round guidance which is protected against dirt	Universal 3-finger centric gripper with a large, rotary finger stroke capable of handling a broad range of workpiece sizes and a round guidance which is protected against dirt	The multi-finger gripper for applications in which two or three fingers are insufficient	
<ul style="list-style-type: none"> <li>• For a large stroke for a large workpiece size range or for gripping in an undercut section</li> <li>• Optimal for rotationally symmetric parts</li> </ul>	<ul style="list-style-type: none"> <li>• Especially suited to handling motor vehicle wheel rims</li> </ul>	<ul style="list-style-type: none"> <li>• 4-finger centric grippers have advantages over the usual centric grippers, for example when cylindrical workpieces are being magazined in tablets</li> <li>• The PZV handles the workpieces in a controlled, process reliable manner despite the interfering contours</li> </ul>	
●	●	●	●
○	○	○	○
○	○	○	○
			○

## SCHUNK MPZ Miniature Gripper

### Powerful handling of small parts

The powerful 3-finger miniature centric gripper can be used in small part handling systems, e.g. for handling and mounting products such as needles, microprocessors or small electric components. A characteristic feature of the MPZ is the tried-and-tested, accurate T-slot guidance with hardened, ground steel base jaws, ensuring reliability and high performance. The gripping force maintenance device that can be integrated as an option is protected by very small springs during opening and closing. For example, this prevents loss of components should the pneumatic pressure drop suddenly.



### Your benefits:

- **T-slot guidance**
- **Wedge hook design** for high force transmission and synchronized gripping
- **Gripping force maintenance device optional**



[www.schunk.com/MPZ/en](http://www.schunk.com/MPZ/en)

## SCHUNK PZN-plus

### Universal gripper for a very wide range of parts

The PZN-plus is the first centric gripper with multi-tooth guidance for handling an extremely wide range of parts, from small parts handling through to heavy-duty applications. The universal virtuoso with 11 sizes guarantees precise gripping of centric workpieces with a workpiece weight of up to 190 kg. The PZN-plus is available with ATEX certification as a premium product specifically for potentially explosive atmospheres.



### Your benefits:





- **Robust multi-tooth guidance** for maximum process reliability
- Significantly **greater payload** allows for use of longer gripper fingers
- Slender, **compact dimensions** for minimum interfering contours in handling
- Screw connection for **flexible pressure supply** in all automation systems
- **Extensive sensor accessories** for monitoring the stroke position





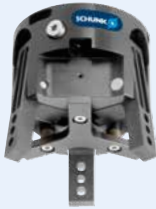
[www.schunk.com/PZN-plus/en](http://www.schunk.com/PZN-plus/en)

# Angular Gripper

Pneumatic

	2-Finger Angular Grippers			2-Finger Radial Grippers	
	SGB	SWG	PWG-plus	PRG	
					
<b>Technical data</b>					
Number of sizes	3	8	8	8	
Gripping moment [Nm]	0.9 .. 4.95	0.01 .. 2.8	3.3 .. 1025	2 .. 295	
Opening angle per jaw [°]	8	15	15	30 .. 90	
Dead weight [kg]	0.04 .. 0.06	0.0025 .. 0.213	0.13 .. 11.3	0.13 .. 6.72	
Recommended workpiece weight [kg]	0.2 .. 0.8	0.007 .. 0.46	0.4 .. 11.57	0.3 .. 6.96	
Closing/opening time [s]	0.06 .. 0.08/ 0.04 .. 0.05	0.015 .. 0.03/ 0.02 .. 0.06	0.06 .. 0.32/ 0.01 .. 0.46	0.06 .. 0.75/ 0.06 .. 0.92	
Max. permissible finger length [mm]	32 .. 50	10 .. 42	64 .. 300	40 .. 240	
Repeat accuracy [mm]	0.1	0.05	0.02	0.05 .. 0.1	
Protection class IP	20	30	30	20	
Cleanroom class ISO 14644-1					
Sensor system	+	+	++	++	
Comprehensive ranges	+	+	++	++	
Description	Small, simple pressurized plastic angular gripper with spring return	Narrow double-acting 2-finger angular gripper	Robust 2-finger angular gripper with oval piston and bone drive	180°-radial gripper with powerful 1-shift slotted link gear and oval piston	
<b>Field of application</b>					
	<ul style="list-style-type: none"> <li>• Universal use</li> <li>• With special requirements on corrosion resistance and anti-static properties of the gripping unit</li> </ul>	<ul style="list-style-type: none"> <li>• Universal use</li> <li>• Suitable for applications which require a stacked, space-optimized gripper arrangement</li> </ul>	<ul style="list-style-type: none"> <li>• Universal use</li> </ul>	<ul style="list-style-type: none"> <li>• For areas of application which, in addition to a large gripping force, require the shortest possible motion sequences through the radial design of the jaw stroke</li> </ul>	
<b>Ambient conditions</b>					
Clean	●	●	●	●	
Contaminated/coarse dust	○	○	⦿	○	
Contaminated/fine dust and liquids			○		
Contaminated/aggressive liquids			○		
High temperature range > 90 °C		●	●	●	
Cleanroom	○	○	○	○	

● = Highly suitable    ⦿ = Suitable in special design (on request)    ○ = Suitable to a limited extent

			3-Finger Angular Grippers
DRG	GAP		SGW
			
5	3		3
8.2 .. 143	56 .. 430*		1.35 .. 7.45
10 .. 90	30 .. 90		8
0.5 .. 4.46	0.3 .. 1.33		0.05 .. 0.17
0.9 .. 7.2	0.46 .. 1.25		0.3 .. 1.3
0.4 .. 0.3/ 0.5 .. 0.6	0.09 .. 0.35/ 0.09 .. 0.35		0.02 .. 0.02/ 0.03 .. 0.03
50 .. 125	40 .. 65		32 .. 50
0.1	0.05		0.1
67	40		20
++	+		+
++	++		+
Sealed 180° angular gripper for use in dirty environments	2-finger angular parallel gripper for external clamping with gripper finger actuation of up to 90 degrees per jaw		Small, simple pressurized plastic angular gripper with spring return
<ul style="list-style-type: none"> <li>For applications requiring a large opening range</li> <li>Specially suitable for use in dirty environments</li> </ul>	<ul style="list-style-type: none"> <li>Gripping and moving</li> <li>For small to medium workpieces</li> </ul>		<ul style="list-style-type: none"> <li>Universal use</li> <li>With special requirements on corrosion resistance and anti-static properties of the gripping unit</li> </ul>
●	●		●
●	○		○
●			
●			
●			
○	○		○

\* The GAP is an angular parallel gripper, which means the values must be understood as forces [N].

## SCHUNK PWG-plus

### Compact powerhouse

The double oval piston drive, the one-piece, high-strength aluminum housing and the practically wear-free T-bar drive make the PWG-plus 2-finger angular gripper a compact and robust powerhouse. Depending on the application it can be equipped with or without mechanical gripping force maintenance. In addition, extensive accessories are available, including inductive sensors and magnetic switches.



### Your benefits:

- **Workpiece weights between 0.5 kg and 7.3 kg**
- **Gripping moments are between 3.5 Nm and 143 Nm**
- **Stroke per finger 15°**
- **Overgrip angle per jaw at least 3°**
- **Maximum transfer of force and low wear** due to robust bone drive
- **High power density** due to oval pistons
- **Flexible design of workpiece supports** because of connection thread and centering possibilities
- For use in **clean** and **slightly polluted environment**



[www.schunk.com/PWG/en](http://www.schunk.com/PWG/en)

# Control Concepts for SCHUNK Components

## MECHATRONIK<sup>3</sup>

Standard mechatronic SCHUNK components offer the greatest flexibility when it comes to connecting customized control concepts.

A number of designs are available, depending on your requirements:

- **Direct pneumatic replacement** and **actuation**
- Modular SCHUNK components with **external drive** and **external drive controller**
- Modular SCHUNK components with **integrated drive** and **external drive controller**
- Modular SCHUNK components with **integrated drive** and **drive controller**

Customer controller	Optionally available from SCHUNK:			
	Communication interface**	Drive controller	Standard cable set	Transducer interface*
<p>The controller serves as the interface with the application and is specified by the customer.</p> <p>SIEMENS</p> <p>Rexroth</p> <p>BECKHOFF</p> <p>B&amp;R</p> <p>Schneider Electric</p> <p>Lenze</p> <p>More on request</p>	D I/O			
	<p>Profibus</p> <p>CAN</p> <p>ProfiNet</p> <p>Ether CAT</p> <p>DeviceNet</p> <p>Sercos interface</p> <p>EtherNet/IP</p>	<p>SCHUNK</p> <p>SIEMENS</p> <p>Rexroth</p> <p>BECKHOFF</p> <p>B&amp;R</p> <p>Schneider Electric</p> <p>Lenze</p> <p>More on request</p>	<p>Power cable</p> <p>Sensor cable</p> <p>I/O cable</p>	<p>HIPERFACE</p> <p>SSI</p> <p>DRIVE-CLiQ</p> <p>EnDat 2.2</p> <hr/> <p>HIPERFACE</p> <p>SSI</p> <p>DRIVE-CLiQ (on request)</p> <p>1Vss</p>
	<p>Profibus</p> <p>CAN</p>	<p>Modular SCHUNK components with <b>integrated drive</b> and <b>drive controller</b></p>		

\* Dependent on drive \*\* Dependent on drive controller

Matching cables also optionally available.  
A variety of transducer and fieldbus interfaces make the concepts compatible with any controller.



### Drive

### Mechatronic SCHUNK Components



**Direct**  
pneumatic replacement  
and actuation

**Alternative**  
Like-for-like pneumatic  
replacements with no  
change in power.

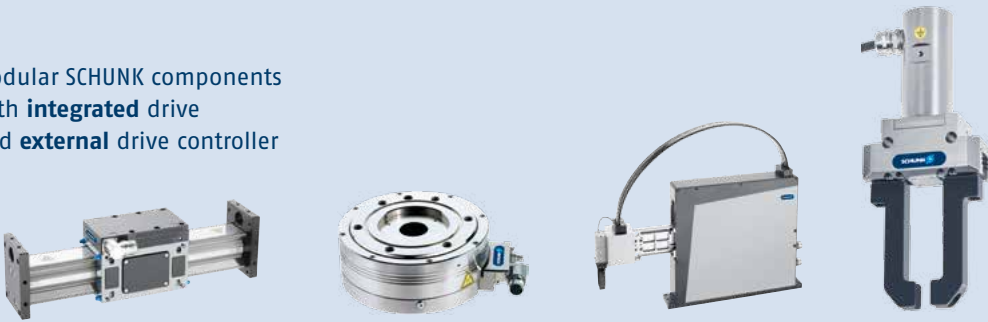
Standard  
servomotors

Modular SCHUNK components  
with **external** drive and **external**  
drive controller

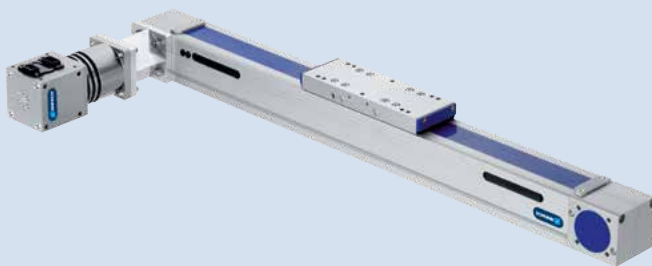


**Adaptable**  
Driven by conventional motors.

Modular SCHUNK components  
with **integrated** drive  
and **external** drive controller



**Intelligent**  
Controller external, motor integrated



**Intelligent**  
Motor and controller fully integrated

## The NEW SCHUNK Gripper PGN-plus-Electric.

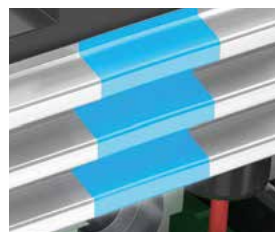
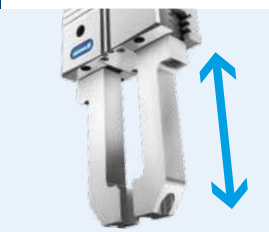
The first easy electric gripper with proven multi-tooth guidance.

With permanent lubrication in the multi-tooth guidance, digital control and 24 V drive.

The NEW electric SCHUNK gripper PGN-plus-Electric applies the proven high-performance features of the NEW PGN-plus pneumatic gripper in the area of mechatronic handling. The first simple electric gripper with multi-tooth guidance, digital control, and 24 V drive makes the switch from pneumatic to electric components especially easy. Its digital control via binary signals simplifies commissioning and enables quick integration into existing systems.

### Your benefits:

- **Up to 50% longer gripper fingers**  
due to higher maximum moments
- **Easy gripping force adjustment**  
The gripping force can be adjusted quickly, safely and manually in four stages.
- **Longest life span** due to lubricant pickets in the robust multi-tooth guidance
- **Maximum process safety** due to lower surface pressure
- **Integrated sensor system**



#### Up to 50% longer gripper fingers

The improved multi-tooth guidance allows the use of even longer gripper fingers due to higher maximum moments while retaining the same gripper size, without overloading the guidances.

#### Easy gripping force adjustment

The gripping force of the NEW SCHUNK PGN-plus-Electric can be adjusted quickly, safely, and manually in four stages.

#### Longest life span due to lubrication pockets in the durable multi-tooth guidance

Lubricant pocket through-holes ensure a permanent supply of lubricant. At the same time, they ensure a quick and even formation of a lubricant film, also in the case of short strokes.





#### Maximum process safety

Multi-tooth guidance allows a larger wedge hook surface and therefore lower surface pressure for low-wear transmission of forces to the base jaw for a reliable process.

#### Integrated sensor system






The control and power electronics are fully integrated, which ensures that no additional space in the switch cabinet is required. The 24 V gripper is actuated via digital I/O inputs. M8 plug connectors query up to two gripper positions.



	2-Finger Parallel Grippers			
	Alternative		Adaptable	
	EGP	The NEW PGN-plus-Electric	LEG	EGA
	 <p>INDUSTRIE PREIS 2012</p> <p>The fastest electric gripper for small components on the market</p>		 <p>The multitalent in packaging handling</p>	 <p>Compact long-stroke gripper</p>
<b>Technical data</b>				
Number of sizes	3	1	3	2
Gripping force [N]	20 .. 215	110 .. 570	300 .. 1500	100 .. 1300
Stroke/jaw [mm]	3 .. 8	8	101 .. 281	30 .. 100
Closing time/stroke [s]	0.09 .. 0.21	0.26		
Max. workpiece weight [kg]	0.035 .. 1.05	3	15.75 .. 22.5	2.6 .. 6.5
Weight	0.11 .. 0.51	1.01	5.4 .. 7.9	2.2 .. 9
Voltage [V]	24 DC	24 DC	Motor-dependent	Motor-dependent
Current [A]	0.14 .. 0.3	0.6	Motor-dependent	Motor-dependent
Protection class IP	30	40	20	40
Guidance type	Junction rollers	Multi-tooth guidance	Profiled rail	Profiled rail
Measuring system type			Motor-dependent	Motor-dependent
Description	Electric 2-finger parallel gripper with smooth-running roller bearing guide in the base jaw	Electric 2-finger parallel gripper with integrated motor and electronics as well as the proven multi-tooth guidance	Light long-stroke gripper for flexible and highly dynamic handling of different components	Electric 2-finger parallel gripper with adaptable servomotor
<b>Motor &amp; Controller</b>				
Motor	Integrated	Integrated	Adaptable	Adaptable
Controller	Integrated	Integrated	External	External
Controller type			Motor-dependent	Motor-dependent
<b>Field of application</b>				
	<ul style="list-style-type: none"> <li>Gripping and moving</li> <li>For small to medium-sized workpieces with flexible force and high speed</li> <li>In the areas of assembly, testing, laboratory, pharmacies</li> </ul>	<ul style="list-style-type: none"> <li>Optimal standard solution for many fields of application</li> <li>Universal use</li> </ul>	<ul style="list-style-type: none"> <li>For very flexible gripping of various geometries and types of components</li> <li>Due to the servo electric drives, the gripping position and the gripping force can be exactly determined</li> </ul>	<ul style="list-style-type: none"> <li>Gripping and moving</li> <li>For medium-sized workpieces with flexible force and high speed</li> </ul>
<b>Ambient conditions</b>				
Clean	●	●	●	●
Slightly dirty			●	●
Extremely dirty				●

● = Highly suitable    ● = Suitable in special design (on request)    ○ = Suitable to a limited extent

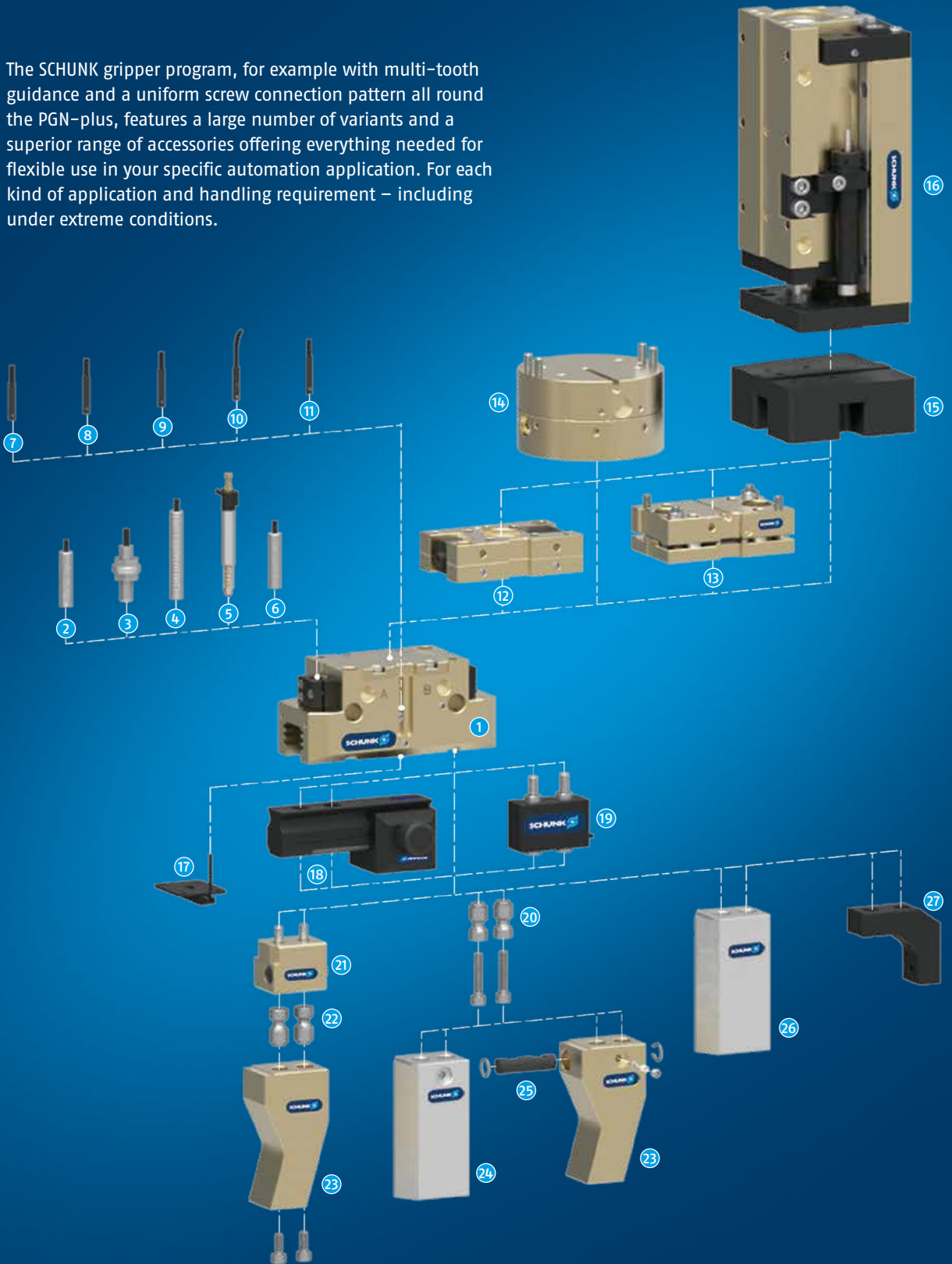
Intelligent					
MEG	PG	EGL	WSG	PEH	
					
	<b>With gripping force control</b>	<b>Powerhouse for handling and assembly</b>	<b>Control via Ethernet TCP/IP</b>		
3	1	1	3	3	
40 .. 140	30 .. 200	600	5 .. 80	150 .. 1800	
6 .. 10	34	49	32 .. 105	60 .. 100	
0.3 .. 0.62	1.1		0.5 .. 1.0	1 .. 1.5	
0.3 .. 0.85	1	3	0.4 .. 0.5	3.75 .. 9	
0.47 .. 1.42	1.4	1.8	0.32 .. 1.2	5.4 .. 16.8	
24 DC	24 DC	24 DC	24 DC	24 DC	
0.6 .. 1.3	1.4		0.3	2.4 .. 10	
30	20	30 (gripper), 67 (electronics)	40	41	
Junction rollers	Profiled rail	Profiled rail	Profiled rail	Profiled rail	
	Incremental	Incremental	Incremental	Incremental	
Electric 2-finger parallel gripper with smooth-running roller bearing guide in the base jaw	Servo-electric 2-finger parallel gripper with highly precise gripping force control and long stroke	Servo-electric 2-finger parallel gripper with highly precise gripping force control and long stroke	Servo-electric 2-finger parallel gripper with highly precise gripping force control and long stroke	Servo-electric 2-finger parallel gripper with large jaw stroke for large parts and/or diverse parts spectrum	
Integrated	Integrated	Integrated	Integrated	Integrated	
External	Integrated	Integrated	Integrated	Integrated	
MEG-C					
<ul style="list-style-type: none"> <li>Gripping and moving</li> <li>For small to medium-sized workpieces with flexible force, stroke or speed</li> </ul>	<ul style="list-style-type: none"> <li>Universally applicable, highly flexible gripper</li> <li>For a wide range of parts and sensitive components</li> </ul>	<ul style="list-style-type: none"> <li>Sensitive workpieces can be gripped sensitively and precisely</li> <li>Flexible workpiece handling possible even in a contaminated environment</li> </ul>	<ul style="list-style-type: none"> <li>Universally applicable, highly flexible gripper</li> <li>For a wide range of parts and sensitive components</li> </ul>	<ul style="list-style-type: none"> <li>Universally applicable, highly flexible gripper</li> <li>With a wide variety of parts</li> </ul>	
•	•	•	•	•	
	•	•		•	
		•			

	3-Finger Centric Grippers	Electro Magnetic Grippers		Gripping Swivel Unit
		Alternativ		
EGN	EZN	EGM-M	EGM-B	EGS
				
		Maximum holding force in minimum space		The most compact electric gripping rotary unit in the world
3	2	6	8	1
400 .. 1000	140 .. 800	780 .. 11700	1800 .. 20370	30
8 .. 16	6 .. 10			3
1.1 .. 1.5	0.25 .. 0.4	0.3	0.3	0.05 (grip), 0.18 (swivel)
2.1 .. 5.4	2.5 .. 4	4 .. 75	20 .. 118	0.15
0.84 .. 3.4	0.98 .. 2.3	1 .. 7	5.5 .. 25	0.55
24 DC	24 DC	400 AC	400 AC	24 DC
1 .. 2.6	2 .. 3	2.2 .. 3.7	2.9 .. 12.3	
41	41	54	54	40
The SCHUNK multi-tooth guidance	The SCHUNK multi-tooth guidance			Junction rollers
Resolver	Resolver			
Servo-electric 2-finger parallel gripper with high gripping force and moment loads due to the multi-tooth guidance	Servo-electric 3-finger centric gripper with high gripping force and high maximum moment due to multi-tooth guidance	Electric permanent magnet gripper for energy-efficient handling of ferromagnetic workpieces	Electric permanent magnet gripper for energy-efficient handling of ferromagnetic workpieces	Electric 2-finger parallel rotary gripping module with smooth-running roller bearing guide in the base jaw
Integrated	Integrated			Integrated
External	External	External	External	Integrated
ECM	ECM	ECG	ECG	
<ul style="list-style-type: none"> <li>Optimal standard solution for many fields of application</li> <li>Flexible use due to controllable gripping force, position and speed</li> </ul>	<ul style="list-style-type: none"> <li>Optimal standard solution for many areas of application; flexible use due to controllable gripping force, position and speed</li> </ul>	<ul style="list-style-type: none"> <li>Universally applicable, compact gripper</li> <li>With a wide variety of parts</li> </ul>	<ul style="list-style-type: none"> <li>Universally applicable, compact gripper</li> <li>With a wide variety of parts</li> </ul>	<ul style="list-style-type: none"> <li>Gripping and moving</li> <li>For small to medium-sized workpieces with flexible force and high speed</li> <li>In the areas of assembly, testing, laboratory, pharmacies</li> </ul>
•	•	•	•	•
•	•	•	•	
•	•			

## SCHUNK Grippers



Our Response to Flexibility:  
Variety in Accessories.

The SCHUNK gripper program, for example with multi-tooth guidance and a uniform screw connection pattern all round the PGN-plus, features a large number of variants and a superior range of accessories offering everything needed for flexible use in your specific automation application. For each kind of application and handling requirement – including under extreme conditions.



# SCHUNK Gripper Accessories

## Sensor Systems

	Monitor Position			
	MMS 22	MMS-PI 1/2	IN	RMS
		 8	 2	 7
<b>Switching behavior</b>				
1 digital point	●	●	●	●
2 digital point	●	●		
5 digital point				
Analog				
<b>Ambient conditions</b>				
Clean	●	●	●	●
Slightly dirty	●	●	●	●
Extremely dirty				●
<b>Technical data</b>				
Number of sizes	1	1	6	2
Operating principle	Magnetic	Magnetic	Inductive	Reed
IP protection max.	67	67	67	67
Supply voltage [V DC]	24	24	24	24
Supply current [mA]	< 50	< 50	< 200	< 10
PNP version	●	●	●	●
NPN version	●	●	●	●
LED display	●	●		●
Measurement switching distance [mm]	Not adjustable	Not adjustable	0.8 .. 2.5	Not adjustable
Closer	●	●	●	●
Opener			●	
<b>Connection type</b>				
Number of wires	3/44	3/4	3	3
Cable version	●	●	●	
Connection plug M8 version	●	●	●	●
Connection plug M12 version			●	

● = Highly suitable    ● = Suitable in special design (on request)    ○ = Suitable to a limited extent

## IN Inductive Proximity Switch






**Reliable. Contactless. Easy assembly.**

Inductive proximity switches are used to scan the current status of automation components. SCHUNK supplies them in two versions: IN (sensor with 30 cm molded cable and cable connector) and INK (sensor with 2 m supply cable and wire strands for connecting).



## Your benefits:

- **Bracket mounting** for easy and fast attachment
- **Version with LED display** for checking the switching condition directly at the sensor
- **Version with plug connector** for fast and easy extension cable replacement
- **Highly flexible PUR cable** for a long service life and resistance against many chemicals
- **Proximity switch can be installed flush** to reduce interfering contours in the application

					Monitor Workpiece
FPS	APS-M1	APS-Z80	MMS-A	OAS	
					
4	6	5		17	
					•
•					
	•	•	•	•	•
•	•	•	•	•	•
•	•	•	•	•	•
6	1	1	1	11	
Magnetic	Magnetic	Inductive	Magnetic	Visual	
67	67	67	67	67	
24	24	24	24	24	
< 10	< 150	< 200	< 50	< 180	
•				•	
			•		
Not adjustable	Not adjustable	0.5 .. 2	Not adjustable	10 .. 200	
•				•	
				•	
7	3	3	3	3	
•	•	•	•	•	
		•	•	•	
			•	•	



## FMS Force Measuring System

The SCHUNK FMS force measuring system is used for measuring forces acting in the direction of the jaw movements on the base jaw.




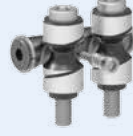


The FMS intermediate jaws are screwed on between the gripper base jaw and the top jaw, which comes in contact with the workpiece. Gripping forces on the top jaw result in a flow of force through the FMS intermediate jaw. Intelligently arranged strain gauges inside the intermediate jaw react to the resulting deformation. The FMS processor detects the change in the strain gauges and emits an analog signal indicating the force.

## Your benefits:

- **Easy handling** via a control line that is directly connected to a PLC
- **It is easy to measure** the gripping force that is actually acting
- **Result output via analog voltage value**
- **Simple linear relationship** between output voltage and gripping force
- **Simple zero adjustment** with button or via control line
- **Integrated LC display** for visual monitoring
- **Easy assembly**
- **Dirt and water-tight** for applications even under extreme ambient conditions

# SCHUNK Grippers

## Accessories

	ABR/SBR	BSWS-B/-A	ABR/SBR-BSWS	BSWS-AR/-UR	UZB	SDV-P
	 26	 21 22	 20 24	 20 25	 18	
Jaw quick-change system		•	•	•		
Adjustable intermediate jaw					•	
Top jaws blank	•		•			
Pressure maintenance valve						•
Field of application	For quick and easy creation of top jaws by adding the clamping contour	With highly diverse workpieces for quick jaw changes with any clamping contours	With highly diverse workpieces for quick jaw changes with simple clamping contours	With highly diverse workpieces for quick jaw changes with any clamping contours	With highly diverse workpieces that can be covered by increasing the clamping width	For applications in which the force or position must be maintained temporarily
Description	Finger blanks made of aluminum or steel for rework for the specific application	The BSWS consists of one base and to adapter pins. The form-fit locking mechanics assures a fast exchange of the gripper fingers	The BSWS consists of two adapter pins and one finger blank with locking mechanism. The form-fit locking mechanics assures a fast exchange of the gripper fingers	The BSWS consists of two adapter pins and the locking mechanism located in the customer-specific finger. The form-fit locking mechanics assures a fast exchange of the gripper fingers	Allows fast tool-free and reliable plugging and shifting of top jaws	With a loss of air pressure, venting of the module will be prevented temporarily by the pressure maintenance valve.
Advantages	<ul style="list-style-type: none"> <li>• Matching finger blanks for commonly used gripper types</li> <li>• Clamping contour can be machined rapidly and easily</li> </ul>	<ul style="list-style-type: none"> <li>• One gripper can be used universally in various applications</li> <li>• Quick and easy for high flexibility</li> <li>• Firm up to the max. loadability of the base jaws</li> </ul>	<ul style="list-style-type: none"> <li>• One gripper can be used universally in various applications</li> <li>• Quick and easy for high flexibility</li> <li>• Firm up to the max. loadability of the base jaws</li> <li>• Matching finger blanks for commonly used gripper types</li> <li>• Clamping contour can be machined rapidly and easily</li> </ul>	<ul style="list-style-type: none"> <li>• One gripper can be used universally in various applications</li> <li>• Quick and easy for high flexibility</li> <li>• Firm up to the max. loadability of the base jaws</li> <li>• Clamping contour can be created as required</li> </ul>	<ul style="list-style-type: none"> <li>• Toolless adjustment and clamping for quick and easy conversion</li> <li>• Stable guide bar, suitable for long gripper fingers</li> </ul>	<ul style="list-style-type: none"> <li>• Versatile in its application, since it has standard air connections</li> <li>• Manual air bleed screw means no removal of pressurized hoses</li> </ul>

## Benefit from the SCHUNK Modular System with over 4,000 standard Components.

More than 30 years of expertise in gripping forms the basis for the largest standardized range of gripping technology in the world with more than 4,000 components, a modular system with perfectly matching standard components on linear modules, turning and rotary actuators and robot accessories.

### CWS Compact Change System

SCHUNK's flat and weight-reduced CWS manual change system ensures the fast manual change of grippers at the robot when re-equipping for a new range of parts. A noticeable increase in productivity can thus be achieved in particular for small and medium batch sizes.

- Simple tool change on the robot due to simple working principle
- Full compatibility due to integrated ISO robot flange
- Screw connection diagram for the main SCHUNK gripping and compensation modules
- Direct assembly of the gripping modules onto the change system without adapter plate



### TCU Compensation Unit

SCHUNK presents the TCU, a compensation unit with baseplates connected together by elastomer elements. As a result, the TCU can compensate in the X and Y directions, allowing it to correct angle errors and provide rotational compensation.

- Suitable for gripper types PGN-plus, PZN-plus, DPG-plus and DPZ-plus
- The compensation travel distances in X/Y direction are 2 to 4 mm, depending on the size
- Compensation angles are between 1.5 and 3.5°
- Maximum handling weights between 1 and 24 kg, depending on gripper size



### SRU-plus Universal Rotary Actuator

Universal pneumatic unit for rotary and turning movements in both clean and dirty areas.

- Graduated series with a steady increase in torque
- Swivel angle can be selected as either 90° or 180°
- Choice of end position adjustability: +3°/-3° (small) or +3°/-90° (large)
- Middle position can be pneumatic or locked
- Fluid feed-through suitable for gases, liquids, and vacuum without troublesome hoses
- Electric rotary feed-through for continuous fail-safe feed-through of sensor and actuator signals, optionally with bus feed-through
- Electronic magnetic switches or inductive proximity sensors for absolute variability in position sensing



### CLM Linear Module

Compact linear modules with reduced length and high power density in relation to size. The mini-slides are ideal for use in constrained installation spaces – shock absorbers and proximity switches are integrated into the projection surface and eliminate any interference contours.

- 6 sizes with a total of 22 stroke variants
- 95% available from stock
- More than 20 years of experience with junction roller guides
- 90% of the applications can be implemented in assembly automation
- 0% additional interference contour due to shock absorbers or sensors








- 1 Universal Gripper PGN-plus**  
 Universal 2-finger parallel gripper with large gripping force and high maximum moments due to multi-tooth guidance
- 2 Inductive proximity switch IN ...**  
 Inductive proximity switch with integrated cable and axial cable outlet
- 3 Flexible position sensor FPS**  
 Digital measuring system for monitoring up to 5 different, freely selectable positions
- 4 Analog position sensor APS-Z80**  
 Inductive measuring system for precise monitoring of the gripper jaw position with analog output
- 5 Analog position sensor APS-M1S**  
 Mechanical measuring system for precise monitoring of the gripper jaw position with analog output
- 6 Reed switch RMS**  
 Reed switch in round version
- 7 Magnetic switch MMS 22**  
 Magnetic switch with axial cable outlet for position monitoring
- 8 Programmable magnetic switch MMS 22-PI1**  
 Magnetic switch with axial cable outlet for monitoring one freely programmable positions
- 9 Programmable magnetic switch MMS 22-PI2**  
 Magnetic switch with axial cable outlet for monitoring two freely programmable positions
- 10 Programmable magnetic switch MMS-P**  
 Magnetic switch with axial cable outlet for monitoring two freely programmable positions with an integrated teaching function
- 11 Reed switch RMS 22**  
 Reed switch for direct assembly in the C-slot
- 12 Compact change system CWS**  
 Manual change system with integrated air feed-through for simple exchange of the handling components
- 13 Tolerance compensation unit TCU**  
 Tolerance compensation unit for compensation of small tolerances in the plane
- 14 Compensation unit XY AGE**  
 Compensation unit for compensation of large tolerances along the X and Y axes
- 15 Adapter plate ASG**  
 Adapter plate for combination of various automation components in the modular system
- 16 Compact slide CLM**  
 Linear module with pneumatic drive and clearance-free pre-loaded junction rollers
- 17 Optical distance and presence sensor OAS**  
 Optical distance and presence sensor for detecting the presence of a workpiece as well as its distance
- 18 Universal intermediate jaw UZB**  
 The universal intermediate jaw allows fast, tool-free, reliable displacement of top jaws at the gripper
- 19 Force-measuring jaws FMS**  
 Force-measuring jaws for measuring gripping forces, workpiece weights or deviations in dimension
- 20 Jaw quick-change system BSWS-AR**  
 Adapter coupling of the jaw quick-change system for fast, manual change of top jaws
- 21 Jaw quick-change system BSWS-B**  
 Locking mechanism of the jaw quick-change system for fast, manual change of top jaws
- 22 Jaw quick-change system BSWS-A**  
 Adapter coupling of the jaw quick-change system for adaptation to the customized finger
- 23 Customized finger**
- 24 Finger blanks BSWS-ABR**  
 Finger blank made of aluminum with interface of the jaw quick-change system
- 24 Finger blanks BSWS-SBR**  
 Finger blank made of steel with interface of the jaw quick-change system
- 25 Jaw quick-change system BSWS-UR**  
 Locking mechanism for integration of the jaw quick-change system into customized fingers
- 26 Finger blanks ABR/SBR**  
 Finger blanks made of steel or aluminum with standardized screw connection diagram
- 27 Intermediate jaw ZBA**  
 Intermediate jaws for re-orienting the mounting surface

# Special Grippers

Pneumatic


	Perforation Grippers LOG	O-Ring Grippers ORG	Universal Gripper with Shank Interface GSW-B
			
Description	Light weight gripper made from a chemical resistant polyamide with a closed membrane system.	6-finger gripper for internal and external assembly of O-rings in a reliable process	Universal gripper with shank interface for toolholder
Field of application	<ul style="list-style-type: none"> <li>Particularly suitable for highly dynamic applications with light workpieces</li> <li>For handling small parts and plastic parts, as well as sand core handling</li> </ul>	<ul style="list-style-type: none"> <li>For automated assembly of O-rings</li> </ul>	<ul style="list-style-type: none"> <li>For fully automated loading and unloading of machining centers</li> </ul>
Ambient conditions			
Clean	●	●	●
Contaminated/coarse dust	●		●
Contaminated/fine dust and liquids	●		○
Contaminated/aggressive liquids			○
High temperature range > 90 °C			●
Cleanroom	○	○	○
Comprehensive ranges			
	+++	+	++
Variety of sensor systems			
		+	+

● = Very highly suitable    ○ = Highly suitable    ○ = Suitable in customized version    + = Medium selection    ++ = Wide selection

## SCHUNK PZN-plus with Shank Interface GSW-B

The SCHUNK GWS gripper with shank interface loads and unloads machining centers fully automatically using the machine's own axis. It is inserted in a toolholder like a tool and can be swapped out of the tool magazine, lightning fast and moved directly by the machine without requiring a robot or portal. The result: fully automatic workpiece change only with the help of the axis movements.



Universal Gripper with Shank Interface and Compensation Unit GSW-B with AGE	Vacuum Gripper with Shank Interface GSW-V	Magnetic Gripper with Shank Interface GSW-M	Cleaning Device with Shank Interface RGG
			
Universal gripper with shank interface for toolholder and compensation unit	Vacuum gripper with shank interface for machine self-operation	Magnetic gripper with shank interface for toolholder	Cleaning device with shank interface for toolholder
<ul style="list-style-type: none"> <li>• For fully automated loading and unloading of clamping devices such as vises</li> </ul>	<ul style="list-style-type: none"> <li>• For fully automated loading and unloading of flat workpieces</li> </ul>	<ul style="list-style-type: none"> <li>• For fully automated loading and unloading of ferromagnetic workpiece families</li> </ul>	<ul style="list-style-type: none"> <li>• For cleaning of clamping devices and for automating cleaning of machine tools</li> </ul>
<ul style="list-style-type: none"> <li>●</li> <li>○</li> <li>○</li> <li>○</li> <li>○</li> <li>○</li> </ul>	<ul style="list-style-type: none"> <li>●</li> <li>○</li> <li>○</li> </ul>	<ul style="list-style-type: none"> <li>●</li> <li>○</li> <li>○</li> </ul>	<ul style="list-style-type: none"> <li>●</li> <li>●</li> <li>●</li> <li>●</li> <li>●</li> </ul>
++	+	+	+
+			

+++ = Very wide selection

## SCHUNK PGN-plus with GSW-B-AGE flexible compensating unit

Excessive forces during automatic machine loading? The SCHUNK GSW-B-AGE compensating unit yields, compensates for tolerances and imprecisions in six degrees of freedom.

### Your benefits:

- 30% more productivity due to automated machine loading



Pneum. 2-Finger Grippers

Pneum. 3-Finger Grippers

Pneum. Angular Grippers

Pneum. Grippers

Sensor Systems/Accessories

Special Grippers

Customized Grippers

## All inclusive!

### Customized SCHUNK Gripping Systems. Profit from our Experience.

SCHUNK has successfully implemented more than **12,000** solutions, a figure that speaks for itself.

Consistent and comprehensive project management is an important part of the SCHUNK philosophy. Our approach is systematic and tailored to your individual project – each step is traceable and documented.

At SCHUNK, our analysis of complex processes and holistic approach to our customers' parts and products allows us to develop effective, customized gripping systems. Maximum precision is required in order to present automation processes visually – so we use the latest work technology, from 2D and 3D presentations to 3D simulation. Our components and configurations carry the decisive performance potential that can make your process chain more efficient.

We unlock this potential and you benefit from every last drop.

Advice

Project  
planning

Engineering

Implemen-  
tation

Service



# It'll pay off for you!

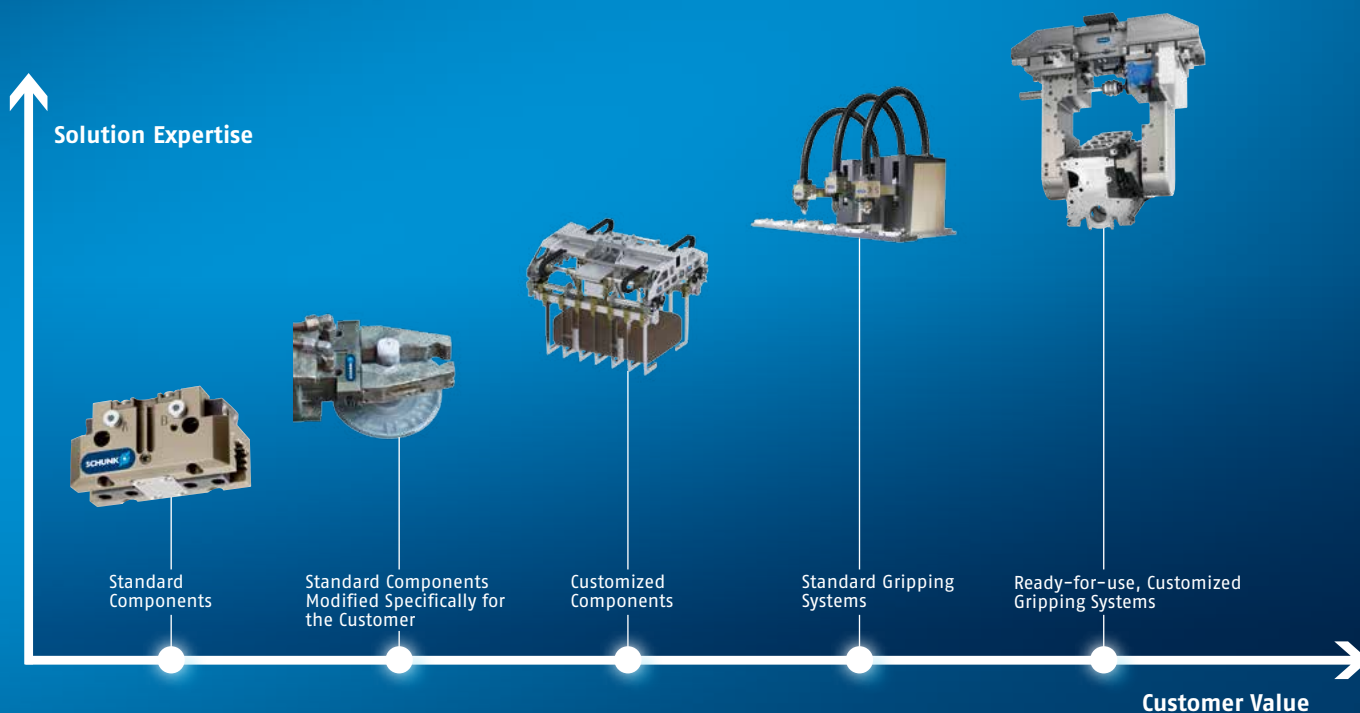
## From standard Components to customized Gripping Systems.

### 1 personal contact for your single-source solution.

For smooth communications, a personal contact person is available to you from the start of the project until completion. Your contact person is the interface between you and the individuals involved in the project and ensures that information is exchanged smoothly. From planning to continued support after the conclusion of the project, SCHUNK ensures that your project will be handled cooperatively and efficiently.

### Your Advantage

- Over 30 years of experience with gripping systems
- Over 12,000 gripping systems implemented for a wide range of industries
- The largest modular system in the world with perfectly coordinated standard components
- Compete accuracy of fit due to standardized interfaces
- Shorter project lead times due to standardized systems
- Reliable implementation processes and planning security without extra project costs
- Functional assemblies fitted on request or ready for use
- Time savings due to the perfect solution from a single source



# SCHUNK Grippers

Application | Pneumatic Gripper

## SCHUNK Grippers. Versatile for every Application. For every task. For any industry.

SCHUNK customers benefit from our 30 years of experience in the industry and in delivering solutions, the most extensive range of grippers in the world, and from our wide-ranging experience in all kinds of handling tasks.

### Removal of pistons

#### Foundry industry

A SCHUNK PGN-plus universal gripper with OPR anti-collision sensor has been mounted on the robot arm in combination. Possible gripping points are calculated via image capture software and the PGN-plus removes the pistons.



### Handling in loading of a machining center

#### Metal-cutting industry

A pneumatic SCHUNK MGP-plus miniature parallel gripper takes the workpieces from a pneumatic SCHUNK PGN-plus 2-finger parallel gripper for further handling tasks in a machining center.



### Robot-guided joining and assembly of heavy and large workpieces

#### Automotive

A SCHUNK gripping system consisting of an OPR collision and overload protection mechanism, a pneumatic SCHUNK SWS quick-change system and a pneumatic PGN-plus 2-finger parallel gripper grips the upper half of the motor block. The bottom half of the engine block is placed on a SCHUNK AGE-S-XYZ compensation unit.

## Mineral water boxes palletizing

### Packaging industry

A robot with an electric SCHUNK LEG long-stroke gripper is used to place mineral water crates onto pallets. The SCHUNK LEG with its servo-electric modular drive concept is compatible with every robot control unit.



## Placing and assembling electronic components

### Electrical industry

An electric SCHUNK EGP gripper for small parts is used in the electric assembly for high-speed positioning and turning of electronic components between different rotary indexing tables and pallets.



## Singling out parts

### Metal-cutting industry

Two electric SCHUNK LWA 4P lightweight arms perform the handling of components and transportation of goods. They are equipped with electric SCHUNK PG-plus 70 2-finger parallel grippers for gripping in the crate.

# Customized SCHUNK Gripping Systems

Grippers with customized standard Components



## Handling sand cores

### Foundry industry

#### Task

Sand cores with different weights and interference contours need to be gripped in an optimized process.

#### SCHUNK solution

Using a SCHUNK SWS quick-change system in combination with sealed SCHUNK PSH 2-finger long-stroke grippers ensures a safe and precise hold. The SCHUNK gripper systems are designed for carrying loads up to 200 kg, depending on the application.

### SCHUNK products



**PGN-plus**  
Universal Gripper



**SWS**  
Quick-change System



## Connecting rod handling

### Automotive industry

#### Task

To save costs using multiple handling of connecting rod parts during production.

#### SCHUNK solution

A custom-developed connecting rod gripper based on a SCHUNK PGN-plus pneumatic universal gripper with special gripper fingers is mounted on a SCHUNK ERM rotary module. Due to the rotary module with adaptable drive, this solution can use the same drive as the axis system. This creates a universal drive concept.

### SCHUNK products



**PGN-plus**  
Universal Gripper

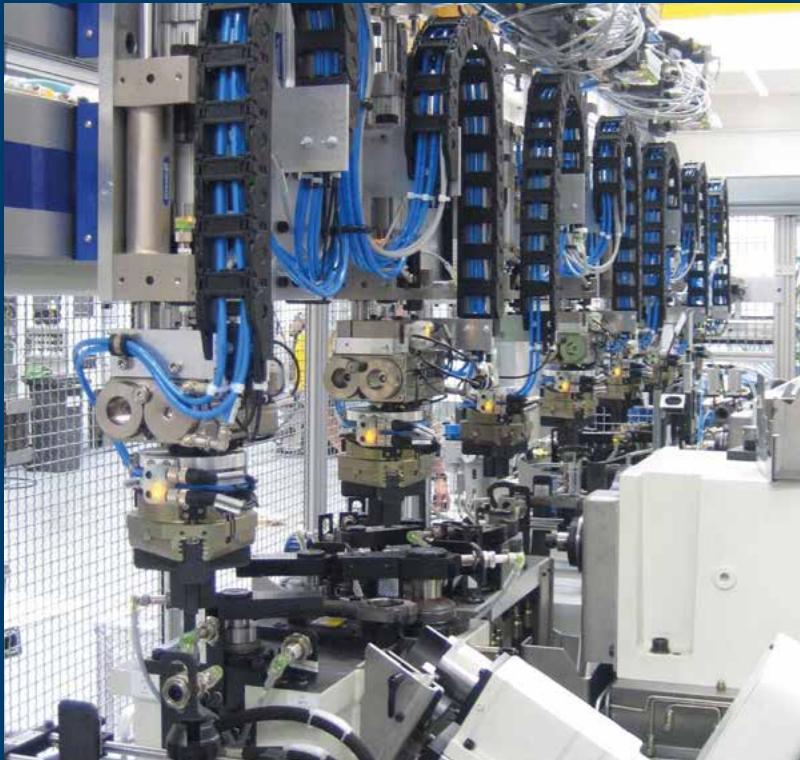


**ERM**  
Rotary Module



# Customized SCHUNK Gripping Systems

Grippers with customized standard Components



## Automated handling

Automotive industry

### Task

To move conrods using a transfer system.

### SCHUNK solution

8 SCHUNK lifting/rotary and gripper units are mounted on a horizontal SCHUNK linear axis with 8 slides to move the workpieces on in a cycle.

### SCHUNK products



X-axis (horizontal) 2 x B140-ZSS  
Toothed belt drive  
Linear module



Z-axis (vertical) 8 x SLE 32-125  
pneumatic lifting unit  
Linear module lifting unit



SRU-plus  
Rotary Actuator



PZN-plus  
Centric Gripper



PGN-plus  
Universal Gripper



SWS  
Quick-change System



Tandem  
Clamping Force Block

## Loading and unloading a machining center

Metal-cutting industry

### Task

A vertical machining center needs to be loaded with workpieces in a fully automated procedure.

### SCHUNK solution

A robot with a SCHUNK SWS quick-change system loads SCHUNK TANDEM plus clamping force blocks outside of the machining center and exchanges these, fully equipped with a pneumatic SCHUNK 2-fold PGN-plus gripping unit, into the vertical machining center. The clamping devices are equipped almost in parallel, requiring the machine to stop only very briefly for the exchange of the clamping force blocks.

### SCHUNK products

## SCHUNK Service



Competent and skilled personnel ensure optimal availability of your SCHUNK products, and make sure that their value will be maintained.

### Your advantage:

- Fast supply of original spare parts
- Reduction of down-times
- The complete spectrum of components from one source
- Quality and availability that can only be guaranteed by the original manufacturer
- 12-month warranty



### Initial operation

- Professional assembly
- Fast and trouble-free



### Inspection

- Inspection is carried out by skilled service engineers
- Avoiding unplanned failures of workholding and toolholding equipment



### Maintenance

- Regular maintenance carried out by skilled service engineers
- Increasing and ensuring the availability of your workholding and toolholding equipment



### Repairs

- Short down-times due to fast intervention of the SCHUNK service engineers
- Spare parts and accessories

## Training

- Fast and practical training
- Efficient use of your SCHUNK products by training of the operating personnel
- The basis for proper machining of workpieces
- Ensures longevity of your SCHUNK products

## Individual service – for better results

- Hotline to our inside technical consultants weekdays from 7 a.m. to 6 p.m.
- Project-oriented and on-site technical advice at your location
- Training on innovations and SCHUNK products – across the world in our local subsidiaries

## Online service – for a fast overview

All information in digital form, clearly structured and up-to-date on our website at [www.schunk.com](http://www.schunk.com)

- List of contact persons
- Online product search based on product descriptions
- Product news and trends
- Data sheets
- Order forms for easy and convenient ordering
- Free download area for pages from our product catalogs and technical data, for software and calculation programs for your gripping and rotary modules
- Free 2D/3D CAD design models, provided in a wide range of different CAD formats – for easy integration into your design!



# No. 1

for safe, precise gripping  
and holding.



*J. Lehmann*

Jens Lehmann, German goalkeeper legend,  
SCHUNK brand ambassador since 2012  
for safe, precise gripping and holding.  
[www.gb.schunk.com/Lehmann](http://www.gb.schunk.com/Lehmann)

**852** minutes without a  
goal against him in the  
Champions League

**681** minutes without a goal  
against him in the national team

**2** intercepted penalties  
in the 2006 World Cup

**1** headed goal as a goalie

**0** defeats English Soccer Champion

and

More than **2,000,000**  
sold precision toolholders

About **1,000,000**  
delivered SCHUNK grippers

More than **100,000**  
lathe chucks and stationary  
workholding systems are in use  
worldwide

More than **16,000,000**  
sold standard chuck jaws

More than **75,000**  
implemented hydraulic expansion  
customer-specific solutions

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