



Superior Clamping and Gripping



## SCHUNK Gripping Systems

Product Overview

# Superior Clamping and Gripping



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 in clamping technology and gripping systems – from the smallest parallel gripper to the largest standard chuck jaw program.

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 team spirit of 3,400 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

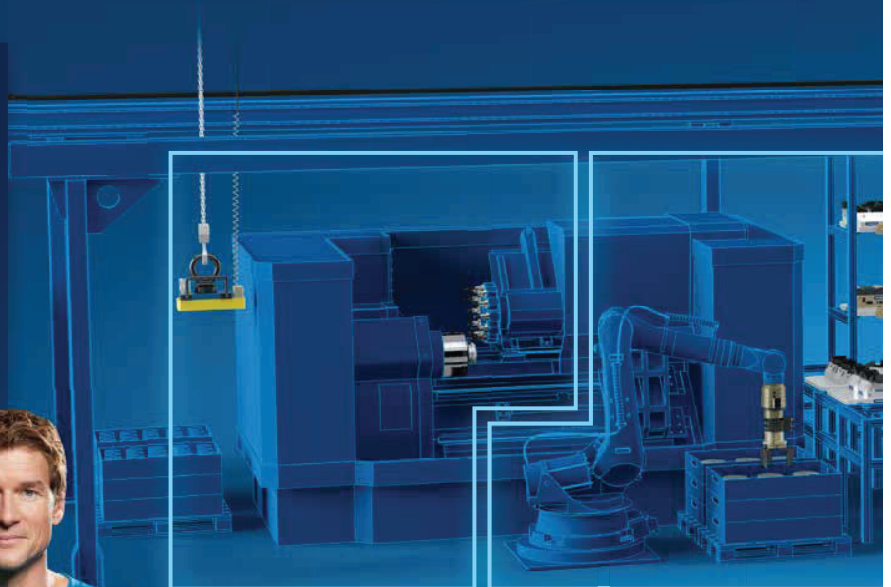
## Superior Clamping and Gripping

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 gripping systems and clamping technology. The top performance of SCHUNK and Jens Lehmann are characterized by dynamics, precision, and reliability.

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



Jens Lehmann



... in your Lathe

... for your Automated Machine Loading

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

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



### SCHUNK Grippers

Precise grip!  
From a few grams to over a ton.



### Linear Modules

Accurate movement!  
High speed in all axes.



### Modular Assembly

Uniquely individual!  
Due to the flexibility of the modular system.



### Robot Accessories

Perfectly connected!  
The interplay between robot and tool.



### Rotary Modules

Get the hang of it!  
Limited or endless – free or clocked.



### Mobile Gripping Systems

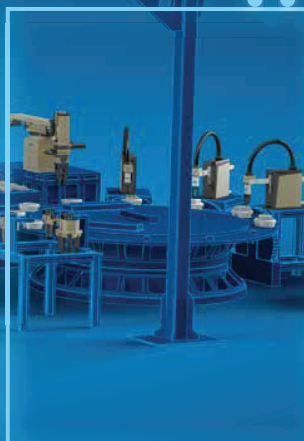
Technologies for handling the future.



... in your Automated Handling System



... in your Machining Center



... in your Automated Assembly



... in your Service Robotics Application

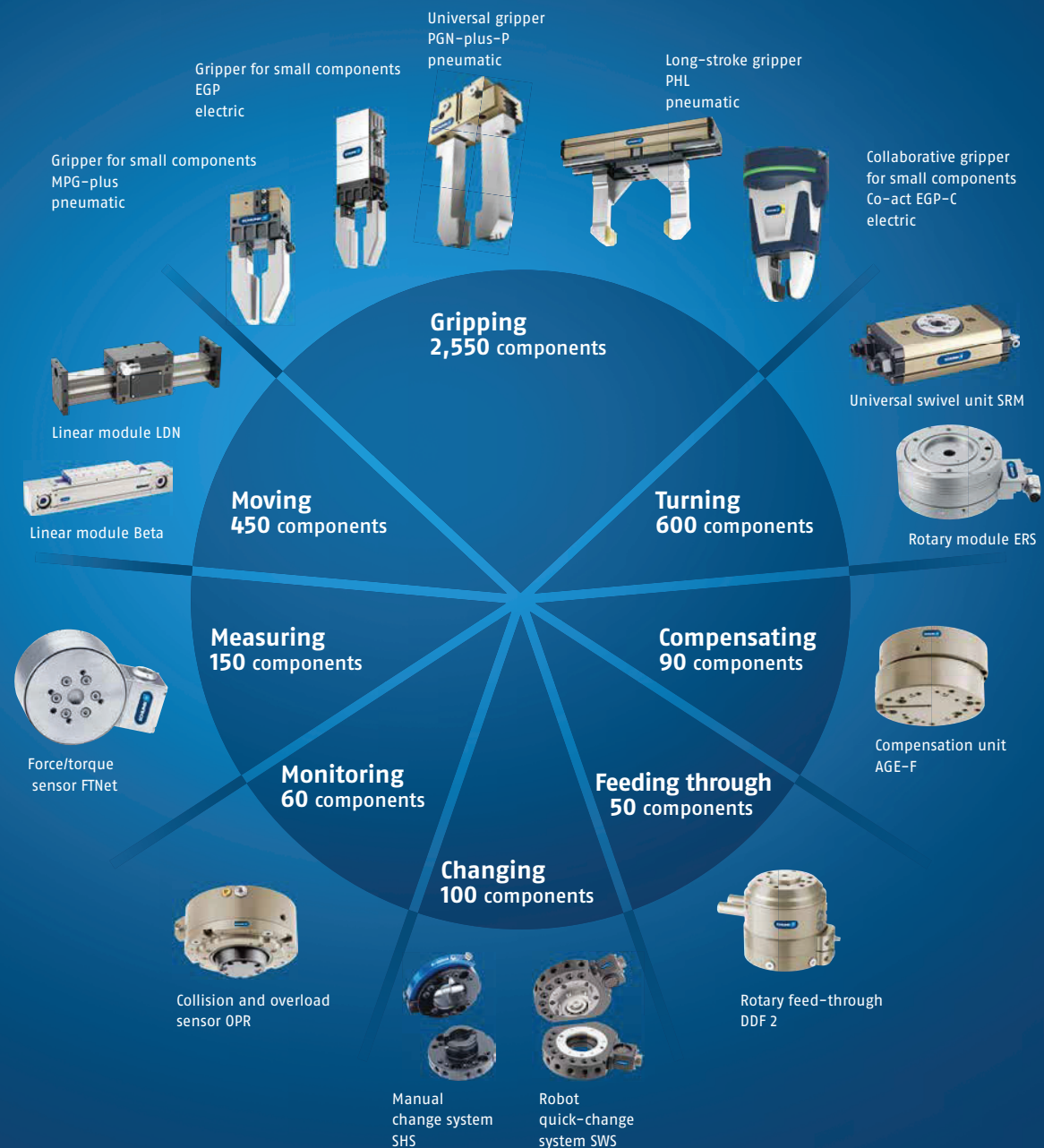


## Benefit from the SCHUNK Modular System with over 4,000 Standard Components.

For every Robot, for every Industry, for every Handling Task.

**SCHUNK sets standards in the automotive industry world-wide with its components and gripping systems.** Our robot accessories include a uniquely comprehensive standard range of modules for the mechanical, sensory, and power connection of handling devices and robots. The comprehensive range of robust and long-lasting

grippers for small components and universal grippers features high product quality, precision, and numerous monitoring options. What's more, SCHUNK's axis system handling solutions open up new perspectives for cost and benefit-optimized automation solutions from a single source.





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## Robots: Equipped by SCHUNK

The SCHUNK End-of-Arm Competence for your Robot.  
From the standard Component to the standard Gripping System.

SCHUNK provides the most comprehensive range of modules for the mechanical, sensory, and power connection of handling devices and robots. Quick-change systems, rotary feed-throughs, collision and overload protection modules, force sensors, as well as compensation units, and insertion units ensure optimum interplay between the robot arm and gripper. The basis for this cutting-edge technology "Made in Germany" is our constant innovation.





## Feeding through

Over **50** process-stable pneumatic, electrical or combined SCHUNK rotary feed-throughs.

[schunk.com/feeding-through](http://schunk.com/feeding-through)



DDF 2

DDF-SE

Page 72

## Protecting

Over **60** collision and overload sensors used to monitor, record and avoid collisions.

[schunk.com/protecting](http://schunk.com/protecting)



OPR

OPS

Page 76

## Measuring

Over **150** sensors for precise measurement of forces and moments.

[schunk.com/measuring](http://schunk.com/measuring)



FTN

FTW

Page 73

## Changing

More than **100** precise quick-change systems for flexible, fast change of effectors.

[schunk.com/changing](http://schunk.com/changing)



SWS

SHS

EWS

Page 68

## Compensating

Over **90** components to compensate position deviations and tolerances between the robot and the tool.

[schunk.com/compensating](http://schunk.com/compensating)



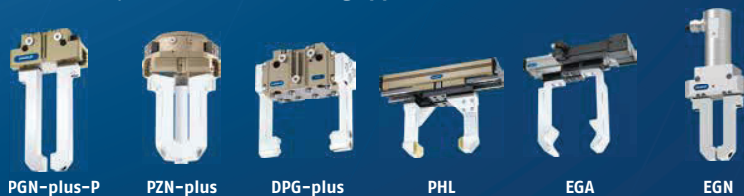
AGE-Z 2

TCU

Page 70

## SCHUNK Grippers

The world's most extensive gripper portfolio with over **2,550** pneumatic and electric components. [schunk.com/grippers](http://schunk.com/grippers)



PGN-plus-P

PZN-plus

DPG-plus

PHL

EGA

EGN

Page 20

## Machining

Flexible SCHUNK deburring spindles for the use on robots with up to **65,000 RPM**.

[schunk.com/machining](http://schunk.com/machining)



FDB

FDB-AC

Page 77

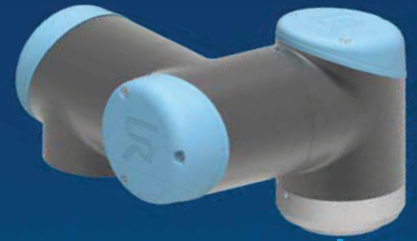
Further production information is available at:  
[schunk.com/robot-accessories](http://schunk.com/robot-accessories)



## The new SCHUNK End-of-Arm Modular System

The most comprehensive modular gripping system for all Universal Robots on the market.

The new SCHUNK End-of-Arm modular systems, exclusively for Universal Robots, facilitates the individual and fast automation of handling and assembly tasks. The modular system provides a combination of a force/torque sensor, change system, and a wide range of grippers.



Up to **36** product combination possibilities

[schunk.com/ea-ur](http://schunk.com/ea-ur)

### Collaborative SCHUNK Grippers

Collaborative gripper for small components



Co-act EGP-C

Page 40

### Electric SCHUNK Grippers

Gripper for small components



EGP

Page 40





## Measuring

Page 40

6-axis force/torque sensor FT-AXIA completely with adapter plates.



FT-AXIA

## Changing

Page 41

Manual change system SHS  
Quick-change master (SHK) and quick-change adapter (SHA) with suitable feed-through module.



SHS

## Pneumatic SCHUNK Gripper

Page 40

Pneumatic gripping systems with direct connection and integrated micro valves, sensor system with connection cable.



PGN-plus-P



KGG



PSH



PZN-plus



JGP

## Gantry Systems: Equipped by SCHUNK

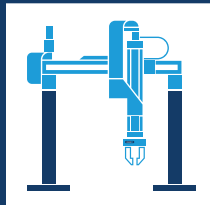
SCHUNK End-of-Arm Competence for your Gantry.  
Over 4,000 Components for Handling and Assembly.

The linear module product offering combined with rotary modules, swivel units, grippers, quick-change systems, rotary indexing tables and sensor systems, SCHUNK opens up new perspectives for cost and use-optimized automation solutions.

Designed to be compact and from the modular system: From the axis right up to the gripper finger and combined for customized axis system handling solution.



Equipped by  
**SCHUNK**



### Change Systems

Page 68

More than **100** precise quick-change systems for flexible, fast change of effectors.

[schunk.com/changing](http://schunk.com/changing)



SWS

SHS

### Rotary Modules

Page 50

Over **600** components are available for rotatory movements. Variable from 180° to infinite rotation.

[schunk.com/rotary-modules](http://schunk.com/rotary-modules)



SRM

SRU-plus

SRH-plus

ERM

ERS

PR 2

ERD

### Compensation Units

Page 70

Over **90** components to compensate position deviations and tolerances between the robot and the tool.

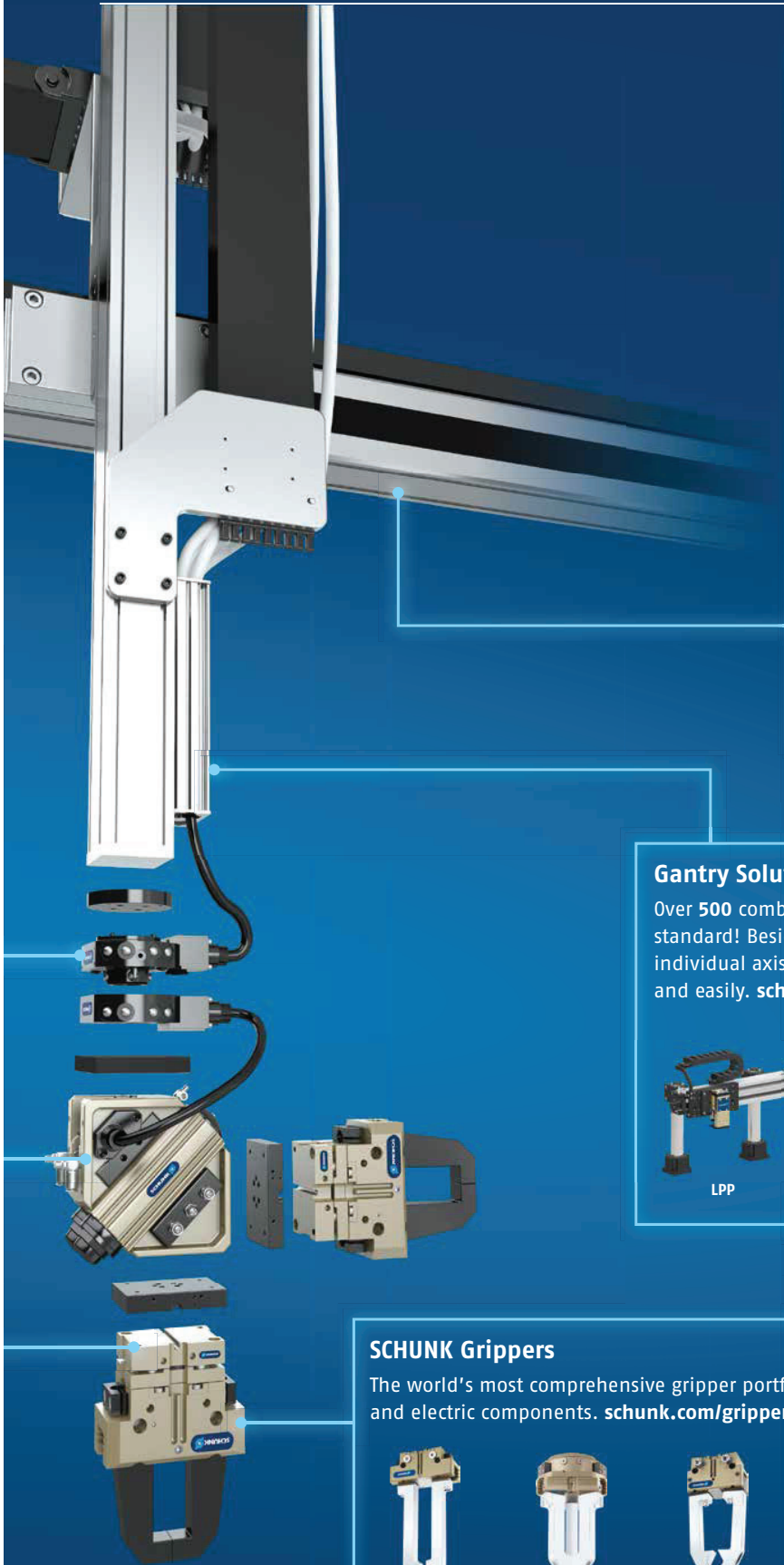
[schunk.com/compensating](http://schunk.com/compensating)



TCU

AGE-S





## Linear Modules

Page 58

More than **450** pneumatic and electric components with up to **7,000 mm** stroke. The most comprehensive offering on the market.

[schunk.com/linear-modules](http://schunk.com/linear-modules)



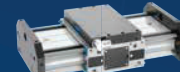
Beta



Delta



Gamma



LDT



LDK



LDN



PMP

## Gantry Solutions

Page 67

Over **500** combination possibilities can be configured as standard! Besides the SCHUNK standard gantry range, individual axis systems can be implemented individually and easily. [schunk.com/gantry-solutions](http://schunk.com/gantry-solutions)



LPP



LPE



RPE

## SCHUNK Grippers

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The world's most comprehensive gripper portfolio with over **2,550** pneumatic and electric components. [schunk.com/grippers](http://schunk.com/grippers)



PGN-plus-P



PZN-plus



PWG-plus



PSH



PGN-plus-E



EGL

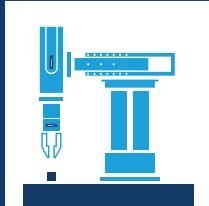
## Assembly Automation: Equipped by SCHUNK

100% Flexibility with the Modular System.

Design an infinite number of applications for small parts handling and assembly automation with the SCHUNK modular assembly system. An incredible variety of automation solutions can be realized with standard modules from the SCHUNK modular system.

Equipped by

**SCHUNK**



### Rotary Modules

Page 50

Over 600 components available for rotatory movements.  
Variable from 180° to infinite rotation.  
[schunk.com/rotary-modules](http://schunk.com/rotary-modules)



RM-F



RM-W



RST-D



ERD



ERS

### SCHUNK Grippers

The world's most comprehensive gripper portfolio with over 2,550 pneumatic and electric components.  
[schunk.com/grippers](http://schunk.com/grippers)



MPG-plus



MPG



KGG



PGN-plus-P



MPZ



PZN-plus



SWG



PWG-plus



GAP

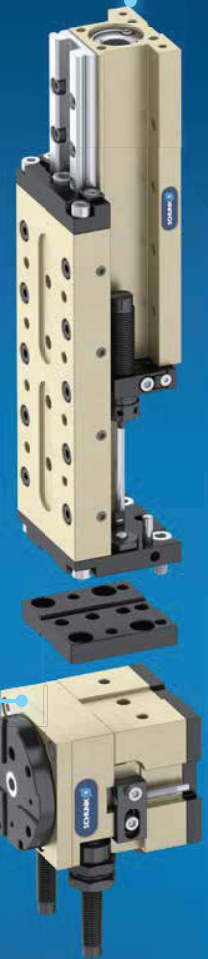


EGP



PGN-plus-E

Page 20







## Linear Modules

Page 58

More than **450** pneumatic and electric components with up to **7,000 mm** stroke. The most comprehensive program on the market.

[schunk.com/linear-modules](http://schunk.com/linear-modules)



LM



CLM



KLM



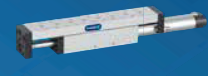
HLM



ELP



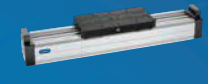
ELB



ELM



ELS



PMP



Delta



Beta

## SCHUNK Pillar Assembly System

**100% flexible.** Achieves a virtually infinite number of possibilities for combining components. Pillars up to **1,000 mm** long. [schunk.com/pillar-assembly-system](http://schunk.com/pillar-assembly-system)



Media feed-through



VEH



SOE



AMEH/AMDH



AMEV/AMDV



APEH/APDH



STG/STR

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## Cobots Equipped by SCHUNK

### The Mega Trend of Human/Robot Collaboration



From robots that replace workers to robots that serve as helpful colleagues, the field of robotic automation is experiencing a new trend that represents a huge challenge for component manufacturers.

Whenever full automation of production or assembly lines is not the most economically feasible option, it is necessary to single out individual processes to be delegated between humans and robots. In such situations, autonomous cobots, meaning robots used in the worker's immediate environment, can handle non-ergonomic or monotonous tasks such as assisting with lifting or positioning loads. This reduces the physical workload for workers and makes the process more

efficient. At the same time, humans and robots working hand in hand helps to minimize space requirements and to increase flexibility.

The number of robotic assistance systems will increase in the future, especially with regard to assembly applications. Reliable grippers, safety functions, sensor systems, and a universal networking at the component level will be vital.

As the competence leader for gripping systems and clamping technology, SCHUNK is intensely committed to this new challenge.

Equipped by  
**SCHUNK**



### The new SCHUNK Grippers for Collaborative Operations



**Co-act** JL1  
Greifer

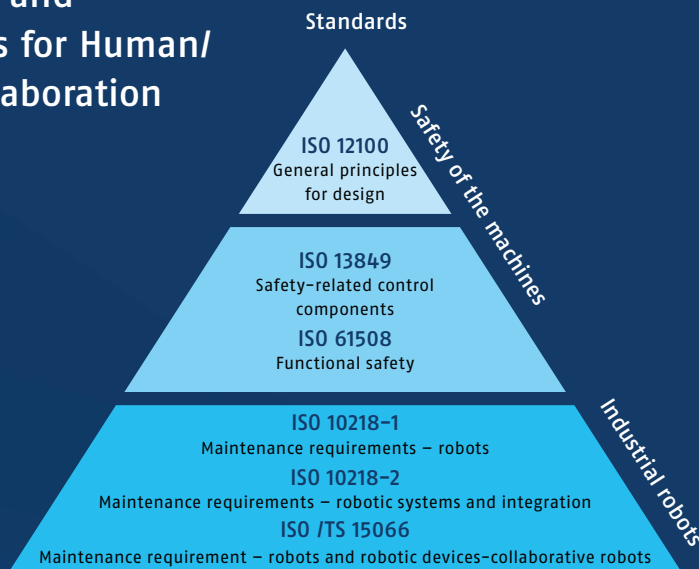


**Co-act** EGP  
Greifer





## Standards and Guidelines for Human/ Robot Collaboration



From standard requirements to customer solutions

The listed standards and guidelines are not exhaustive. For every application the applicability of further standards or guidelines have to be determined.

## The Path toward the optimum Gripper for your HRC Application

To determine the optimum gripper for collaborative applications, the properties of the task, workpiece, and gripper must be taken into account.

The **SCHUNK Co-act team** recommends a structured approach, considering all factors and parameters.



### Step 1

#### Task description and feasibility check

- Are the task and workpiece suitable for human/robot collaboration?



### Step 2

#### Selection of the robot or cobot

- Definition of the basic system with mechanical and electrical connection of the peripheral devices
- Ensuring a defined control



### Step 3

#### Selecting the gripper in collaboration with the SCHUNK Co-act team considering the following points:

- Workpiece with respect to gripping position, required gripping force, and required stroke
- Pick and place position and in turn analysis of the interfering contour
- Connection to the superordinated mechanical and electrical periphery
- Clamping and shearing points on the gripper or the attached fingers

## Assembly Automation: Equipped by SCHUNK

The new Standard in Assembly Automation.  
The 24 V Mechatronics Offering from SCHUNK.

For the first time, complete assembly systems with linear modules, rotary modules, and grippers can be entirely implemented using the 24 V technology as a basis. The reduced maintenance costs, high process stability, and lower operating costs are revolutionary. The 24 V mechatronics range offers the advantages of mechatronic modules while being as simple as pneumatics. This results in revolutionary advantages for handling in assembly automation, for instance such as a very low maintenance effort, simple and fast commissioning, and high energy efficiency.

### Pick & Place Production Cell

Electric, simple, compact and fast implementation.



#### Easy to Start Up!

Simple commissioning of the mechatronic modules. Simpler and more intuitive than pneumatic modules



#### Plug & Work!

Easily combine, integrate and seamlessly commission mechatronic SCHUNK grippers, rotary and linear modules from the modular system



#### Easy to Create!

Complete Pick & Place applications can be intuitively configured with minimal design and assembly effort  
[schunk.com/3d-configurator](http://schunk.com/3d-configurator)

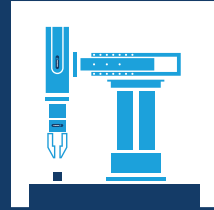
- |   |         |
|---|---------|
| ① Electric Linear Module ELP                | Page 61 |
| ② Electric Rotary Gripping Unit EGS         | Page 56 |
| ③ Electric Gripper for Small Components EGP | Page 36 |
| ④ SCHUNK Pillar Assembly System SAS         | Page 82 |

Further information on the new standard in assembly automation:  
[schunk.com/standard-in-assembly-automation](http://schunk.com/standard-in-assembly-automation)





Equipped by  
**SCHUNK**



## + Easy to Integrate!

Versatile and energy-efficient integration into the system. Consistent supply concept with standardized connecting plug and control with digital I/O. Using conventional, standardized cables and distributors, systems can be implemented easily and very compactly

## + Easy to Use!

Low-wear and maintenance-free modules for smooth operation of handling and assembly systems without machine shutdown. Simple setting options can be used to react quickly to process changes, right up to automatically adjusting the modules

## + Easy to Save Money!

Observing the procurement, operating and maintenance costs comparing with purely pneumatic systems, the deployment becomes economically after just a few million cycles.



## MECHATRONIK<sup>3</sup>

### Alternative – Adaptable – Intelligent

#### One Strategy – 3 Features

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

With mechatronic SCHUNK products, the changeover to electrically driven components is as simple and easy as it is feasible. From simple pneumatic alternatives right up to highly intelligent modules, SCHUNK provides the right product for any application.



Benefit from the leading Modular System with the 3 Features into which all mechatronic SCHUNK Products can be classified:

#### Alternative

**Replace pneumatics 1:1 while maintaining the same performance.**

Common pneumatic 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 Components

offer maximum Flexibility when it comes to Incorporating them into existing Control Concepts

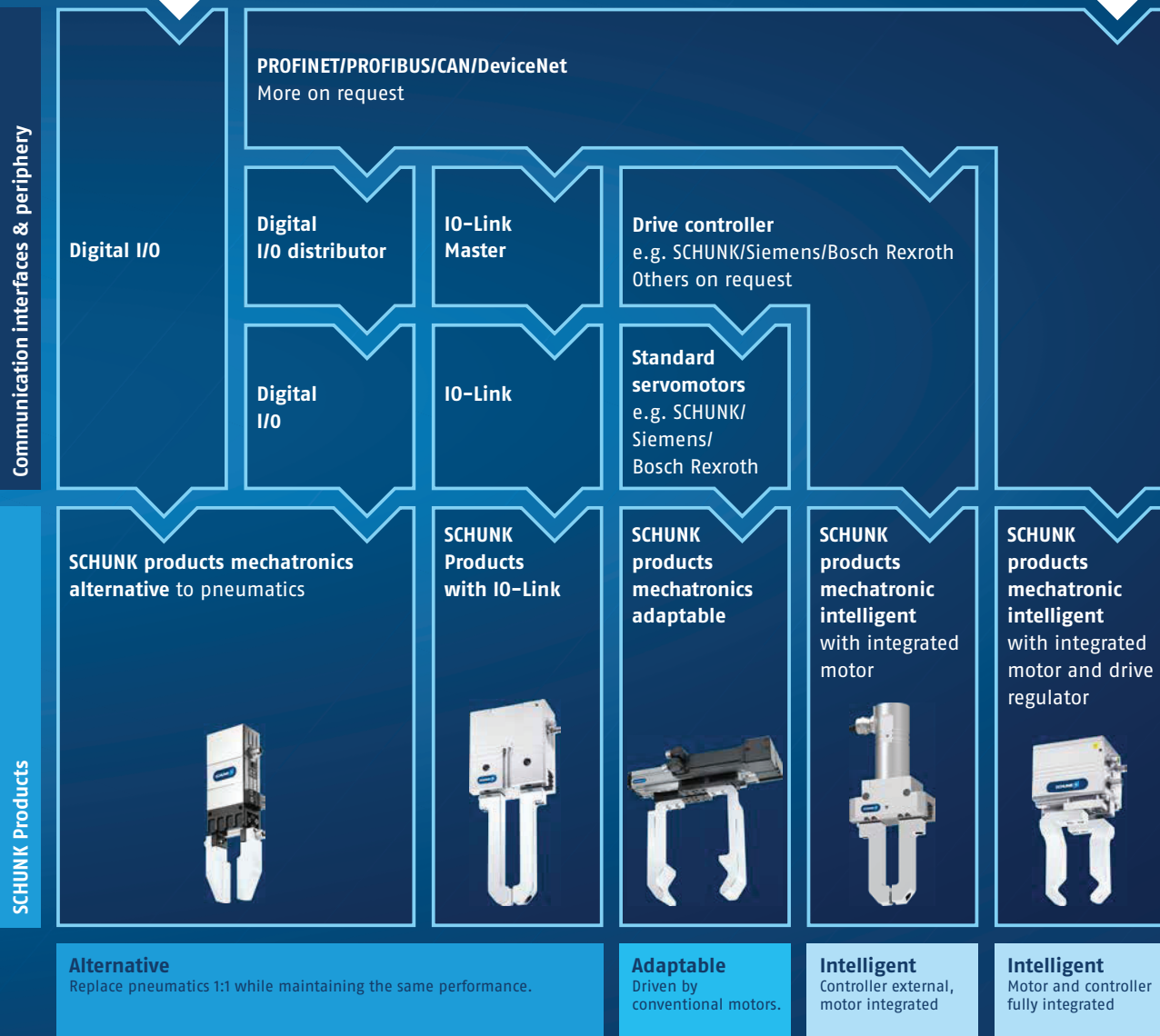
Standard mechatronic SCHUNK components offer the greatest flexibility when it comes to connecting customized control concepts. Depending on your requirements, you have the choice between various SCHUNK modules with integrated or external drive, and drive regulators and the possibility to control via digital I/O signals.

From the customer controller right up to components, SCHUNK offers the appropriate components and therefore maximized flexibility for every control concept.

### Customer Controller

The controller serves as the interface with the application and is specified by the customer.

Siemens | Bosch Rexroth | Beckhoff® | B&R | Schneider Electric | Lenze | More upon request





# SCHUNK Grippers

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

SCHUNK offers the world's most comprehensive portfolio of grippers. Standard grippers, 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. We always meet the most complicated gripping requirements, and we solve them. The result: Robust and durable gripping systems which ensure maximum reliability in systems and machines all over the world for 30 years.

Equipped by  
**SCHUNK**



Over **2,500** standard grippers

Over **300** mechatronic grippers

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

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



Pneumatic  
2-Finger Parallel Gripper  
Page 24



## End-of-Arm Modular System for Universal Robots

Page 40

## Pneumatic 3-Finger Centric Grippers

Page 30

## Electric Grippers

Page 36

## Special Grippers and Gripping Hands

Page 42



# The SCHUNK Universal Grippers

## PGN-plus-P and PGN-plus-E

### In a Class of its Own!



#### + Up to 50% longer Gripper Fingers

The higher maximum moments of the perfected SCHUNK multi-tooth guidance enable use of longer gripper fingers.

#### + Diverse Accessories

with range of high-quality accessory components and matching sensor systems.



#### + Four-stage adjustable Gripping Force

for simple adaption to sensitive workpieces.

#### + 24 V Drive and Control on Option via digital I/O or IO-Link Class B Connection

for easy commissioning and quick integration into existing systems.

#### + Up to 50% higher Gripping Force

with the enlarged surface of the drive piston.

#### + Lifelong Maintenance-free\*

The perfected SCHUNK multi-tooth guidance with continuous lubricant pockets ensures even and permanent lubrication.

\* Under normal, clean operating conditions



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Special Grippers	42

# 2-Finger Parallel Grippers

Pneumatic

## The SCHUNK Gripper PGN-plus-P

**The world's most proven gripper on the market –  
Now with permanent lubrication in the multi-  
tooth guidance. Lifelong maintenance free.\*  
Guaranteed!**

With the SCHUNK gripper PGN-plus-P, SCHUNK is raising the bar even further for pneumatically actuated universal grippers. By consistently optimizing the multi-tooth guidance, it is setting a new benchmark for the market. At the same time the PGN-plus-P benefits from the unique SCHUNK accessory program for the nearly complete spectrum of feasible automation applications.

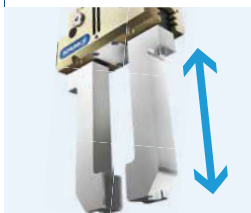
### Your benefits:

- **Up to 50% longer gripper fingers**  
due to higher maximum moments
- **Up to 50% higher gripping force**  
due to the increased surface of the drive piston
- **Lifelong maintenance-free \***  
due to the perfected SCHUNK multi-tooth guidance with consistent lubrication pockets
- **Maximum process reliability**  
with up to 60% larger diagonal pull area and therefore lower surface pressure
- **Diversity with the accessories**  
wide range of high-quality accessory components and corresponding sensor systems.



\* Under normal, clean  
operating conditions

[schunk.com/pgn-plus-p](http://schunk.com/pgn-plus-p)



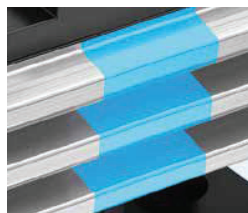
#### Up to 50% longer gripper fingers – due to higher maximum moments

The improved multi-tooth guidance enables the use of even longer gripper fingers for the same gripper size due to higher maximum moments, without overloading the guidance. Interfering contour-optimized gripping with confined handling tasks therefore become even easier.



#### Up to 50% higher gripping force

The larger surface of the drive piston in the available, and at the same time compact assembly space increases the gripping force with the PGN-plus-P. In relation to the gripper size, higher workpiece weights can be handled.



#### Maximum service life due to the perfected SCHUNK multi-tooth guidance with consistent lubrication pockets

Permanent lubrication pockets ensure a continuous grease supply. At the same time, it ensures that an even lubricant film is created rapidly, even with short strokes.





#### Maximum process reliability with up to 60% larger diagonal pull area

A larger diagonal pull surface and therefore lower surface pressure, for process reliability and low-wear transmission of power to the base jaw.






## 2-Finger Parallel Grippers

Pneumatic

	2-Finger-Parallelgreifer MPG-plus	MPC	
			
<b>Technical data</b>			
Number of sizes	9	6	
Gripping force [N]	7 .. 370	16 .. 370	
Stroke per jaw [mm]	1 .. 10	2.5 .. 15	
Weight [kg]	0.01 .. 0.63	0.05 .. 0.94	
Recommended workpiece weight [kg]	0 .. 1.25	0 .. 1.85	
Closing/opening time [s]	0.01 .. 0.08/0.011 .. 0.08	0.03 .. 0.11/0.03 .. 0.11	
Max. permissible finger length [mm]	80	60	
Repeat accuracy [mm]	0.02	0.02	
Protection class IP	30	30	
Cleanroom class ISO 14644-1	5		
Sensor systems	++	+	
Wide variety	++	+	
Description	The most powerful pneumatic miniature parallel gripper on the market with a unique combination of oval piston drive and cross roller guide	Cost-efficient basic gripper with basic functionality for easy use	
<b>Field of application</b>			
	<ul style="list-style-type: none"> <li>• Gripping and moving</li> <li>• For small to medium-sized workpieces</li> <li>• In the field of assembly, testing, laboratory, pharmacies</li> </ul>	<ul style="list-style-type: none"> <li>• With low process forces</li> </ul>	
<b>Ambient conditions</b>			
Clean	●	●	
Contaminated/coarse dust	○		
Contaminated/fine dust and liquids			
Contaminated/aggressive liquids			
High temperature range > 90 °C			
Cleanroom	○		

● = very highly suitable    ● = highly suitable    ○ = suitable in customized version  
 + = medium-sized selection    ++ = wide selection    +++ = very wide selection







KTG	KGG	PGN-plus-P	PGN-plus	JGP	
					
1	7	7	11	10	
13	45 .. 540	200 .. 8750	123 .. 21150	123 .. 7400	
4.5	10 .. 60	2 .. 45	2 .. 45	2 .. 35	
0.08	0.09 .. 4.2	0.17 .. 7.6	0.08 .. 39.5	0.08 .. 17.5	
0.07	0 .. 2.7	0 .. 32.5	0 .. 80.5	0 .. 30	
0.05/0.05	0.03 .. 0.29/0.03 .. 0.25	0.02 .. 0.6/0.02 .. 0.6	0.02 .. 0.8/0.02 .. 0.8	0.02 .. 0.7/0.02 .. 0.7	
50	160	310	400	300	
0.02	up to 0.02	0.01	up to 0.01	up to 0.01	
20	40	40	40/64	40	
			5		
+	+	+++	+++	++	
+	++	+++	+++	+	
2-finger parallel gripper with center bore	Narrow 2-finger parallel gripper with long stroke	Universal 2-finger parallel gripper with a high gripping force and high maximum moments due to the multi-tooth guidance	Universal 2-finger parallel gripper with a high gripping force and high maximum moments due to the multi-tooth guidance	Universal 2-finger parallel gripper of the compact class with T-slot guidance and good cost-performance ratio	
<ul style="list-style-type: none"> <li>Gripping and moving</li> <li>For small to medium-sized workpieces</li> <li>Equipped with a continuous center bore for workpiece supply, sensor or actuator systems</li> </ul>	<ul style="list-style-type: none"> <li>Universal use</li> <li>For light to medium-sized workpiece weights</li> <li>With a large range of stroke</li> </ul>	<ul style="list-style-type: none"> <li>Optimum standard solution for many fields of application</li> <li>Universal use</li> </ul>	<ul style="list-style-type: none"> <li>Optimum standard solution for many fields of application</li> <li>Universal use</li> </ul>	<ul style="list-style-type: none"> <li>Optimum 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	
				
5	4	11	5	
240 .. 1900	90 .. 610	110 .. 11250	390 .. 4630	
7.5 .. 31.5	4 .. 10	2 .. 45	30 .. 160	
0.3 .. 5.3	0.28 .. 1.32	0.12 .. 52	1.38 .. 24.18	
0 .. 7.1	0 .. 3.3	0 .. 46.35	0 .. 15.5	
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 .. 1.82/0.12 .. 2.91	
125	125	380	800	
up to 0.02	0.01	up to 0.01	0.02	
40	40	67	41	
		5		
+	++	+	++	
+	+	+	++	
Universal parallel gripper with surface-guided base jaws	Universal 2-finger parallel gripper with a high gripping force and high moment capacity due to the multi-tooth guidance as well as the center bore	Despite the high moment load of the base jaws, this sealed 2-finger parallel gripper meets 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 long jaw stroke for large parts and/or 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 feeding, 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>Optimum standard solution for many fields of application</li> <li>Universal use</li> <li>In the areas of machine and plant design, assembly and handling as well as the automotive industry</li> </ul>	
●	●	●	●	
○	○	●	○	
		●	○	
		○		
●	●			
○	○	○		

## 2-Finger Parallel Grippers

Pneumatic

PFH-mini	PFH	PSH	SPG
			
3	4	4	1
630 .. 2950	2200	320 .. 1760	10000
30 .. 100	150 .. 300	14 .. 100	100
2.65 .. 12.6	18.9 .. 33.6	0.77 .. 8.05	35
0 .. 13	0 .. 14.7	0 .. 8.8	50
0.3 .. 1.0/0.3 .. 1.2	0.7 .. 1.25/0.7 .. 1.25	0.12 .. 0.4/0.12 .. 0.4	1.5/1.5
250	900	300	500
0.05	0.02	up to 0.05	0.1
41	30	67	30
++	++	+	+
++	+	+	+
Gripper with long jaw stroke for large parts and a broad range of parts	2-finger parallel gripper with long jaw stroke for large parts and/or a broad range of parts	2-finger parallel gripper with long jaw stroke and dirt-resistant round guides	Sturdy 2-finger parallel gripper for heavy components and a broad part range, equipped with robust guides and therefore it is suitable for high gripping forces and maximum moment loads.
• For precise handling of a wide variety of workpieces	• Particularly suitable for handling vehicle wheel rims	• For a wide range of parts	• Covering a wide range of parts with a long jaw stroke • High gripping force for high workpiece weights
●	●	●	●
○	○	●	○
○	○	●	
		●	
●	●	●	
		○	



# 2-Finger Parallel Grippers

Pneumatic

## SCHUNK Gripper MPG-plus

**The most powerful pneumatic miniature parallel gripper on the market.**

Highly efficient small parts handling in the most compact space. With its power density, the MPG-plus sets the new standard for handling small parts. The unique combination of oval piston and cross 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 load rating** by improved guidance (cross roller guide)
- **10% less weight** for higher dynamics
- **20% improved closing time** for shorter cycle times

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



MPG-plus: award-winning at the AUTOMATICA show

[schunk.com/mpg-plus](http://schunk.com/mpg-plus)



#### Larger piston surface – more precise guidance

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



#### Variable mounting options – maximum flexibility

Diverse mounting options ensure quick, easy gripper assembly and exchange. The gripper can be easily positioned using the centering sleeves and can be screwed through and fixed either laterally or at the bottom.



#### From a single source – Pick & Place with MPG-plus

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



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

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

Pneumatic 2-Finger Grippers

Pneumatic 3-Finger Grippers

Pneumatic Angular Grippers



Electric Grippers

End-of-Arm Modular System





Special Grippers

## 3-Finger Centric Grippers

Pneumatic

	3-Finger Centric Gripper		
	MPZ	PZN-plus	
			
<b>Technical data</b>			
Number of sizes	6	11	
Gripping force [N]	20 .. 310	255 .. 57300	
Stroke per jaw [mm]	1 – 5	2 .. 45	
Weight [kg]	0.01 .. 0.29	0.13 .. 80	
Recommended workpiece weight [kg]	0 .. 1.15	0 .. 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]	45	250	
Repeat accuracy [mm]	0.01	up to 0.01	
Protection class IP	40	40/64	
Cleanroom class ISO 14644-1	5	5	
Comprehensive ranges	+	+++	
Variety of sensor systems	+	+++	
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>• Particularly 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	○	○	

● = very highly suitable    ● = highly suitable    ○ = suitable in customized version  
 + = medium-sized selection    ++ = wide selection    +++ = very wide selection

JGZ	PZH-plus	PZB-plus	DPZ-plus	
				
7	4	9	8	
225 .. 7990	375 .. 4200	340 .. 27400	230 .. 16500	
2 .. 16	20 .. 75	2 .. 35	2 .. 25	
0.12 .. 8	1.5 .. 33	0.26 .. 53	0.2 .. 20.1	
0 .. 30	0 .. 22	0 .. 100	0 .. 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	
200	400	250	160	
up to 0.01	up to 0.02	up to 0.01	up to 0.01	
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 meets 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>• Optimum standard solution for many fields of application</li> <li>• Universal use</li> <li>• In the areas of machine and plant design, 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 fields of application that require a center bore, e.g. for workpiece feeding, 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>	
●	●	●	●	
①	①	①	●	
	○	○	●	
	○	○	①	
	○	●		
			①	



## 3-Finger Centric Grippers

Pneumatic

PZH-SF-mini	PZH-SF	Multi-finger Centric Gripper PZV
		
1	1	5
		570 .. 6900
		4 .. 16
3.3	20	0.5 .. 10
0 .. 9.8	0 .. 8	0 .. 34.5
0.5/0.5	0.5/0.5	0.02 .. 0.15/0.02 .. 0.15
80	140	140
0.05		up to 0.01
64	40	40
+	+	+
+	+	+++
Universal 3-finger centric gripper with a large, rotating jaw 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 jaw 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>• Long stroke for a large range of parts or for undercut sections</li> <li>• Optimum for rotationally symmetric parts</li> </ul>	<ul style="list-style-type: none"> <li>• Particularly suitable for handling 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 process-reliably handles the workpieces despite the interfering contours</li> </ul>
●	●	●
○	○	○
○	○	
		○

## SCHUNK 3-Finger Centric Gripper 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 227 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



[schunk.com/pzn-plus](http://schunk.com/pzn-plus)

## SCHUNK Miniature Gripper MPZ

### Powerful handling of small parts

The powerful 3-finger miniature centric gripper can be used in small parts 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. This ensures 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 in the event of a sudden drop of the pneumatic pressure.

### Your benefits:





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



[schunk.com/mpz](http://schunk.com/mpz)

# Angular Grippers

Pneumatic



	2-Finger Angular Gripper			2-Finger Radial Gripper	
	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	3.32 .. 1025	2 .. 295	
Opening angle per jaw [°]	8	15	15	30 .. 90	
Weight [kg]	0.04 .. 0.06	0.0025 – 0.213	0.13 .. 13.6	0.13 .. 6.72	
Recommended workpiece weight [kg]	0 .. 0.8	0 .. 0.46	0 .. 23.13	0 .. 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]	50	42	300	240	
Repeat accuracy [mm]	0.1	0.05	0.02	up to 0.05	
Protection class IP	20	30	30	20	
Cleanroom class ISO 14644-1					
Sensor systems	+	+	++	++	
Comprehensive ranges	+	+	++	++	
Description	Small, simple actuated plastic angular gripper with spring reset	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 antistatic 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	○	○	○	○	

● = very highly suitable    ● = highly suitable    ○ = suitable in customized version

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

+ = medium-sized selection    ++ = wide selection    +++ = very wide selection



DRG	GAP	3-Finger Angular Gripper SGW
		
5	3	3
8.2 .. 143	92 .. 430*	1.35 .. 7.45
10 .. 90	30 .. 90	8
0.5 .. 4.46	0.3 .. 1.33	0.05 .. 0.17
0 .. 7.2	0 .. 125	0 .. 13
0.4 .. 0.3/ 0.5 .. 0.6	0.09 .. 0.35/ 0.09 .. 0.35	0.02 .. 0.02/ 0.03 .. 0.03
125	65	50
0.1	0.05	0.1
67	40	20
++	+	+
++	++	+
Sealed 180° angular gripper for use in dirty environments	2-finger angular parallel gripper with gripper finger actuation of up to 90 degrees per jaw	Small, simple actuated plastic angular gripper with spring return
• For applications requiring a large opening range • Particularly suitable for the use in dirty environments	• Gripping and moving • For small to medium-sized workpieces	• Universal use • With special requirements on corrosion resistance and anti-static properties of the gripping unit
●	●	●
●	○	○
●		
○		
●		
○	○	○

## SCHUNK Gripper PWG-plus

### Compact powerhouse

The double oval piston drive, the one-piece, high-strength aluminum housing and the practically wear-free bone 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 a mechanical gripping force maintenance device.

In addition, extensive accessories are available, including inductive sensors and magnetic switches.



[schunk.com/pwg-plus](http://schunk.com/pwg-plus)

### Your benefits:

- **Workpiece weights between 0.5 kg and 7.3 kg**
- **Gripping moments** amount **between 3.5 Nm and 143 Nm**
- **Stroke per finger 15°**
- **Overgrip angle per jaw at least 3°**
- **Maximum force transmission** and **low wear** due to robust bone drive
- **High power density** due to oval piston drive
- **Flexible design of workpiece supports** because of connection threads and centering possibilities

Pneumatic 2-Finger Grippers

Pneumatic 3-Finger Grippers

Pneumatic Angular Grippers





Electric Grippers

End-of-Arm Modular System

Special Grippers

# SCHUNK Grippers



Electric

	2-Finger Parallel Gripper				
	Alternative			Adaptable	
	Co-act EGP-C	EGP	PGN-plus-E	LEG	
					
<b>Technical Data</b>					
Number of sizes	2	4	2	3	
Gripping force [N]	40 .. 140	12 .. 300	110 .. 810	300 ... 1050	
Stroke per jaw [mm]	3 .. 6	3 .. 10	8 .. 10	101 .. 281	
Weight [kg]	0.36 .. 86	0.11 .. 0.8	1.01 .. 1.73	5.4 .. 7.9	
Recommended workpiece weight [kg]	0.2 .. 0.7	0 .. 125	0 .. 4.05	0 .. 7.5	
Closing/opening time [s]	0.09 .. 0.2	0.03 .. 0.49	0.26 .. 0.29		
Max. permissible finger length [mm]	50	80	160	600	
Repeat accuracy [mm]	0.02	0.02	0.01	0.05	
Nominal voltage [V]	24	24 DC	24 DC	Motor-dependent	
Nominal current [A]	0.14 .. 0.2	0.14 .. 0.3	0.6 .. 0.7	Motor-dependent	
Protection class IP	30	30	40	20	
Communication interface	Digital I/O	Digital inputs, I/O-Link	Digital I/O, I/O-Link	Depending on the controller	
Great variety	+	++	+	++	
Description	Electric 2-finger parallel gripper. Certified for collaborative operation, actuated via 24 V and digital I/O	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 reliable multi-tooth guidance	Light long-stroke gripper for flexible and highly dynamic handling of different components	
<b>Motor &amp; Controller</b>					
Motor	Integrated	Integrated	Integrated	Adaptable	
Controller	Integrated	Integrated	Integrated	External	
Controller type				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>Suitable for collaborative operation</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>	<ul style="list-style-type: none"> <li>Optimum 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>	
<b>Ambient conditions</b>					
Clean	●	●	●	●	
Contaminated/coarse dust	◐	○	◐	○	
Contaminated/fine dust and liquids			○		
Contaminated/aggressive liquids					
High temperature range > 90 °C					
Cleanroom		○			

● = very highly suitable   ◐ = highly suitable   ○ = suitable in customized version  
 + = medium-sized selection   ++ = wide selection   +++ = very wide selection

Intelligent						
EGA	MEG	PG	EGL	WSG	PEH	
						
2	3	1	1	3	3	
150 .. 1300	35 .. 140	30 .. 200	50 .. 600	5 .. 80	150 .. 1800	
30 .. 100	6 .. 10	34	42.5	32 .. 105	60 .. 100	
2.2 .. 9	0.47 .. 1.42	1.4	1.8	0.32 .. 1.6	5.4 .. 16.8	
0 .. 6.5	0 .. 0.7	1	0 – 3	0 .. 0.4	0 .. 9	
	0.3 .. 0.62	0 .. 1	0.7	0.5 .. 1.0	1 .. 1.5	
500	64	140	165	170	270	
0.05	0.02	0.05	0.05	±0.03	±0.05	
Motor-dependent	24 DC	24 DC	24 DC	24 DC	24 DC	
Motor-dependent	0.6 .. 1.3	1.4	2.5	0.3 .. 0.9	2.4 .. 10	
40	30	20	46	40	41	
Depending on the controller	Digital and analog inputs and outputs	PROFIBUS, CAN, Digital I/O	PROFINET, PROFIBUS, CAN	EtherNet TCP/IP, PROFINET, PROFIBUS, CAN	PROFIBUS, CAN, Digital I/O	
++	+	+	+	++	+	
Electric 2-finger parallel gripper with adaptable servomotor	Electric 2-finger parallel gripper with smooth-running roller bearing guide in the base jaw	Servo-electric 2-finger parallel gripper with sensitive gripping force control and long stroke	Servo-electric 2-finger parallel gripper with sensitive gripping force control and long stroke	Servo-electric 2-finger parallel gripper with sensitive gripping force control and long stroke	Servo-electric 2-finger parallel gripper with large jaw stroke for large parts and/or diverse parts spectrum	
Adaptable	Integrated	Integrated	Integrated	Integrated	Integrated	
External	External	Integrated	Integrated	Integrated	Integrated	
Motor-dependent	MEG-C					
<ul style="list-style-type: none"> <li>Gripping and moving</li> <li>For medium-sized workpieces with flexible force and high speed</li> </ul>	<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>Various workpieces can be gripped either sensitively or with a high force</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 Gripper	Electromagnetic Grippers	
			Alternative	
EGN	EZN	EGM-M	EGM-B	
				
3	2	6	8	
170 .. 1000	140 .. 800	780 .. 11700	1800 .. 20370	
8 .. 16	6 .. 10			
0.84 .. 3.4	0.98 .. 2.3	1 .. 7	5.5 .. 25	
0 – 5	0 .. 4	0 .. 75	0 .. 118	
0.35 .. 0.5	0.25 .. 0.4	0.3	0.3	
200	125			
±0.01	±0.01			
24 DC	24 DC	400 AC	400 AC	
1 .. 2.6	2 .. 3	2.2 .. 3.7	2.9 .. 12.3	
41	41	54	54	
Depending on the controller	Depending on the controller	Depending on the controller	Depending on the controller	
++	++	+++	+++	
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 the multi-tooth guidance	Electric permanent magnetic gripper for energy-efficient handling of ferromagnetic workpieces	Electric permanent magnetic gripper for energy-efficient handling of ferromagnetic workpieces	
Integrated	Integrated			
External	External	External	External	
ECM	ECM	ECG	ECG	
• Optimum standard solution for many fields of application • Flexible in use due to controllable gripping force, position, and speed	• Optimum standard solution for many fields of application; flexible in use due to controllable gripping force, position, and speed	• Universally applicable, compact gripper, with large diversity of parts	• Universally applicable, compact gripper, with large diversity of parts	
●	●	●	●	
●	●	●	●	
①	①	①	①	
①	①			
○	○	○	○	

## The SCHUNK Gripper PGN-plus-E

**The first electric gripper with proven multi-tooth guidance. With permanent lubrication in the multi-tooth guidance, digital actuation, and 24 V drive.**

The electric SCHUNK PGN-plus-E gripper transfers the proven high performance features of the pneumatic PGN-plus-P gripper directly to the area of mechatronic handling. The first electric gripper with proven multi-tooth guidance with permanent lubrication, digital actuation, and 24 V drive makes the changeover from pneumatic to electric components particularly easy. Its actuation via digital I/O simplifies commissioning, enabling rapid integration in existing systems.

### Your benefits:

- **Up to 50% longer gripper fingers**  
due to higher maximum moments
- **Four-stage gripping force**  
for simple adaptation to sensitive workpieces
- **Lifelong maintenance-free**  
The SCHUNK multi-tooth guidance with continuous lubrication pockets ensures even lubrication.
- **24 V drive and actuation via either digital I/O or IO-Link Class B connection**  
for a simplified commissioning and fast integration into existing systems
- **Integrated sensor system**



[schunk.com/pgn-plus-e](http://schunk.com/pgn-plus-e)



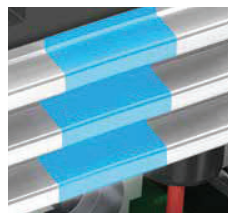
#### Up to 50% longer gripper fingers

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



#### Gripping force adjustable to four stages

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



#### Maximum life span due to lubrication pockets in the robust multi-tooth guidance

Permanent lubrication pockets ensure a continuous grease supply. At the same time, it ensures that an even lubricant film is created rapidly, even with short strokes.



#### Maximum process safety

The multi-tooth guidance enables a greater diagonal pull surface, and therefore a lower surface pressure, for process-reliable and low-wear transmission of power to the base jaw.






#### Integrated sensor system

The control and power electronics are already completely integrated so that no space is taken up in the control cabinet. The 24 V gripper is actuated via digital I/O inputs. Up to 2 gripper positions can be queried via one M8 connection.

# SCHUNK End-of-Arm Modular System for Universal Robots

Selection Table

Universal Robots	SCHUNK Grippers			Co-act EGP-C 40			KGG 100-80			PSH 22-1			JGP 80		
	EGP 40														
 UR 3   UR 5   UR 10															
<b>Combination possibilities*</b>	UR 3	UR 5	UR 10	UR 3	UR 5	UR 10	UR 3	UR 5	UR 10	UR 3	UR 5	UR 10	UR 3	UR 5	UR 10
Gripper	•	•	•	•	•	•	•	•	•		•	•	•	•	•
Gripper + change system/FT sensor	•	•	•	•	•	•		•	•		•	•		•	•
Gripper + change system + FT sensor		•	•		•	•		•	•			•		•	•
<b>Workpiece weight</b>															
0 – 1 kg		•			•			•			•			•	
1.1 – 1.5 kg											•			•	
1.6 – 2 kg											•			•	
2.1 – 2.5 kg														•	
2.6 – 3.0 kg															
3.1 – 3.5 kg															
3.6 – 4.0 kg															
4.1 – 4.5 kg															
<b>Technical data</b>															
ID	1320370***			1326455**			1327748			1327747			1348129		
Weight [kg]	0.7			0.6			1.2			1.7			1.33		
Max. gripping force [N]	140			140			175			320			415		
Recommended workpiece weight [kg]	0.7			0.7			0.9			1.6			2.1		
Stroke per jaw [mm]	6			6			40			28			8		

You can find more technical data in the catalog chapter for the respective gripper.

\* Overview of the combination possibilities of gripping systems and robot sizes which result from the comparison of the weight of the gripping system to half of the robot payload. A technical design for the application including top jaws and workpieces is absolutely essential.

\*\* The cable extension ID 1339964 is required for combination with force/torque sensor.

\*\*\* The adapter plate ID 1355667 and cable extension ID 1339964 are required for combinations with force/torque sensors. The adapter plate ID 1355667 is required for combination with the change system.

## The new SCHUNK FT-AXIA Force/Torque Sensor

**The first compact force/torque sensor with two calibrations.**







The compact SCHUNK force/torque sensor FT-AXIA was designed primarily for use in lightweight and small robots. Due to the dual calibration, it covers two measurement ranges and is therefore very versatile.



[schunk.com/ft-axia](http://schunk.com/ft-axia)

- **Compact design**  
due to completely integrated electronics and status display via LEDs
- **Simple configuration**  
Two calibrations can be controlled in the sensor via web interface
- **Robust and durable and long service life**  
Even at short-term overloading, the sensor is protected from damage
- **Plug & Work**  
directly compatible for KUKA and Universal Robots via installations module



												Robot Accessories			
JGP 100			PGN-plus-P 80			PGN-plus-P 100			PZN-plus 64					FT-AXIA 80	SHS 50
															
UR 3	UR 5	UR 10	UR 3	UR 5	UR 10	UR 3	UR 5	UR 10	UR 3	UR 5	UR 10	Universal Robots		Direct assembly possible	
	•	•	•	•	•		•	•	•	•	•	UR 3		•	•
	•	•		•	•			•		•	•	UR 5		•	•
		•		•	•			•		•	•	UR 10		•	•
												SCHUNK Grippers		Direct assembly possible	
	•			•			•			•		EGP 40		• ***	• ***
	•			•			•			•		Co-act EGP-C 40		• **	
	•			•			•			•		KGG 100-80		•	•
	•			•			•			•		PSH 22-1		•	•
	•			•			•			•		JGP 80		•	•
	•						•					JGP 100		•	•
							•					PGN-plus		•	•
							•					PZN-plus 64		•	•
1348128			1327751			1327750			1327749			ID		1357169	SHK 1334788 SHA 1334789
1.72			1.38			1.8			1.22						
660			550			870			580			Weight [kg]		0.51	SHK 0.35 SHA 0.14
3.3			2.75			4.35			2.9						
10			8			10			6			Max. dynam. bending moment [Nm]			25
												Max. dynam. bending moment M <sub>z</sub> [Nm]			45
												Range of measurement F <sub>xy</sub> [N]		200 .. 500	
												Range of measurement F <sub>z</sub> [N]		360 .. 900	
												Moment measurement range [Nm]		8 .. 20	

## Manual Change System SCHUNK SHS

Manual tool change system with integrated air feed-through, locking monitoring and optional electric signal feed-through. Ideally suited for use in the flexible production of products with a comprehensive range of variants in which reliable manual changes are required.




- **6 sizes**  
for optimum size selection and a broad application range
- **Integrated pneumatic feed-through**  
for reliable energy supply of the handling modules and tools
- **The locking clip opens at the front**  
this allows the changer to be easily operated even in confined spaces
- **Optional locking and presence monitoring**  
means more process reliability
- **Broad range of electric, pneumatic and fluid modules**  
for various energy transmission options
- **ISO flange pattern**  
for simple assembly on most types of robots without additional adapter plates



[schunk.com/shs](http://schunk.com/shs)

# Special Grippers

Pneumatic

	Universal Gripper with Shank Interface GSW-B	Universal Gripper with Shank Interface and Compensation Unit GSW-B with AGE	Vacuum Gripper with Shank Interface GSW-V
			
Comprehensive ranges	++	++	+
Variety of sensor systems	+	+	
Description	Universal gripper with shank interface for toolholder	Universal gripper with shank interface for toolholder and compensation unit	Vacuum gripper with shank interface for machine self-operation
Field of application	• For fully automated loading and unloading of machining centers	• For fully automated loading and unloading of clamping devices such as vises	• For fully automated loading and unloading of flat workpieces
ambient conditions			
Clean	●	●	●
Contaminated/coarse dust	●	○	○
Contaminated/fine dust and liquids	○	○	○
Contaminated/aggressive liquids	○	○	
High temperature range > 90 °C	●	●	
Cleanroom	○	○	

● = very highly suitable    ○ = highly suitable    ○ = suitable in customized version  
+ = medium-sized selection    ++ = wide selection    +++ = wide large 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 lightning fast out of the tool rack, and loaded from the tool changer into the machine spindle directly by the machine without requiring a robot or gantry.



The result: fully automatic workpiece change only with the help of the machine axis. Operation via the coolant supply.

### Your benefits:

- 30% higher productivity due to automated machine loading
- No additional energy supply required in the machine



[schunk.com/gsw-b](http://schunk.com/gsw-b)

Magnetic Gripper with Shank Interface GSW-M	Cleaning Device with Shank Interface RGG	Internal Hole Gripper LOG	0-Ring Gripper ORG
			
+	+	+++	+
Magnetic gripper with shank interface for toolholders	Cleaning device with shank interface for toolholders	Lightweight gripper made from a chemical resistant polyamide with a closed membrane system.	6-finger gripper reliable internal and external assembly of 0-rings
<ul style="list-style-type: none"> <li>For fully automated loading and unloading of ferromagnetic workpieces</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>Particularly suitable for highly dynamic applications with light workpieces</li> <li>For handling of small parts and plastic parts, as well as sand core handling</li> </ul>	<ul style="list-style-type: none"> <li>For automated assembly of 0-rings</li> </ul>
●	●	●	●
○	●	●	
○	●	●	
	●		
	●		
		○	○

## SCHUNK ORG Special Gripper for 0-ring Assembly

The SCHUNK 0-ring gripper must be positioned with custom fingers can be used to mount 0-rings and other sealing rings, both on shafts (external assembly) and in bores (internal assembly).

### Your benefits:

- **Up to 30% time saving** as the external and internal assembly can be done with one gripper



[schunk.com/org](http://schunk.com/org)

	Gripping Hands	
	Intelligent	
	Servo-electric 5-Finger Gripping Hand SVH	Servo-electric 3-Finger Gripping Hand SDH
	 <p>First DGUV certified 5-finger hand</p>	
<b>Technical data</b>		
Overall length [mm]	242.5	248.8
Total width [mm]	92	120.2
Max. finger width [mm]	19.6	46.4
Finger length [mm]	102.7	155
Finger spacing [mm]	25	66
Ratio to human hand	1:1	1.4:1
Number of drives	9	7
Number of fingers	5	3
Degrees of freedom	20	7
Weight [kg]	1.3	1.95
IP class	20	50
Power supply [V DC]	24	24
Nominal current [A]	0.16	2
Max. current [A]	3.5	5
CAN		•
RS232		•
RS485	•	
EtherNet TCP/IP		•
<b>Environment</b>		
Clean environment	•	•
Easily contaminated environments		•
<b>Tactile sensor systems</b>		
Tactile sensor systems		•

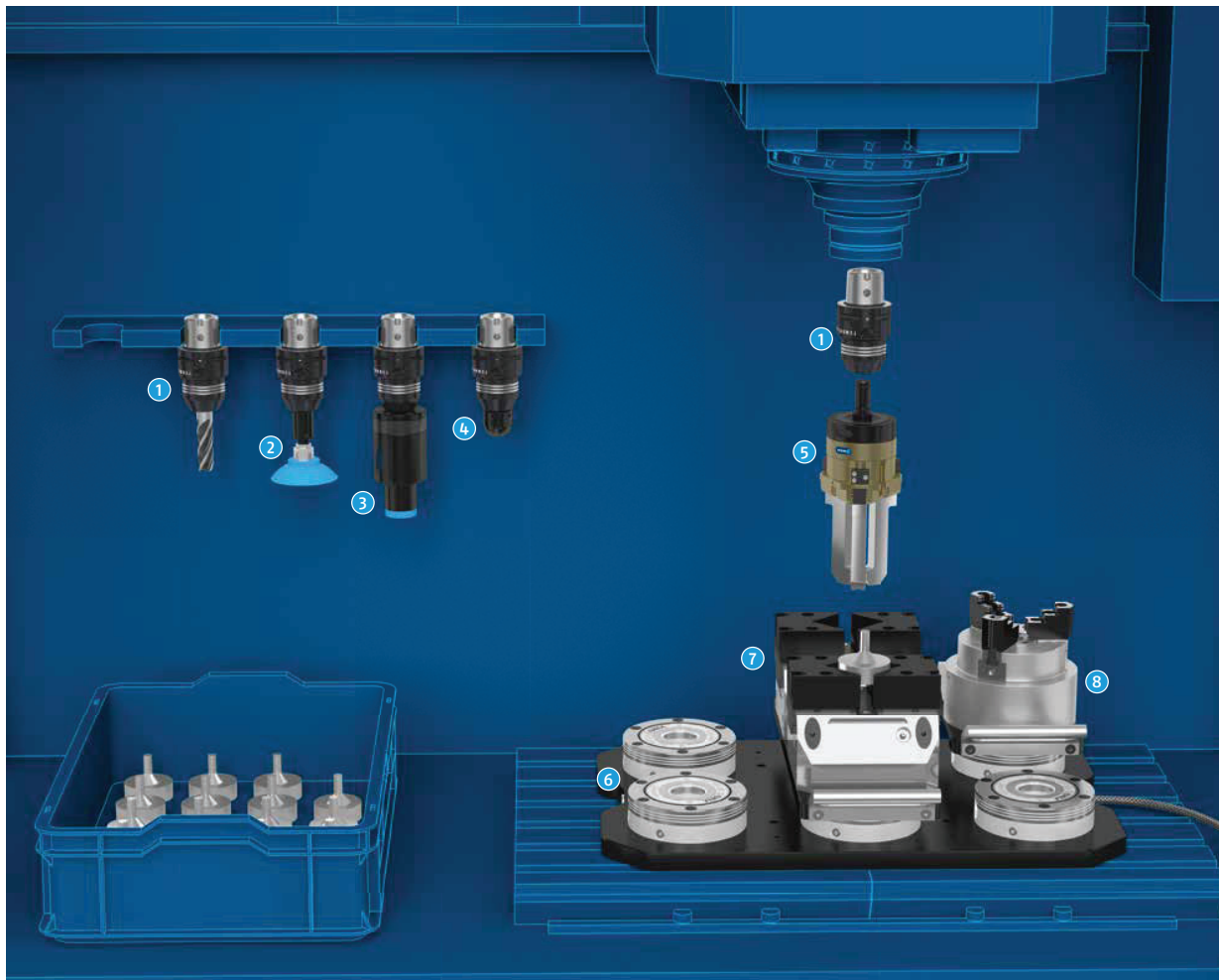


# Special Grippers

Lean Automation

## SCHUNK Lean Automation: Gripping Systems and Clamping Technology for the Automation of your Machine Tool

When it comes to precision, when seconds are decisive, set-up times are too long and costs too high, there is no room for compromise. And this is precisely where SCHUNK's lean automation range comes in. Because your machine can do more than you think. With efficient and suitable solutions for loading, changing, and cleaning. And of course with optimum tool and workpiece clamping.



- 1 **TENDO E compact Hydraulic Expansion Toolholder**  
The ultimate toolholder for every cutting tool, for every application
- 2 **Vacuum Gripper GSW-V**  
for handling workpieces with a flat surface
- 3 **Magnetic Gripper GSW-M**  
for handling ferromagnetic workpieces
- 4 **Cleaning Unit RGG**  
for cleaning the machine room in a matter of seconds

- 5 **SCHUNK Universal Gripper PZN-plus with shank interface**  
for automatic loading and unloading of your machine tool
- 6 **VERO-S Quick-change Pallet System**  
Positioning and clamping in a single operation
- 7 **TANDEM Clamping Force Blocks**  
for workpiece clamping in confined spaces
- 8 **ROTA Lathe Chuck**  
for precise clamping of round workpieces

Pneumatic 2-Finger Grippers

Pneumatic 3-Finger Grippers

Pneumatic Angular Grippers

Electric Grippers

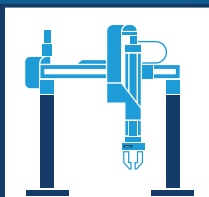
End-of-Arm Modular System

Special Grippers

## Handling and Assembly – SCHUNK has the perfect Solution for every Requirement.

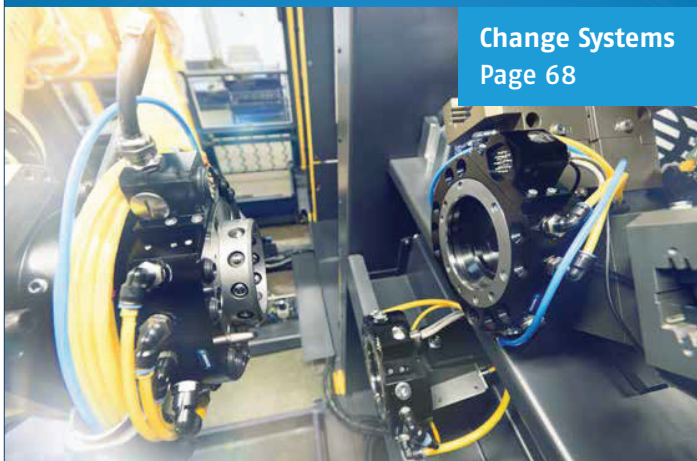
With our wide range of pneumatically and electrically driven linear, rotary, and gripper standard components and many products for robots, SCHUNK offers perfect prerequisites for individual handling solutions. An enormous variety of automated solutions can be implemented by using just a few standard components – fast, simple, and professional. Application-specific automation systems provide high dynamics during short cycle times – from small parts assembly in the production of electronics to the loading and unloading of machine tools to the handling of food products, pharmaceuticals or medical devices.

Equipped by  
**SCHUNK**



Over **4,000** standard components  
in the most comprehensive selection of  
modules for handling and assembly

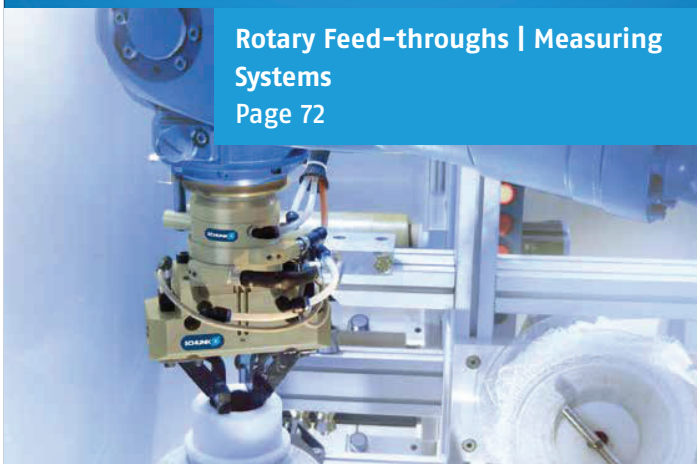
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**Compensation Units**  
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**Rotary Feed-throughs | Measuring Systems**  
Page 72



**Monitoring Sensors | Machining Tools**  
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Linear Modules  
Page 58



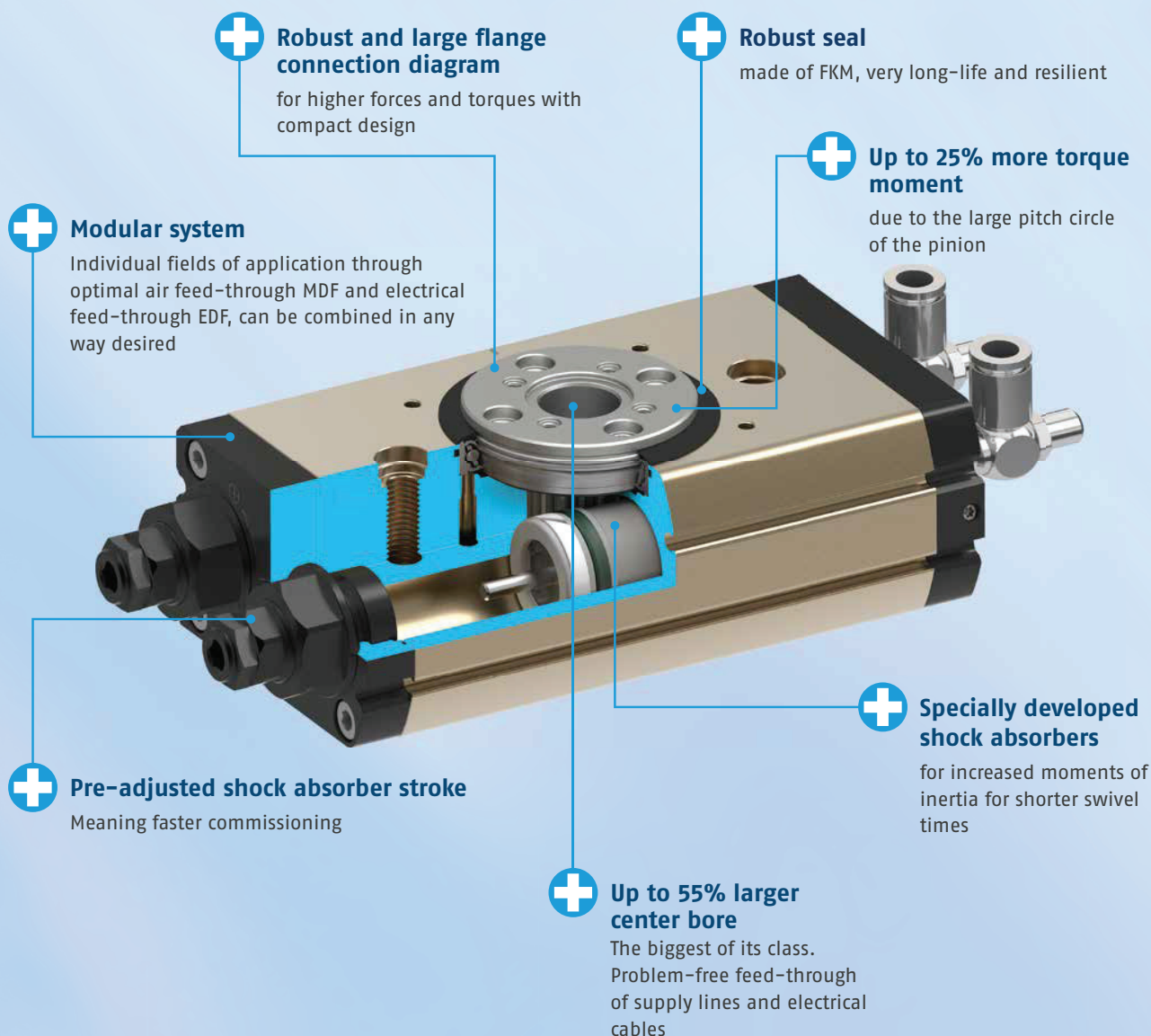
Rotary Modules  
Page 50



Pick & Place | Multi-axis Systems  
Page 66

# The new pneumatic SCHUNK Swivel Module SRM

The most robust and powerful swivel module on the market



## Technical Data

				
Size	Weight	Angle of rotation	Torque	Moment of inertia
14 .. 40	0.4 .. 10.8 kg	0° .. 180° (Variant 90°)	1.1 .. 23.7 Nm	7 kgm <sup>2</sup>





### Content

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Pick & Place   Multi-axis Systems	66
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Rotary Feed-throughs   Measuring Systems	72
Monitoring Sensors   Machining Tools	76

# Rotary Modules

Pneumatic






Rotary Modules, pneumatic	Swivel Vane		
	SFL	RM-W	
			
<b>Technical data</b>			
Angle of rotation < 360 ° [°]	90 .. 180	90/180	
Angle of rotation > 360 ° [°]			
Number of sizes	3	4	
Torque [Nm]	0.1 .. 3.6	0.7 .. 22	
Weight [kg]	0.09 .. 0.71	0.65 .. 8.3	
Max. permissible mass moment of inertia [kgm <sup>2</sup> ]	0.005	0.27	
Repeat accuracy [°]	0.05	up to 0.036	
Protection class IP	52	40	
Description	Rotary actuator with a high torque for easy rotation tasks up to 180°	Swivel vane with high torque for fast rotation tasks	
Gripping force [N]			
Stroke per jaw [mm]			
Recommended workpiece weight [kg]			
Closing/opening time [s]			
Max. permissible finger length [mm]			
<b>Options/versions</b>			
Center bore			
Pneumatic rotary feed-through			
Electric rotary feed-through			
Center position			
ATEX-certified			
Gripping force maintenance			
Rotation adapter			
<b>Monitoring options</b>			
Inductive proximity switches		●	
Magnetic switches	●		
<b>Field of application</b>			
	• The optimum solution for easy rotation tasks	• For fast movement cycles	
<b>Ambient conditions</b>			
Clean	●	●	
Slightly dirty	●	●	
Extremely dirty			

● = fully supported



# Rotary Modules

Pneumatic

SKE	Swivel Finger	Rotary Indexing Tables	Rotary Gripping Modules with 2-Finger Parallel Gripper	
	GFS	RST-D	GSM-P	RP
				
90	90 .. 180	22.5 .. 90	0 .. 180	0 .. 190
4	4	3	4	5
0.4 .. 9	0.64 .. 10	3.1 .. 29.3	0.3 .. 2.9	0.38 .. 1.9
0.13 .. 1.95	0.55 .. 5	1 .. 8.3	0.37 .. 1.51	0.5 .. 2.2
		0.6		
0.03	0.07	up to 0.04	0.02	0.02
30	54	50	30	40
90° swivel head with single piston drive	Rotary finger for turning workpieces that are held by a gripper or can also be used as a special rotary unit	Ring indexing unit for endlessly turning with a rotation angle up to 90° per cycle.	Compact gripper swivel combination, consisting of a powerful rotor drive and a 2-finger parallel gripper	Compact 2-finger parallel gripper swivel module with double piston rack and pinion swivel drive
			39 .. 162	50 .. 420
			1.5 .. 10	2.5 .. 8
			0.2 .. 0.61	0.25 .. 1.4
			0.01 .. 0.05/ 0.01 .. 0.05	0.015 .. 0.06/ 0.015 .. 0.06
			64	100
		•		
				•
			•	•
				•
•			•	
	•	•	•	
• For light external loads	• For universal use	• For fast movement cycles	• For gripping and swiveling small to medium-sized workpieces in clean environments	• For gripping and swiveling workpieces in clean environments
•	•	•	•	•
	•	•		•



## Universal Swivel Unit SRM

### Highest Power Density! Easy Commissioning. Maximum Modularity.

The pneumatic SCHUNK universal swivel unit SRM means more power, greater modularity, and greater economy in production automation. Specially developed, inner shock absorbers ensure maximum performance in the smallest space. The especially large center bore for feed-through of various media and a unique set-up enable tailored, highly efficient solutions.



[schunk.com/srm](http://schunk.com/srm)

### Your benefits:

- **Robust and large flange connection diagram**  
for higher forces and torques with compact design
- **Robust seal**  
made of FKM, very long-life and resilient
- **Up to 25% more torque moment**  
due to the large pitch circle of the pinion
- **Specially developed shock absorbers**  
for increased moments of inertia for shorter swivel times
- **Up to 55% larger center bore**  
The biggest of its class. Problem-free feed-through of supply lines and electrical cables
- **Pre-adjusted shock absorber stroke**  
Meaning faster commissioning
- **Modular system**  
Individual fields of application through optimal air feed-through MDF and electrical feed-through EDF, can be combined in any way desired

Pneum. Rotating

Electr. Rotating

Pneum. Linear Modules

Electr. Linear Modules

Pick & Place | Multi-axis Systems

Changing



Compensating

Feeding-through | Measuring

Monitoring | Machining

# Rotary Modules

Electric

Rotary Modules, electric	Rotary Actuators			
	Alternative	Adaptable	Intelligent	
	ERP	ERM	PR 2	
				
<b>Technical data</b>				
Number of sizes	1	1	3	
Torque [Nm]	2	75	4.3 .. 98	
Max. speed [RPM]		62.5	13 .. 78	
Weight [kg]	3.61	15.5	1.9 .. 6.4	
Max. permissible mass moment of inertia [kgm²]	0.1	20	9.5	
Repeat accuracy [°]	0.02	0.035	0.03	
Gear ratio		48	51 .. 161	
Intermediate circuit/nominal voltage [V]	24	Motor-dependent	24	
Nominal current [A]	0.8		5 .. 12	
Diameter of center bore	17.1	22		
Number of electric feed-throughs	0	0	0	
Number of pneumatic feed-throughs	0	8	0	
Protection class IP	54	65	40	
Type of measuring system		Motor-dependent	Incremental	
Angle of rotation [°]	45 .. 180			
Description	Elektrische Schwenkeinheit mit Direktantrieb und integrierter Steuerung mit Auto-Learn Funktion	Electric rotary module with adaptable servo-motor, angle of rotation > 360°, center bore and optional feed-throughs	Servo-electric rotary actuator with angle of rotation > 360°, precision gear and integrated electronics	
Gripping force [N]/opening angle [Nm]				
Stroke/opening angle per jaw [mm]/[°]				
Recommended workpiece weight [kg]				
Closing/opening time [s]				
Max. permissible finger length [mm]				
<b>Motor &amp; Controller*</b>				
Motor	Integriert	Adaptable	Integrated	
Controller	Integriert	External	Integrated	
Controller type		Motor-dependent		
<b>Options/versions</b>				
Center bore	●	●		
Pneumatic rotary feed-through		●		
Electric rotary feed-through				
Brake		●	●	
<b>Field of application</b>				
	<ul style="list-style-type: none"> <li>Elektrisches Schwenken von kleinen und mittelschweren Werkstücken ohne flexibles Positionieren</li> </ul>	<ul style="list-style-type: none"> <li>Universal, extremely flexible rotary module</li> <li>Suitable for use as a component in a handling or positioning system</li> </ul>	<ul style="list-style-type: none"> <li>Universal-use, extremely flexible rotary actuator</li> <li>As a component in a handling or positioning system</li> <li>As an axis for light-weight arms in industrial or service robotics</li> </ul>	
<b>Ambient conditions</b>				
Clean	●	●	●	
Slightly dirty	●	●	●	
Extremely dirty		●		




● = fully supported

\* = Control concepts for mechatronic SCHUNK components see page 19

\*\* = More controllers available upon request

## Rotary Modules

Electric

		2-Axis modules	Gripper Swivel Modules with 2-Finger Parallel Gripper
			Adaptable
	PSM 2	PW	EGS
			
	3	2	2
	0.16 .. 0.88	12 .. 23/2 .. 12	0.04 .. 0.11
	2125 .. 6500		
	1.3 .. 3.9	1.8 .. 3.4	0.45 .. 1.2
			0.00018
	0.2	up to 0.03	1
		121 .. 161/101 .. 121	
	24	24	24
	6 .. 12		1.6
	0	0	
	0	0	
	40	40	30
	Incremental	Incremental	
			30 .. 270
	Servo-electric drive with angle of rotation > 360° and integrated electronics	Servo-electric rotary pan-tilt actuator with precision gear and integrated electronics	Compact electrical 2-finger parallel rotary gripper module with smooth-running roller bearing guide
			15 .. 140
			3 .. 6
			0 .. 0.55
			0.03 .. 0.22
			50
	Integrated	Integrated	Integrated
	Integrated	Integrated	Integrated
	•		
	• Servo drive for linear, rotary or CNC axes	• Universal in use, highly versatile rotary pan-tilt actuator	• For electrical gripping and swiveling of small to medium-sized workpieces up to 270°
	• Axis motor for measuring and testing technology applications	• As a component in a handling or positioning system for cameras or laser scanners	
		• Can be used as a wrist module on robots	
	•	•	•
	•	•	



## SCHUNK Gripper Swivel Unit EGS

The world's most compact electric gripper swivel unit.

The SCHUNK electric gripper swivel unit EGS facilitates the switch to pneumatic-free handling solutions. For the first time ever, it successfully combines electrical gripping and swiveling in the smallest space in a compact housing. The low-maintenance and price-attractive module paves the way for highly efficient pneumatic-free systems. Coupling of the gripping and rotation gear, patented by SCHUNK, allows continuous rotation without an electric feed-through.



[schunk.com/egs](http://schunk.com/egs)

### Your benefits:

- **Quick switch** to pneumatic-free handling
- **Simple, fast commissioning** without external regulators and additional programming
- **Gripping and swiveling** with this extremely compact module
- **Swiveling time 0.18 s/180°**
- **Gripping time 0.03 s/stroke**
- **Freely definable angle of rotation** between 30° and 270°
- **4 digital inputs** (open gripper, close gripper, turn left, turn right)
- **Controlled with 24 V**

## SCHUNK Swivel Module ERP with 24 V Technology

Compact, dynamic and versatile

The ERP is the most easy to adjust swivel module on the market. For commissioning the 24 V component, it is connected with the control unit via digital I/O, the swivel unit is defined via end stops (45°/90°/180°), and if required the end position can be mechanically fine adjusted (±5°). Everything else is done by the auto-learn technology. Three to five swivel motions are enough for completing the programming.



[schunk.com/erp](http://schunk.com/erp)

### Your benefits:

- The intelligent **auto-learn technology** automatically adjusts the movement profile to the part weight
- Control via **digital I/O**
- **Compatible with all control systems**
- **Repeatability of ±0.01°**

Pneum. Rotating

Electr. Rotating

Pneum. Linear Modules

Electr. Linear Modules

Pick & Place | Multi-axis Systems

Changing


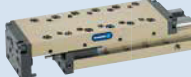

Compensating

Feeding-through | Measuring



Monitoring | Machining

# Linear Modules

Pneumatic

Pneumatic Linear Modules	Stroke Module HLM	Compact Slide CLM	Universal Linear Module LM	
				
<b>Drive type</b>				
Piston rod cylinders	●	●	●	
Rodless cylinder				
<b>Technical data</b>				
Number of sizes	4	6	5	
Number of pistons	1	1	1	
Repeat accuracy [mm]	up to 0.01	up to 0.01	up to 0.01	
Useful stroke [mm]	0 .. 150	0 .. 150	0 .. 450	
Max. driving force [N]	482	482	753	
Weight [kg]	0.5 .. 5.64	0.07 .. 5.32	0.44 .. 15.81	
Adjustable end positions	Yes	Yes	Yes	
Max. end positions adjustment per side [mm]	25	25	25	
Guidance type	Cross roller guide	Cross roller guide	Cross roller guide	
Comprehensive ranges	+	++	+++	
Required maintenance	Hydraulic shock absorbers, lubrication of the guide, replacement of seals	Hydraulic shock absorbers, lubrication of the guide, replacement of seals	Hydraulic shock absorbers, lubrication of the guide, replacement of seals	
Note	Optionally available with rod lock	Optionally available with rod lock	Optionally available with up to two intermediate positions and with rod lock	
<b>Field of application</b>				
	<ul style="list-style-type: none"> <li>• Compact</li> <li>• Optimum for lifting workpieces</li> <li>• Ideal for space-optimized applications</li> </ul>	<ul style="list-style-type: none"> <li>• Universally applicable</li> <li>• Optimum for short-stroke applications</li> <li>• For demanding requirements with respect to precision</li> </ul>	<ul style="list-style-type: none"> <li>• Universally applicable</li> <li>• For demanding requirements with respect to precision, flexibility and rigidity</li> </ul>	
<b>Ambient conditions</b>				
Clean	●	●	●	
Slightly dirty				
Dirty				

● = fully supported   ○ = technically possible  
 + = medium-sized selection   ++ = wide selection   +++ = very wide selection

Linear Module KLM	Gantry Axis PMP
	
•	•
4	2
1	1
up to 0.02	0.04
0 .. 300	0 .. 3700
753	250
0.5 .. 13.2	3 .. 44.91
Yes	Yes
25	50
Ball bushing guide	(Double) profiled rail guide
++	+++
Hydraulic shock absorbers, lubrication of the guide, replacement of seals	Hydraulic shock absorbers, lubrication of the guide, replacement of seals
Optionally available with up to two intermediate positions, rod lock and dustproof version	Optionally available with bellow, several intermediate positions and cable track
• Simple stroke module • Optimum use as Z-axis in handling modules • For high requirements of flexibility	• Robust and precise gantry systems • For large range of stroke
•	•
•	•
○	

## SCHUNK Universal Linear Module LM

Pneumatic linear modules LM from SCHUNK are characterized by long life span and reliability. The use of cross roller guides convinces with respect to accuracy, rigidity, and low friction. And also in terms of minimal space requirements, the linear modules score with their very compact design, even when two guide rails running in parallel are used.



[schunk.com/lm](http://schunk.com/lm)

### Your benefits:

- **5 sizes** with a total of **52 stroke variants**
- **High availability off the shelf**
- Over **20 years of experience** with cross roller guides
- **Can be flexibly combined** by up to 38 fastening threads on one side
- **No additional interfering contour** when adding shock absorbers or sensors

## Intermediate Stops ZZA for pneumatic Linear Modules LM and KLM

Up to two intermediate stops ZZA are possible per linear module. Therefore up to four positions are available to the linear unit. With the intermediate stops ZZA on a linear unit, NOK parts (not OK parts) can be rejected for instance on an assembly station.



### Your benefits:

- Up to **two intermediate positions** possible
- **No oscillations** in the intermediate position
- Can be moved from the intermediate position **in both directions**

# Linear Modules

Electric

## SCHUNK Linear Module ELP

**The new benchmark for mechatronic linear modules.**

The SCHUNK ELP is the most easy to adjust electric linear module on the market and is put into operation more quickly than the pneumatic linear module. Due to the revolutionary auto-learn function, no more shock absorbers are required. This makes the SCHUNK ELP practically wear-free and therefore robust and long-lasting. Actuation can be done in decentralized manner using a fieldbus distributor or directly over digital signals.



[schunk.com/elp](http://schunk.com/elp)



### Your benefits:

- **Simple 1:1 replacement** of pneumatic through mechatronic components
- **No shock absorbers**, therefore **no wearing parts and maintenance-free!**
- **Commissioning in just 2 working steps** due to the revolutionary auto-learn function
- **Simple speed configuration** using two rotary switches
- **0.01 mm repeat accuracy** due to the backlash-free roller guidance
- **Linear direct drive** for high dynamics and long lifespan
- **Version without auto-learn function is available** for pressing and joining applications



# Linear Modules

Electric

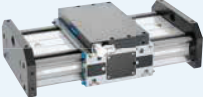



	Electric Linear Modules			
	Alternative	Intelligent		
	Compact Linear Module ELP	Compact Linear Module ELM	Compact Linear Module ELB	
				
<b>Drive type</b>				
Spindle drive				
Toothed belt drive				
Rack and pinion drive				
Direct drive (linear motor)	●	●	●	
<b>Technical data</b>				
Number of sizes	3	2	1	
Repeat accuracy [mm]	±0.01	±0.05	±0.01	
Max. useful stroke [mm]	200	260	125	
Max. driving force [N]	104	160	150	
Max. speed [m/s]	Auto-learn function	1.5	4	
Max. acceleration [m/s²]	Auto-learn function	40	100	
Type of measuring system		Hall-effect sensor	Absolute or incremental	
Guidance type	Cross roller guide	Profiled rail guide	Cross roller guide	
Comprehensive ranges	++	++	+++	
Required maintenance	Maintenance-free	Cleaning of the magnetic tracks, lubrication of the guide	Cleaning of the magnetic tracks, lubrication of the guide	
Note	Axis with mechanically adjustable stop positions, optionally available with load balance	Freely programmable, optionally available with rod lock	Freely programmable, optionally available with rod lock, brake or load balance	
<b>Motor &amp; controller</b>				
Motor	Integrated	Integrated	Integrated	
Drive controller	Integrated	LinMot®	Bosch Rexroth, Siemens*	
interfaces	Digital I/O	Sercos III, EtherNet/IP, EtherCAT, PROFINET, PROFIBUS DP, PowerLink, CANopen	Sercos III, EtherNet/IP, EtherCAT, PROFINET, PROFIBUS DP, PowerLink, CANopen	
<b>Field of application</b>				
	<ul style="list-style-type: none"> <li>• Simple, compact short stroke module</li> <li>• For small loads</li> <li>• For exceptionally dynamic positionings</li> </ul>	<ul style="list-style-type: none"> <li>• Extremely compact and simple short stroke module</li> <li>• For small loads</li> <li>• For exceptionally dynamic positionings</li> </ul>	<ul style="list-style-type: none"> <li>• Compact and simple short stroke module</li> <li>• For small loads</li> <li>• For exceptionally dynamic positionings</li> </ul>	
<b>Ambient conditions</b>				
Clean	●	●	●	
Slightly dirty				

● = fully supported

+ = medium-sized selection   ++ = wide selection   +++ = extremely wide selection

\* = Additional controllers available upon request   \*\* = Depending on the drive type

Stroke Module LDK	Universal Linear Module LDN	Universal Linear Module LDM	
			
•	•	•	
2	2	2	
±0.01	±0.01	±0.01	
200	2700	2700	
500	500	1000	
4	4	4	
40	40	40	
Absolute or incremental	Absolute or incremental	Absolute or incremental	
Roller guide	Roller guide	Roller guide	
++	+++	++	
Cleaning the magnetic tracks	Cleaning the magnetic tracks	Cleaning the magnetic tracks	
Freely programmable, optionally available with brake, limit switch, reference switch, cable track, supported profile	Freely programmable, optionally available with brake, limit switch, reference switch, cable track, supported profile	Freely programmable, optionally available with brake, limit switch, reference switch, cable track, supported profile	
Integrated	Integrated	Integrated	
Bosch Rexroth, Siemens*	Bosch Rexroth, Siemens*	Bosch Rexroth*	
Multi-Ethernet (Sercos III, PROFINET IO, EtherNet/IP, EtherCAT), PROFIBUS	Multi-Ethernet (Sercos III, PROFINET IO, EtherNet/IP, EtherCAT), PROFIBUS	Multi-Ethernet (Sercos III, PROFINET IO, EtherNet/IP, EtherCAT), PROFIBUS	
<ul style="list-style-type: none"> <li>• Compact and simple short stroke module</li> <li>• For small loads</li> <li>• For exceptionally dynamic positionings</li> </ul>	<ul style="list-style-type: none"> <li>• Universally applicable</li> <li>• Linear motor axis with simple X-profile</li> <li>• For applications with demanding requirements with respect to dynamics]</li> <li>• For a faster and precise movement or controlled press-in operation of workpieces in the high-speed assembly</li> </ul>	<ul style="list-style-type: none"> <li>• Universally applicable</li> <li>• Linear motor axis with double X-profile</li> <li>• For medium loads with very high dynamic and precise requirements</li> <li>• For a faster and precise movement or controlled press-in operation of workpieces in the high-speed assembly</li> </ul>	
•	•	•	

			Adaptable		
	Universal Linear Module LDT	Flat Linear Module LDL	Compact Linear Module ELS	Linear Table Alpha	
					
			•	•	
	•	•			
2	2	2	2	4	
±0.01	±0.01	±0.01	±0.01	±0.03	
2700	3800	260	2540		
1500	500	150	18000		
4	4	1	2.5		
40	40	8.5	20		
Absolute or incremental	Absolute or incremental	Motor-dependent	Motor-dependent		
Roller guide	Roller guide	Profiled rail guide	Double-profiled rail guide		
++	+	+	++		
Cleaning the magnetic tracks	Cleaning the magnetic tracks	Lubrication of the guide and the spindle	Lubrication of the guide and the spindle		
Freely programmable, optionally available with brake, limit switch, reference switch, cable track, supported profile	Freely programmable, optionally available with brake, limit switch, reference switch, cable track	Freely programmable, also available standard-equipped with Bosch Rexroth motor	Freely programmable, optionally available with customized motor, limit switch and reference switch		
Integrated	Integrated	Adaptable	Adaptable		
Bosch Rexroth, Siemens*	Bosch Rexroth, Siemens*	Motor-dependent	Motor-dependent		
Multi-Ethernet (Sercos III, PROFINET IO, EtherNet/IP, EtherCAT), PROFIBUS	Multi-Ethernet (Sercos III, PROFINET IO, EtherNet/IP, EtherCAT), PROFIBUS	Controller-dependent	Controller-dependent		
<ul style="list-style-type: none"> <li>Universally usable linear motor axis with triple X-profile</li> <li>For heavy loads with very high dynamic and precise requirements</li> <li>For a faster and precise movement or controlled press-in operation of workpieces in the high-speed assembly.</li> </ul>	<ul style="list-style-type: none"> <li>Flat linear motor axis</li> <li>For applications with very high dynamic and precise requirements</li> <li>For a faster and precise movement or controlled press-in operation of workpieces in the high-speed assembly.</li> </ul>	<ul style="list-style-type: none"> <li>Compact spindle cantilever axis</li> <li>For short strokes</li> <li>For high precision and driving force requirements</li> </ul>	<ul style="list-style-type: none"> <li>Particularly flat design for table assembly</li> <li>For high precision and driving force requirements</li> </ul>		
	•	•	•	•	
				•	

# Linear Modules

Electric

	Universal Linear Module Beta	Flat Linear Module Delta	Universal Linear Module Gamma
			
	•	•	•
	•	•	•
	•		•
			•
	12	5	3
	0.03 or 0.08***	up to $\pm 0.03^{**}$	up to $\pm 0.05$
	7720	7700	7685
	18000**	12000**	4000
	8	5	5
	60	60	60
	Motor-dependent	Motor-dependent	Motor-dependent
	Double-profiled rail guide	Double-profiled rail guide	Double-profiled rail guide
	+++	+++	+++
	Lubrication of the guide and (if necessary) the spindle, replacement of the cover tape	Lubrication of the guide and (if necessary) the spindle, replacement of the cover tape	Lubrication of the guide and (if necessary) the gear rack
	Freely programmable, optionally available with customized motor, limit switch and reference switch	Freely programmable, optionally available with customized motor, limit switch and reference switch	Freely programmable, optionally available with customized motor, limit switch and reference switch
	Adaptable	Adaptable	Adaptable
	Motor-dependent	Motor-dependent	Motor-dependent
	Controller-dependent	Controller-dependent	Controller-dependent
	• Universally applicable • Ball-screw drive for high precision and driving force requirements • Belt drive for high dynamic requirements with large stroke	• Flat design for large loads • Universally applicable • Spindle drive for high precision requirements with high driving force • Belt drive for high dynamic requirements with large stroke	• With closed profile for high rigidity requirements • With rack and pinion drive for precise applications and large strokes • Toothed belt drive for dynamic applications
	•	•	•
	•	•	•



## SCHUNK Linear Module Beta

### Linear module with adaptive drive.

The product range includes 12 sizes. Depending on the application, choose between spindles, belt or rack and pinion depending on the drive type as well as between roller guidance and profile rail guidance. The Beta series is outstanding for its economical axis applications with high requirements with respect to dynamism and smooth running. Even long stroke lengths can be implemented with this drive system.

### Your benefits:

- **12 profile sizes**
- **3 drive types**  
(spindle/belts/gear rack)
- **2 guide systems**
- **100% modular**  
for high availability
- **20 years of experience**  
with linear systems
- **100% flexible actuation**  
due to adaptable motors



[schunk.com/beta](http://schunk.com/beta)

## Accessories for spindle, belt and rack and pinion driven Linear Modules

### Servomotors

With the **linear modules Alpha, Beta, Gamma, Delta** and **ELS** with **adaptable** drive, you receive from SCHUNK on request an already completed configuration with servomotors that is designed in accordance with your specific application and technical requirements. We can use servomotors either from Bosch Rexroth, Siemens or SCHUNK.

We will be happy to supply you with the required IndraDrive series controller from Bosch Rexroth or the SINAMICS series from Siemens – depending on the servo motors used. Naturally, you have the option of attaching any other servo motor yourself to the linear axes listed.



Bosch Rexroth servomotor



Siemens servomotor



Compact SCHUNK servo drive type PDU 2 with precision gear and integrated controller

Pneum. Rotating

Electr. Rotating

Pneum. Linear Modules

Electr. Linear Modules

Pick & Place | Multi-axis Systems

Changing

Compensating

Feeding-through | Measuring

Monitoring | Machining

# Pick & Place

Pneumatic and electric

	Pick & Place Unit	
	Pneumatic	Electric*
	PPU-P	PPU-E
		
<b>Technical data</b>		
Number of sizes	2	3
Horizontal stroke in Y [mm]	121 .. 210	0 .. 280
Horizontal stroke in X [mm]		
Vertical stroke [mm]	30 .. 45	0 .. 150
Swivel angle [°]		
Nominal load [kg]	0 .. 3	0 .. 5
Repeat accuracy X-axis [mm]		
Repeat accuracy Y-axis [mm]	up to ±0.01	±0.01
Repeat accuracy Z-axis [mm]	up to ±0.01	±0.01
Repeat accuracy, rotary [°]		
Weight [kg]	4.5 .. 15.5	15 .. 35
Max. cycle time/picks per minute	95	110
Actuation	Pneumatic valve	External controller
Protection class IP	40	40
Guidance type	Cross roller guide	Profiled rail guide
Number of possible combinations		
Comprehensive ranges	+	++
<b>Motor &amp; controller*</b>		
Motor		Integrated
Drive controller		Bosch Rexroth, Siemens*
<b>Options/versions</b>		
Rod lock	●	●
Center position		
Integrated valve		●
Additional C-axis		●
Drive package		
Description	Compact 2-axis unit for running a typical pick & place motion	Compact 2-axis unit for flexible running of any curve on one plane
Field of application	• For the rapid and precise transfer of workpieces in high-speed assembly	• For the rapid and precise transfer or controlled press-in operation of workpieces in high-speed assembly
<b>Ambient conditions</b>		
Clean	●	●
Slightly dirty		

● = fully supported + = medium-sized selection ++ = wide selection

\* = Control concepts for mechatronic SCHUNK components see page 19 \*\* = More controllers available upon request

# Multi-axis Systems

Pneumatic and electric

Standard Gantry		
Pneumatic	Electric*	
Line Gantry LPP	Line Gantry LPE	Room Gantry RPE
		
1	2	2
200 .. 1500	500 .. 1500	500 .. 1500
0 .. 225	100 .. 500	100 .. 500
0 .. 5	0 .. 20	0 .. 20
±0.01	±0.08	±0.08
±0.01	±0.03	±0.03
Pneumatic valve	Controller on external motor	Controller on external motor
40	40	40
Profiled rail/ cross roller guide	Profiled rail guide	Profiled rail guide
234	90	150
+	+	+
	Adaptable	Adaptable
Bosch Rexroth, Siemens*	Bosch Rexroth, Siemens*	Bosch Rexroth, Siemens**
•		
•		
	•	•
Line gantry with a horizontal, pneumatic gantry axis, and a vertical, pneumatic linear module	Line gantry with a horizontal, electric toothed belt axis, and a vertical, electric spindle axis	Room gantry with two electric toothed belt axes in a horizontal direction, and one electric spindle axis in a vertical direction
• For easily conducting the most common two-dimensional handling and assembly tasks for small to medium-sized workpieces	• For easily conducting the most common two-dimensional handling and assembly tasks for medium-sized and large workpieces	• For easily conducting the most common three-dimensional handling and assembly tasks for medium-sized and large workpieces
•	•	•
	•	•

Pneum. Rotating

Electr. Rotating

Pneum. Linear Modules

Electr. Linear Modules

Pick & Place | Multi-axis Systems

Changing




Compensating

Feeding-through | Measuring

Monitoring | Machining

# Change Systems

Robot Accessories

Change Systems	Quick-change Systems			
	SWS	SWS-L	EWS	
				
<b>Product features</b>				
Manual actuation				
Pneumatic actuation	•	•		
Electric actuation			•	
Locking monitoring possible	•	•	•	
Tool presence monitoring possible	•	•	•	
Pneumatic energy transmission	•	•	•	
Electric energy transmission	•	•	•	
<b>Technical data</b>				
Number of sizes	14	4	1	
Recommended handling weight [kg]	0 .. 300	0 .. 1350	18	
Moment load $M_{xy}$ [Nm]	2.8 .. 7170	7600 .. 13500	150	
Moment load $M_z$ [Nm]	3.45 .. 3800	4060 .. 16200	186	
Repeat accuracy [mm]	bis zu 0.01	0.01	0.015	
Weight [kg]	0.05 .. 9.3	7.8 .. 28	1.8	
Screwed flange on the robot	Adapter plates/ direct assembly ISO-9409	Adapter plates/ direct assembly ISO-9409	Adapter plates	
<b>Advantages/your added value</b>		<ul style="list-style-type: none"> <li>• Patented self-sustaining locking system for a reliable connection between the quick-change head and the quick-change adapter</li> <li>• Standardized storage modules available for any size</li> </ul>	<ul style="list-style-type: none"> <li>• Integrated locking queries</li> <li>• Control via digital I/O for easy commissioning and rapid integration into existing systems</li> </ul>	
<b>Ambient conditions</b>				
Clean	•	•	•	
Slightly dirty	•	•	•	
High-temperature and stainless steel version on request	•	•		






## SCHUNK Quick-change System SWS

### Fast effector change for high flexibility in production, handling and assembly.

When changing grippers, tools and other end-effectors, an automatic quick-change system (as robot accessory) can clearly reduce manual work or even entirely replace it. While manually re-equipping a pneumatic effector takes ten to thirty minutes, a quick-change system reduces this time down to ten to thirty seconds, with merely locking and unlocking taking even just milliseconds.



NSR-A	Manual Change Systems		
	SHS	CWS	MWS
			
•	•	•	•
•	•		
•	•		
•	•	•	•
•	•		•
2	6	5	2
	0 .. 58	0 .. 28	0 .. 1
75 .. 600	45 .. 960	20 .. 160	0.5 .. 1
200 .. 1600	75 .. 2325	10 .. 200	0.2 .. 0.75
0.02	0.02	0.01	0.1
0.4 .. 1.6	0.2 .. 4	0.07 .. 0.445	0.007 .. 0.016
Adapter plates ISO-9409	direct mounting ISO-9409	Adapter plates	Adapter plates
<ul style="list-style-type: none"> <li>• Form-fitting lock, self-locking, for a reliable connection between the pallet change master and the pallet change adapter</li> <li>• Integrated piston stroke monitoring and tool presence control for monitoring the system</li> </ul>	<ul style="list-style-type: none"> <li>• Integrated pneumatic feed-through for secure energy supply of the handling modules and tools</li> <li>• Optionally available with monitoring of the locking and presence monitoring</li> </ul>	<ul style="list-style-type: none"> <li>• Flat and weight-optimized through direct assembly of the gripper onto the change system without adapter plate.</li> <li>• Integrated pneumatic feed-throughs for reliable electricity, gas and water supply of the grippers</li> </ul>	<ul style="list-style-type: none"> <li>• Extremely flat design for minimal interference contours</li> <li>• Integrated feed-throughs for six pneumatic or electrical signals</li> </ul>
•	•	•	•
•	•		
•	•		

## Your benefits

- **Payloads up to 1,350 kg** possible
- **Patented** self-locking locking system
- **No-Touch-locking™**  
Secure locking without making contact, for the SWS even when the SWK and SWA do not touch
- **21 sizes** for optimal size selection and a broad application range
- All functional components made of **hardened steel** for **high bearing load capacity** of the change system
- **Transmission possibility** for electric, pneumatic and fluid media
- For a **process-reliable connection** between the quick-change head and the quick-change adapter with **self-sealing couplings**

Pneum. Rotating

Electr. Rotating

Pneum. Linear Modules

Electr. Linear Modules

Pick & Place | Multi-axis Systems

Changing



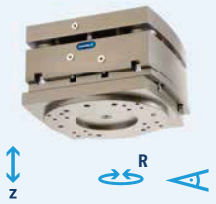
Compensating


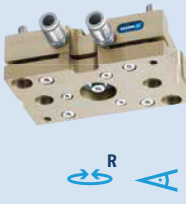

Feeding-through | Measuring

Monitoring | Machining

# Compensation Units

Robot Accessories

	Compensation Units			
	AGE-XY	AGE-Z 2	AGE-S	
				
<b>Product features</b>				
Pneumatic locking	•	•	•	
Position memory	•		•	
Screwed flange acc. to ISO-9409 standard	•	•	•	
Monitoring via proximity switch	•	•	•	
<b>Technical data</b>				
Number of sizes	3	3	4	
Compensation stroke XY [mm]	±2.5 .. ±4		±4 .. ±12	
Compensation stroke Z		8 .. 10	10 .. 14	
Rotatory compensation [°]	±12 .. ±16			
Spring force [N]		20 .. 120	240 .. 1100	
Piston force Z at 6 bar in extended position [N]		500 .. 1500	800 .. 3000	
Piston force Z at 6 bar in retracted position [N]		280 .. 1450		
Weight [kg]	0.46 .. 1.5	0.55 .. 1.7	2.6 .. 29.5	
Locking force at 6 bar [N]	235 .. 580		800 .. 2700	
Horizontal payload [kg]	0 .. 10	0 .. 5	0 .. 100	
Vertical payload [kg]	0 .. 15	0 .. 12	0 .. 160	
Repeat accuracy [mm]	0.1	0.02	0.1	
Locking force F <sub>z</sub> [N]	235 .. 580	280 .. 1500	800 .. 2700	
Max. pulling force F <sub>z</sub> [N]	300 .. 750	200 .. 500	110 .. 2000	
Max. pressure force F <sub>d</sub> [N]	1700 .. 3200	800 .. 1500	500 .. 4000	
Moment load capacity M <sub>x</sub> , M <sub>y</sub> [Nm]	16 .. 30	10 .. 30	30 .. 500	
Twist torque M <sub>z</sub> [Nm]	3.5 .. 9	20 .. 80	30 .. 250	
Angular compensation x [°]				
Angular compensation y [°]				
Angular compensation z [°]				
<b>Advantages/your added value</b>				
	• Robust guidance for high moment loads even with minimal space requirements.	• Locking in order to switch the unit rigid in retracted or extended position.	• Three compensation directions XYZ in one unit. • Compact design for minimal design heights.	
<b>ISO flange pattern</b> , simple assembly on most types of robot without additional adapter plates	•	•	•	
<b>Field of application</b>				
	Universally applicable for assembling, palletizing and inserting workpieces with high precision			
<b>Ambient conditions</b>				
Clean	•	•	•	
Slightly dirty			•	
High-temperature version on request	•	•	•	

AGE-F	Tolerance Compensation Unit	
	TCU	FUS
		
	•	•
•	•	•
4	8	5
$\pm 1.5 \dots \pm 5$		$\pm 1.7 \dots \pm 2.2$
		0.4 .. 1.3
	1 .. 1.5	2.5 .. 5
1.5 .. 150		
0.1 .. 3.1	0.1 .. 2.1 30 .. 800	0.05 bis 1.8
0 .. 32		
0.01	bis zu 0.02 30 .. 800	bis zu 0.01 22 .. 395
100 .. 2800		
200 .. 12000	500 .. 6200	160 .. 5490
3.5 .. 50	5 .. 120	1.1 .. 45.2
6 .. 150	15 .. 160	
	$\pm 1 \dots 2$	$\pm 1$
	$\pm 1$	$\pm 1$
	$\pm 1.2 \dots 2$	
• Spring reset and spring force adjustable in three spring stiffnesses. Defined centric position with a high repeat accuracy. Compensation stroke flexibly adjustable.	• Pneumatic locking. Long-lasting elastomers, rigid unit during travel.	• Compensates for angular errors and tolerances with jointing applications. This reduces the cycle times and increase the productivity. The pneumatic locking ensures that the unit can be locked centrically and rigid again.
• Direct assembly of parallel and centric grippers. SCHUNK grippers PGN-plus, PZN-plus can be mounted onto AGE-F without additional adapter plate.	• Direct mounting of parallel and centric grippers, no additional adapter plate required.	
Assembling, palletizing and inserting workpieces without feeding external media.	In the fields of assembly automation and machine tool loading.	Assembly tasks with very little play among the parts to be aligned.
•	•	•
	•	•

## SCHUNK Compensation Unit AGE-S-XYZ

### Palletizing, joining, and assembling with flexibility.

The compensation unit AGE-S extends the AGE series (AGE-XY/AGE-Z/AGE-F) for the medium and heavy load range. The compensation unit provides the required flexibility between the effector and the robot arm.

The AGE-S-XYZ helps you to avoid damage to the system and malfunctions, while increasing process reliability. During handling in XY- as well as Z-direction, the unit can be made rigid using the integrated pneumatic lock and eccentrically locked using the position memory in XY-direction.





[schunk.com/age-s](http://schunk.com/age-s)

### Your benefits:

- The housing consists of **high-strength, hard-coated aluminum alloy**
- The functional components are made of **hardened steel**
- **Three compensation directions** in one unit, compact design for minimum installation height
- **Centric locking** for rigid switching of the unit at a defined centric position
- **Pneumatic position memory** for eccentric locking in deflected position




# Rotary Feed-through

Robot Accessories



Rotary Feed-throughs	Rotary Feed-throughs DDF 2	Stationary Rotary Feed-through DDF-SE
		
<b>Product features</b>		
Endless rotary movement	•	•
Screwed flange acc. to ISO-9409 standard	•	
Pneumatic energy transmission	•	•
Vacuum energy transmission		
Electric energy transmission	•	•
Bus transmission		
<b>Technical data</b>		
Number of sizes	12	2
Recommended workpiece weight [kg]	0 .. 250	
Max. speed [RPM]	90 .. 120	300 .. 500
Continuous torque [Nm]	0.5 .. 22	4 .. 13
Starting torque [after shutdown] [Nm]	0.7 .. 25	6 .. 20
Forces $F_z$ [N]	240 .. 9000	2000 .. 4000
Moments $M_x$ , $M_y$ [Nm]	2000 .. 18000	
Moments $M_z$ [Nm]	15 .. 550	50 .. 180
Pneumatic energy transmissions	10 .. 400	
Electrical energy transmission	2 .. 4	4 .. 6
Weight [kg]	4 .. 10	6 .. 8
<b>Advantages/your added value</b>	0.35 .. 14.2	3.3 .. 9
	<b>Three versions to choose from</b> <b>Version 1:</b> For the feed-through of pneumatic and electrical signals. <b>Version 2:</b> For the feed-through of pneumatics. <b>Version 3:</b> For the feed-through of electrical signals.	<b>Standardized shaft end</b> for easy assembly of gears. <b>Revolutions of up to 500 RPM</b> Your gripping system is safely supplied with pneumatics and electronics even in the event of fast, endless rotary movements of up to 500 RPM.
<b>Combined pneumatic and electric feed-through</b>	•	•
<b>ISO flange pattern</b> , simple assembly on most robot types without additional adapter plates	•	
<b>Field of application</b>		
	Rotary feed-through for reliable pneumatic and electric feed-through in the event of robot applications with endlessly rotating movements.	Ideally suitable for the use on rotary indexing tables and for stationary applications.
<b>Ambient conditions</b>		
Clean	•	•
Slightly dirty	•	•

# Measuring Systems

Robot Accessories

Measuring Systems	6-Axis Force/Torque Sensors			
	FT-AXIA	FTN	FTD	
		 NET	 DAQ	
<b>Protection class IP</b>				
Without IP protection	•	•	•	
IP60	•	•	•	
IP65		•	•	
IP68		•	•	
<b>Technical data</b>				
Number of sizes	1	16	16	
Calibration	SI-200-8, SI-500-20	SI-12-0,12 .. SI-40000-6000	SI-12-0,12 .. SI-40000-6000	
Evaluation electronics	Integrated	Net-Box	DAQ-Karte	
Weight of sensor [kg]	0.3	0.01 .. 47	0.01 .. 47	
Range of measurement $F_x F_y$ [N]	200 .. 500	$\pm 12$ .. $\pm 40000$	$\pm 12$ .. $\pm 40000$	
Range of measurement $F_z$ [N]	360 .. 900	$\pm 17$ .. $\pm 88000$	$\pm 17$ .. $\pm 88000$	
Range of measurement $M_x M_y$ [Nm]	8 .. 20	0.12 .. $\pm 6000$	$\pm 12$ .. $\pm 6000$	
Range of measurement $M_z$ [Nm]	8 .. 20	0.12 .. $\pm 6000$	$\pm 12$ .. $\pm 6000$	
Resolution $F_x F_y$ [N]	0.1	0.003 .. 6.25	0.003 .. 6.25	
Resolution $F_z$ [N]	0.1	0.003 .. 16.7	0.003 .. 16.7	
Resolution $M_x M_y$ [Nm]	0.005	0.00001 .. 1.5	0.00001 .. 1.5	
Resolution $M_z$ [Nm]	0.005	0.00001 .. 0.75	0.00001 .. 0.75	
<b>Advantages/your added value</b>				
	<b>FT sensor</b> Evaluation via Ethernet and EtherCAT, 2 calibrations selectable via web interface	<b>FTN sensor</b> Evaluation via Ethernet, DeviceNet, optional PROFINET optional EtherCAT	<b>FTD sensor</b> Evaluation via DAQ card (PCI, USB)	
<b>Sizes with different ranges of measurement</b>	1	16	16	
<b>High measured-value resolution</b> and fast data transmission for nearly real-time control	•	•	•	
<b>Robust version</b> , high overload range for a long life span	•	•	•	
<b>Rotation and translation</b> of the coordinate systems in all three directions in space	•	•	•	
<b>Easy operation</b> , minimized commissioning time	•			
<b>Field of application</b>				
	Universally usable in robot applications such as haptics, medicine, grinding, inspecting, joining and research and development.			
<b>Ambient conditions (sensor)</b>				
Clean	•	•	•	
Slightly dirty	•	•	•	
Extremely dirty		•	•	
Humid	•	•	•	



FTS	Wireless Transmitter FTW
	
Stand-Alone	
•	
•	
•	
•	
16	
SI-12-0,12 .. SI-40000-6000	
Stand-Alone-Controller	
0.01 .. 47	
±12 .. ±40000	
±17 .. ±88000	
±12 .. ±6000	
±12 .. ±6000	
0.003 .. 12.5	
0.06 .. 33.4	
0.03 .. 3	
0.03 .. 1.5	
<b>FTS sensor</b> Evaluation via analog voltage (0-10 V or DI0)	<ul style="list-style-type: none"> <li>• Handy wireless transmitters for the 6-axis force/torque sensors SCHUNK FT-Nano and SCHUNK FT-Mini</li> <li>• WiFi transmission allows easy integration of up to 6 sensors into existing WiFi systems</li> <li>• Wireless transmission for mobile applications</li> </ul>
16	
•	
•	
•	
Universally usable with robot applications such as haptics, medicine, grinding, inspecting, joining and research and development.	
•	
•	
•	
•	

## SCHUNK 6-Axis Force/Torque Sensor FTN

Interface variety with Ethernet, EtherNet/IP, EtherCAT, DeviceNet and a CAN interface.

With its high-speed data output, four possible communication protocols, remote monitoring via LAN and configuration via web interface, the 6-axis force/torque sensor FTN is currently the most multi-functional force/torque sensor for industrial automation. Suitable for machining tasks in the field of e.g. grinding and polishing, robot assemblies or robotic surgery as well as applications in rehabilitation and neurological applications. The sensor allows for automating difficult assembly, machining and finish machining tasks, that could previously only be performed by hand or using complex special machines.



[schunk.com/ft](http://schunk.com/ft)

### Your benefits:

- **16 sizes**
- **Torque ranges** between **0.12 Nm** and **6,000 Nm**
- **Load ranges** between **12 N** and **40,000 N**
- **The sensor measures the force and torque** in all **six degrees of freedom**.
- **Simple process integration** due to simple interface compatibility
- Possible **remote monitoring**, via **LAN connection**

## SCHUNK Rotary Feed-through DDF 2

**More powerful. More versatile. More energy efficient.**

The DDF 2 is the latest standard for state-of-the-art robot and assembly applications. It ensures highest process reliability even with 360° unlimited rotational movements. SCHUNK offers the DDF 2 in three variations: for the feed-through of pneumatics or

electrical signals or for the combined version. A significantly increased load allows the use of a steel shaft for transmitting dynamic forces and moments. Due to a specially developed seal, the DDF 2 ensures a long service life and energy efficiency due to the possibility of using smaller drives.



[schunk.com/ddf-2](http://schunk.com/ddf-2)

### Your benefits:

- **85% longer service life** due to newly developed seals
- **50% greater moment load** due to transmission of the dynamic forces and moments via a steel shaft
- **20% greater load capacity**
- Newly developed, **smoothly running** and especially **durable seals** produce a smaller starting and continuous torque, which allows you to use smaller, i.e. more economical drives
- Depending on the size, **two and four pneumatic feed-throughs** are standard, as are between **four and ten electrical transmissions** for signals 1 A/60 V
- Allows for 360° **continuous rotation**
- Complete series with **14 sizes** for optimal size selection
- **Electrical connector contacts** enable rapid and easy replacement in the event of cable breakage at the robot arm or gripper

Pneum. Rotating

Electr. Rotating

Pneum. Linear Modules

Electr. Linear Modules

Pick & Place | Multi-axis Systems

Changing



Compensating

Feeding-through | Measuring

Monitoring | Machining

# Monitoring Sensors

Robot Accessories

	Collision and Overload Sensors	
	OPS	OPR
		
	Manual reset	Automatic reset
<b>Product features</b>		
Pneumatic actuation	•	•
Built-in spring optionally available		•
<b>Technical data</b>		
Number of sizes	4	7
Moments $M_x$ , $M_y$ [Nm]	7.5 .. 430	6 .. 2000
Triggering force $F_z$ [N]	500 .. 7000	440 .. 14000
Axial deflection [mm]	9.5 .. 12	5.1 .. 16
Angle deflection [°]	4 .. 12	8 .. 13
Rotatory deflection [°]	45 .. 360	20
Repeat accuracy [mm]	up to 0.02	±0.025
Operating pressure range [bar]	0.5 .. 6.0	1.4 .. 6.2
Weight [kg]	0.4 .. 7.0	0.24 .. 11.7
<b>Advantages/your added value</b>		
<b>Automatic return position</b> for faster resuming of production after a collision		•
<b>Integrated monitoring</b> for signal transmission in the event of a collision	•	•
<b>Triggering force and moment can be set via the operating pressure</b> for optimum protection of robot and components	•	•
<b>ISO adapter plates are optional</b> for simple assembly on most types of robot without additional production costs	•	•
<b>Field of application</b>		
Standard solution for all robot applications where robots, tools, or workpieces are to be monitored for possible collisions	•	•
<b>Ambient conditions</b>		
Clean	•	•
Slightly dirty		•
Humid		•

## SCHUNK OPR, Collision and Overload Sensor

The effective protection both for robots and for handling devices against damage as a result of collision or overload.

**Unique with automatic return position.**

The SCHUNK collision and overload sensors OPR effectively monitor the robot as well as handling devices. SCHUNK OPR features an automatic return position, enabling the system to resume production as soon as possible after a collision. In case of overloads or collisions, the tool plate deflects and, at the same time, automatically actuates the system's emergency stop. The system's sensitivity can be adjusted via the operating pressure.



### Your benefits:

- **Automatic reset** into the center position
- **Overload detection** occurs in **X-, Y- (+/-) and Z-direction** and equally **during rotation** around the **X-, Y- and Z-direction**
- **Integrated cable breakage control** to avoid malfunctions
- Also available as **IP65** protected version
- **Triggering forces and moments** can be adjusted via operating pressure

[schunk.com/opr](http://schunk.com/opr)

Machining Tools	Deburring Spindle		Polishing Spindle
	FDB	FDB-AC	MFT
			
<b>Product features</b>			
Pneumatic actuation	•	•	•
<b>Technical data</b>			
Compensation	Radial	Axial	Axial
Number of sizes	6	2	1
Power [W]	150 .. 1040	250	390
Compensation path [mm]	±5.1 .. ±9.1	±4.1	±15
Recommended compensation path [mm]	±2.5 .. ±4.8	±2	±7.5
Compensation force [N]	3.1 .. 89	1 .. 25	14 .. 74
Compensating pressure [bar]	1 .. 4.1	1 .. 3	0.35 .. 4.1
Idle speed [1/min]	25000 .. 65000	25000 .. 30000	5600
Air consumption at idle run [l/min]	84 .. 564	396	540
Air consumption blocked [l/min]	228 .. 1140		
Collet diameter [mm]	3 .. 6		9.5
Weight [kg]	1.1 .. 4.5	0.5	3.3
<b>Advantages/your added value</b>			
<b>Flexible high-frequency spindle</b> for maximum versatility for chamfering	•	•	
<b>Flexible high-frequency spindle</b> for maximum flexibility for polishing or brushing			•
<b>Rigidity of the spindle adjustable via compressed air</b> for clean chamfering in any installation position	•	•	•
<b>High speeds</b> for high feed rates	•	•	
<b>Flexible use</b> on robot arms or as a stationary unit	•	•	•
<b>Field of application</b>			
	Standard solution for flexible and robot-guided chamfering of all sorts of workpieces.		
<b>Ambient conditions</b>			
Clean	•	•	•
Extremely dirty	•	•	•

### SCHUNK Deburring Spindle FDB

#### The solution for perfect finishing.

SCHUNK standard solution for flexible and robot-guided deburring of all sorts of workpieces. The drive of the unit is carried out via a pneumatic spindle with of up to 65,000 RPM – depending on the unit size. For compensating part tolerances during machining, the shank has compliant bearings.



[schunk.com/fdb](http://schunk.com/fdb)

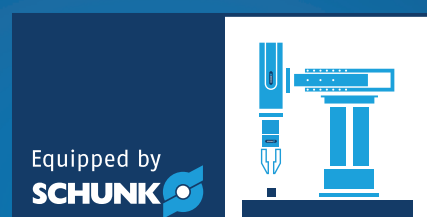
#### Your benefits:

- Flexible **high-frequency spindle** for **maximum versatility** for deburring
- **Adjustable rigidity** of the deburring spindle by means of the pneumatics
- For **clean chamfer edges** in every installation position
- **High rotational speeds**
- For **high** feed rates
- **Versatile use** on the **robot arm** or applicable as a **stationary** unit

## The right Solution for every Application

SCHUNK original accessories for sensor systems and pillar assembly components enhance the versatility and the field of application of our standard modules for your application. Optimum functionality, reliability, and precise positioning are ensured by SCHUNK original accessories. Experience highest quality and utmost longevity.

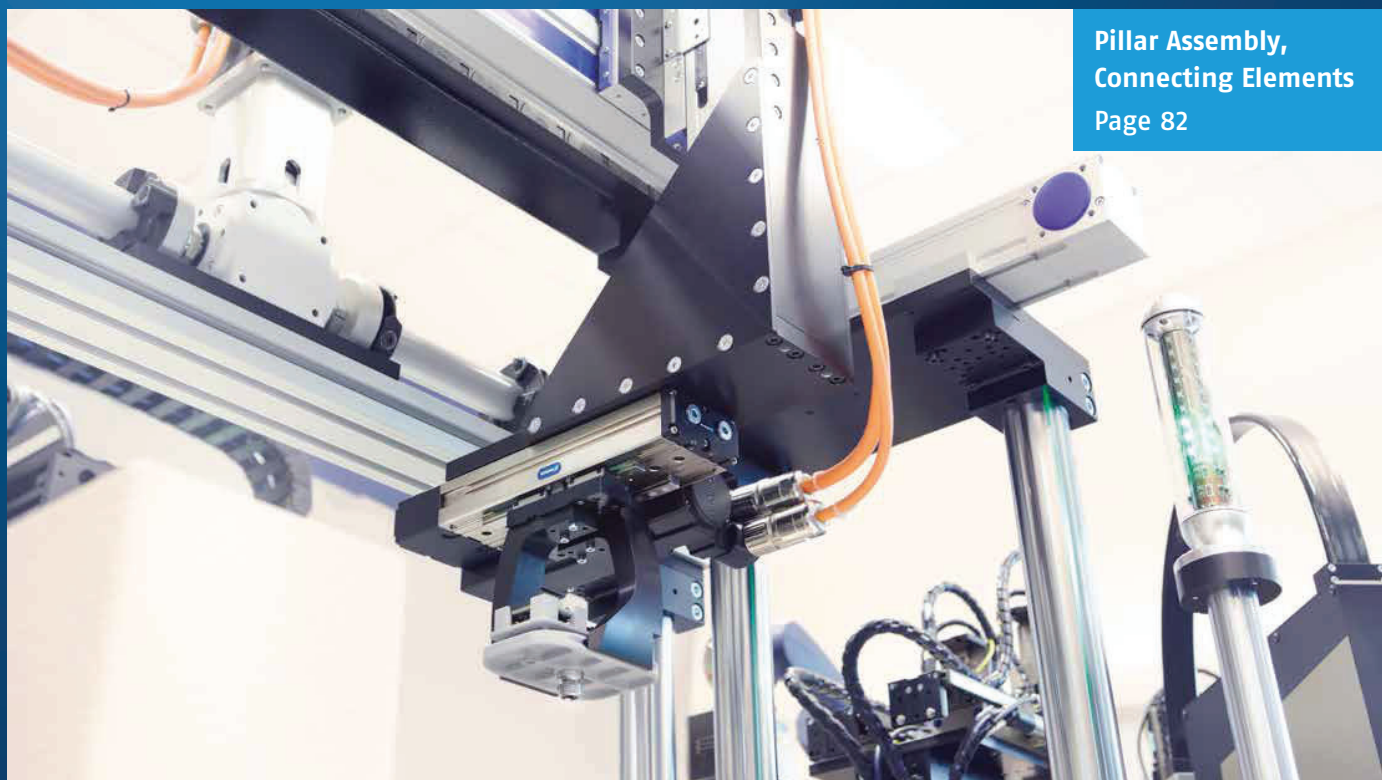
Original accessories for an excellent accuracy of fit and function. Compatible for every SCHUNK standard product, easy integration into existing plants and systems.



Pillar assembly system **100%** variable, thousands of combinations of SCHUNK components are possible

The world's **most extensive** range of accessories for gripping systems

More than **150** sensors for precise force measurement and workpiece and position monitoring



Pillar Assembly,  
Connecting Elements  
Page 82





Accessories  
Page 86



Sensor Systems  
Page 90



# SCHUNK Pillar Assembly System SAS

## More than 10,000 combination Possibilities

## 100% Flexibility for your Applications



### Variety in Accessories

A broad range of high-quality accessory components and suitable sensors.



### A wide range of Combinations

Direct combination with various SCHUNK products without additional adapter plates.



### Adjustment Units

For simple and fast fine adjustment of the finished setup systems



### 100% flexible

Various customized lengths of the pillars possible as standard. Individual or double pillars can be selected.  
Various support plates for horizontal, vertical or variable connection on five sides



### Media supply

Simple and fast combinations from the modular system

## Content

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Sensor System	90

# Pillar Assembly System

Component Overview

## SCHUNK Pillar Assembly System SAS.

Over 10,000 possible Combinations.

With more than 10,000 possible combinations, SCHUNK offers the world's most comprehensive range of pillar assembly applications. The SCHUNK pillar assembly system allows for a combination of diverse handling modules without mechanical adaptation by means of mounting and centering holes, for an exact fit and angular precision as well as the safe, stable, and reproducible mounting of components.



### Adjustment Unit VEH

For easy fine adjustments of the finished assembly

- For linear and rotative compensation
- Adjustable with hexagon socket wrench
- Suitable for single and double sockets



### Pillar Assembly System

High level of precision despite high modularity and flexibility

- 3 different pillar diameters
- Up to 1,000 mm pillar length
- 17 elements combined as desired
- Direct screw connection for SCHUNK components



### Media Routing






Simple and fast combinations from the modular system

- Precise hose and cable guidance possible
- Either through the hollow pillars or attached with clips along the pillars
- Media hose for supplying the actuators can be mounted directly








# Pillar Assembly System






## Connecting Elements

	① Adjustment Unit	② Pillar Assembly System				
	Adjustment Unit VEH	Base Support SOE	Base Support SOD	Hollow Pillars SLH	Horizontal Mounting Plates APEH/APDH	
						
<b>Application with</b>						
Pillars Ø 20 mm		●	●	●	●	
Pillars Ø 35 mm	●	●	●	●	●	
Pillars Ø 55 mm	●	●	●	●	●	
<b>Material</b>	Aluminum, hard-anodized	Aluminum, hard-anodized	Aluminum, hard-anodized	Steel, hard-chromium plated	Aluminum, hard-anodized	
<b>Description</b>	The adjustment unit simplifies mechanical adjustment of complete handling systems	The base support is the base used for the pillar assembly system and can be directly mounted onto a firm surface	The base support is the base used for the pillar assembly system and can be directly mounted onto a firm surface. A 2-pillar assembly can be mounted with the SOD	Versatile steel pillars can be inserted at various lengths and provide high rigidity	The mounting plates connect the various SCHUNK modules of the modular system to the pillar system	
<b>Field of application</b>	For universal use with structures that must be readjusted during assembly.	The base used for all pillar assemblies with a single pillar	The base used for all pillar assemblies with a double pillars	For all assembly systems and frames and as a mounting option for automation components	For attaching SCHUNK linear modules with horizontal movement	
<b>Advantages</b>	<ul style="list-style-type: none"> <li>• Mechanical adjustment</li> <li>• High degree of flexibility</li> </ul>	<ul style="list-style-type: none"> <li>• Robust and highly precise</li> </ul>	<ul style="list-style-type: none"> <li>• Robust and highly precise</li> </ul>	<ul style="list-style-type: none"> <li>• Robust and highly precise</li> <li>• Weight-optimized due to hollow profile</li> <li>• Can be used as a hose and cable channel</li> </ul>	<ul style="list-style-type: none"> <li>• Robust and highly precise</li> <li>• Standardized interface for many SCHUNK products</li> </ul>	

● = highly suitable/fully supported    ○ = suitable to a limited extent



Vertical Mounting Plates APEV/APDV	Horizontal Mounting Plates AMEH/ AMDH	Vertical Mounting Plates AMEV/AMDV	Axial Mounting Plates APDA/APEA	Adjustment ring STG/STR	
					
•				○	
•	•	•	•	•	
•	•	•	•	•	
Aluminum, hard-anodized	Aluminum, hard-anodized	Aluminum, hard-anodized	Aluminum, hard-anodized	Aluminum, hard-anodized	
The mounting plates connect the various SCHUNK modules of the modular system to the pillar system	The mounting plates with functional screw connection diagram connect various SCHUNK modules or customized structures to the pillar system	The mounting plates with functional screw connection diagram connect various SCHUNK modules or customized structures to the pillar system	The mounting plates with functional screw connection diagram connect various SCHUNK modules or customized structures to the pillar system	The adjustment ring provides accurate positioning of the assembly elements that are mounted to the pillars	
For attaching SCHUNK linear modules with horizontal and vertical movement	For horizontal attachment of customized structures or other automation components	For vertical attachment of customized structures or other automation components	For attaching customized structures or other automation components	For positioning mounting plates of the pillar assembly system	
<ul style="list-style-type: none"> <li>• Robust and high-precision</li> <li>• Standardized interface for many SCHUNK products</li> </ul>	<ul style="list-style-type: none"> <li>• Robust and high-precision</li> <li>• Flexible mounting options</li> </ul>	<ul style="list-style-type: none"> <li>• Robust and high-precision</li> <li>• Flexible mounting options</li> </ul>	<ul style="list-style-type: none"> <li>• Robust and high-precision</li> <li>• Flexible mounting options</li> <li>• Mounting options on five sides</li> </ul>	<ul style="list-style-type: none"> <li>• Fine adjustment</li> <li>• High degree of flexibility</li> </ul>	

Cross Connector	Mounting Plate	③ Media Routing		
		Mounting Clip	Hose Routing	Hose Routing
KVB	MPL	MFC	SPL/MFB/MFS	MFS/MFV/MFK
				
•	•			
•	•	•	•	•
•	•	•	•	•
Aluminum, hard-anodized	Aluminum, hard-anodized	POM	POM	POM
Cross connectors allow for right-angle junctions to be included in the pillar assembly system.	The mounting plate offers the possibility of adding extra functionalities or structures	Mounting clips can be used to mount and route cables and hoses along the pillars	The hose routing, which is directly attachable to the linear module, allows for pneumatic hoses or cables to be collectively routed directly from the actuator to the pillar system	The hose routing, which is directly attachable to the pillars, allows for pneumatic hoses routed via the media channels or actuator cables to be routed further from within the hollow pillars
For expanding the pillar assembly system vertically	For supporting or mounting additional structures	For all pneumatic or electric sensors and actuators that are mounted to the pillar system	For all pneumatic or electric sensors and actuators that are mounted to the pillar system	For all pneumatic or electric sensors and actuators that are mounted to the pillar system
<ul style="list-style-type: none"> <li>• Robust and high-precision</li> <li>• High degree of flexibility</li> </ul>	<ul style="list-style-type: none"> <li>• Robust and high-precision</li> <li>• High degree of flexibility</li> </ul>	<ul style="list-style-type: none"> <li>• Module attachable</li> <li>• Reduction of cable breakage</li> </ul>	<ul style="list-style-type: none"> <li>• Module attachable</li> <li>• Reduction of cable breakage</li> <li>• Visual enhancement</li> </ul>	<ul style="list-style-type: none"> <li>• Module attachment</li> <li>• Reduction of cable breakage</li> <li>• Visual enhancement</li> </ul>

Pillar Assembly System

Accessories

Sensor System

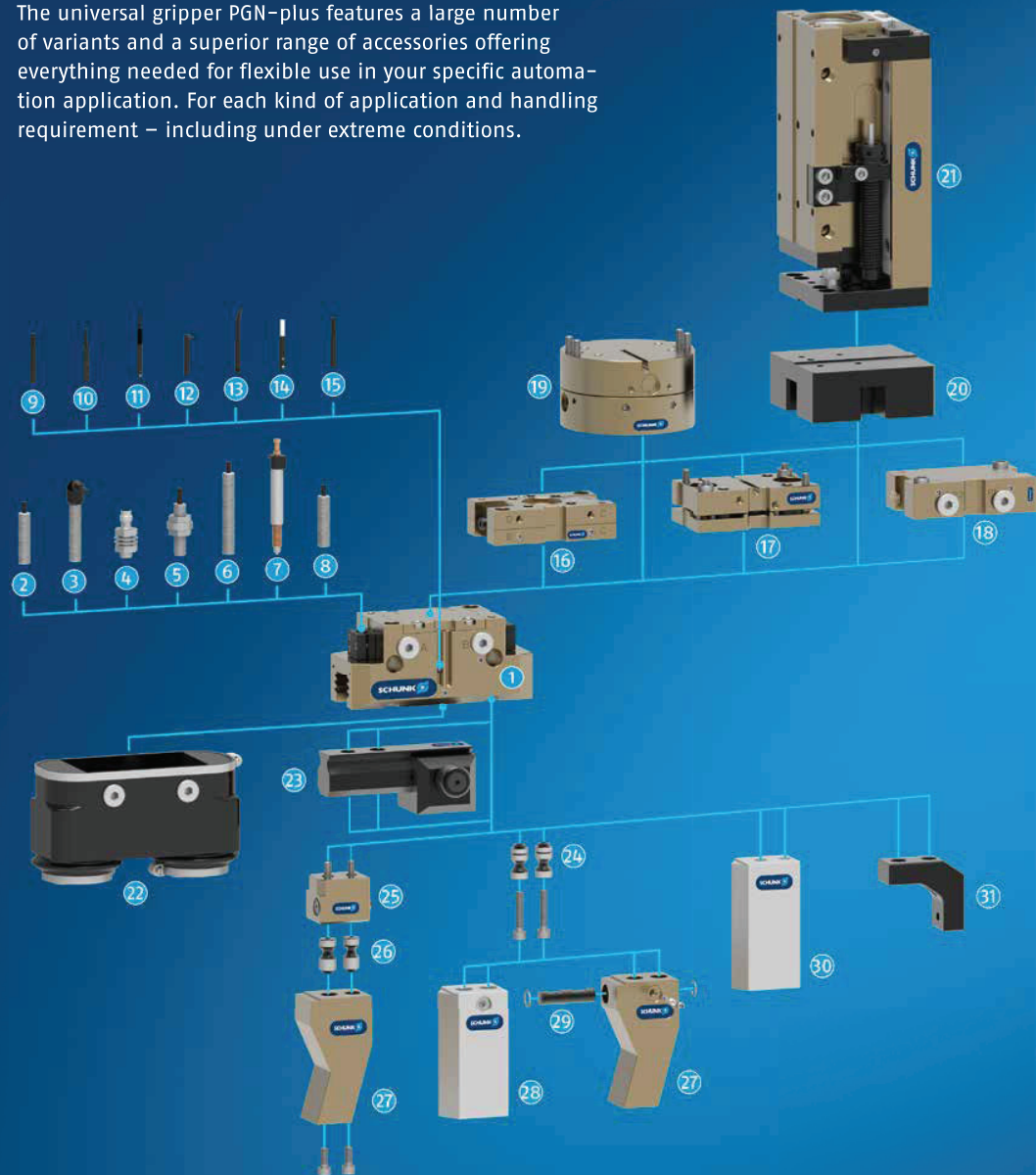
## Accessories

SCHUNK Grippers

# SCHUNK Grippers








## Our Response to Flexibility: Variety in Accessories.

Along with the world's most extensive gripper range, SCHUNK also provides an unmatched range of offering. The universal gripper 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.



## Accessories

SCHUNK Gripping Systems

	ABR/SBR	BSWS-B/-A	ABR/SBR-BSWS	BSWS-AR/-UR	UZH	SDV-P-E-P	HUE
	 30	 25 26	 24 28	 24 29	 23	 18	 22
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	For grippers used in dirty environments and where they get in contact with liquids.
Description	Finger blanks made of aluminum or steel for application-specific rework	The BSWS consists of one base and two adapter pins. The form-fit locking mechanism ensures 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 mechanism ensures a fast exchange of the gripper fingers	The BSWS consists of two adapter pins and the locking mechanism located in the customized finger. The form-fit locking mechanism ensures a fast exchange of the gripper fingers	Allows fast tool-free and reliable replugging and shifting of top jaws	With a loss of air pressure, venting of the module will be prevented temporarily by the pressure maintenance valve	The cover protects the gripper against external influences. Depending on the application, the edge of the cover can be additionally sealed for applications up to IP65.
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>	<ul style="list-style-type: none"> <li>• Flexible in use: can be retrofitted</li> <li>• Space-saving due to low interfering contours</li> <li>• Suitable for grippers PGN-plus-P, PGN-plus, PZN-plus, EGN, and EZN</li> </ul>

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

More than 30 years of competence 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.

### SCHUNK Compact Change System CWS

The flat and weight-reduced manual change system CWS from SCHUNK 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 the simple working principle
- Full compatibility due to integrated ISO robot flange
- The screw connection diagram is used to mount the most important SCHUNK gripping and compensation modules directly on the quick-change system without an adapter plate



### SCHUNK Compensation Unit TCU

SCHUNK presents the TCU, a compensation unit with base plates 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 directions are two to four millimeters depending on the size, while the compensation angles are between 1.5 and 3.5°
- Maximum handling weights between 1 and 24 kg, depending on gripper size



### SCHUNK Universal Rotary Actuator SRU-plus

Universal pneumatic unit for swiveling 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°
- End position adjustability: +3°/-3° (small) or +3°/-90° (large)
- Middle position can be selected as pneumatic or locked
- Fluid feed-through of gases, fluids and vacuums without bothersome hoses, as well as electric rotary feed-through for long-lasting and safe operational feed-through of sensors and actuator signals. Optionally with bus feed-through.
- Electronic magnetic switches or inductive proximity sensors for absolute variability in position sensing



### Linear Module CLM

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 do not give rise to 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 interfering contour due to shock absorbers or sensors





- ① **PGN-plus-P**  
Universal 2-finger parallel gripper with a high gripping force and high maximum moments due to the use of a multi-tooth guidance

## Sensor Systems







- ② **IN ...**  
Inductive proximity switch with molded cable and straight cable outlet
- ③ **IN ...-SA**  
Inductive proximity switch with molded cable and lateral cable outlet
- ④ **IN-C 80**  
Inductive proximity switch, directly pluggable
- ⑤ **FPS**  
Flexible position sensor for monitoring up to five different, freely selectable positions
- ⑥ **APS-Z80**  
Inductive position sensor for precise position detection of the gripper jaws with analog output
- ⑦ **APS-M15**  
Mechanic measuring system for accurate acquisition of the gripper jaw position with analog output
- ⑧ **RMS 80**  
Reedschalter in runder Ausführung
- ⑨ **MMS 22**  
Magnetic switch with straight cable outlet for monitoring a position  
  
**MMS 22-PI1**  
Magnetic switch with straight cable outlet for monitoring a freely programmable position
- ⑩ **MMS 22-PI2**  
Magnetic switch with straight cable outlet for monitoring two freely programmable position
- ⑪ **MMS 22-PI1-HD**  
MMS 22-PI1 in robust design  
  
**MMS 22-PI2-HD**  
MMS 22-PI2 in robust design
- ⑫ **MMS 22-SA**  
Magnetic switch with lateral cable outlet for monitoring a position  
  
**MMS 22-PI1-SA**  
Magnetic switch with side cable outlet for monitoring a freely programmable position
- ⑬ **MMS-P**  
Magnetic switch with straight cable outlet for monitoring two freely programmable position
- ⑭ **MMS 22-A**  
Analog magnetic switch with straight cable outlet for measuring the gripper jaw position with analog output and teach function
- ⑮ **RMS 22**  
Reed switch for direct assembly in the C-slot

## Complementary Products

- ⑯ **CWS**  
Manual change system with integrated air feed-through for simple exchange of the handling components
- ⑰ **TCU**  
Tolerance compensation unit for compensating small tolerances in the plane
- ⑱ **SDV-P-E-P**  
Pressure maintenance valve for temporary force and position maintenance
- ⑲ **AGE**  
Compensation unit for compensation of large tolerances along the X and Y axes
- ⑳ **ASG**  
Adapter plate for combining various automation components in the modular system
- ㉑ **CLM**  
Linear module with pneumatic drive and scope-free pre-loaded junction rollers
- ㉒ **HUE**  
Sleeve for protection against dirt

## Finger Accessories

- ㉓ **UZB**  
The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.
- ㉔ **BSWS-AR**  
Adapter coupling of jaw quick-change system for fast, manual change of top jaws
- ㉕ **BSWS-B**  
Locking mechanism of the jaw quick-change system for fast, manual exchange of top jaws
- ㉖ **BSWS-A**  
Adapter coupling of the jaw quick-change system for adaptation to the customized finger
- ㉗ **Customized fingers**
- ㉘ **BSWS-ABR**  
Finger blank made of aluminum with interface to the jaw quick-change system  
  
**BSWS-SBR**  
Finger blank made of steel with interface to the jaw quick-change system
- ㉙ **BSWS-UR**  
Locking mechanism for the integration of the jaw quick-change system into customized fingers
- ㉚ **ABR/SBR**  
Finger blanks made of steel or aluminum with standardized screw connection diagram
- ㉛ **ZBA**  
Intermediate jaws for reorientation of the mounting surface

	Position Monitoring						
	MMS 22	MMS-PI 1/2	IN	RMS	FPS	MMS 22 IO-Link	
	 9	 2	 8 15	 5			
<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	6	1	
Operating principle	Magnetic	Magnetic	Inductive	Reed	Magnetic	Magnetic	
IP protection max.	67	67	67	67	67	67	
Supply voltage [V DC]	24	24	24	24	24	24	
Supply current [mA]	<50	<50	<200	<10	<10	<50	
PNP version	●	●	●	●	●	●	
NPN version	●	●	●	●			
LED display	●	●		●		●	
Measurement switching distance [mm]	Not adjustable	Not adjustable	0.8 .. 2.5	Not adjustable	Not adjustable	Not adjustable	
Closer	●	●	●	●	●	●	
Opener			●				
<b>Connection type</b>							
Number of wires	3/44	3/4	3	3	7	3	
Cable version	●	●	●		●		
Connection plug M8 version	●	●	●	●		●	
Connection plug M12 version			●			●	

● = highly suitable/fully supported

○ = suitable in special design (on request)

○ = suitable to a limited extent





### Magnetic Switch MMS – IO-Link



A magnetic switch is used for monitoring the status of automation components. They detect the magnets fixed inside the component without contact. In addition to further process data, the sensor outputs the process of the magnetic field via the IO-Link interface.

### Your benefits:

- **Control via IO-Link** for data evaluation
- **Integrated electronics lead to a compact design**, and allows the use of cables with standard plug-in connectors
- **Suitable for confined spaces** by teaching via IO-Link interface
- **Design with LED display** for status display of the IO-Link connection
- **C-slot sensor** for space-saving, simple and fast assembly on the product

APS-M1			APS-Z80			MMS-A			Workpiece Monitoring OAS		
											
7			6			14					
									•		
•			•			•			•		
•			•			•			•		
•			•			•					
						•					
1			1			1			11		
Mechanical			Inductive			Magnetic			Visual		
67			67			67			67		
24			24			24			24		
<150			<200			<50			<180		
									•		
						•					
Not adjustable			0.5 .. 2			Not adjustable			10 .. 200		
									•		
									•		
3			3			3			3		
•			•						•		
			•			•					
						•					

## Inductive Proximity Switch IN

**Reliable. Contactless. Easy assembly.**

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



## Your benefits:

- **Bracket mounting** for easy and fast assembly
- **Version with LED display** for controlling the switching status 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 is flush mountable** to reduce interfering contours in the application

# All inclusive!

## SCHUNK customized Gripping Systems. Benefit from our Experience.

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

Permanent 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 make full use of this potential. And you benefit from this.

Advice

Project  
planning

Engineering

Implementation

Service





# This will pay off for you!

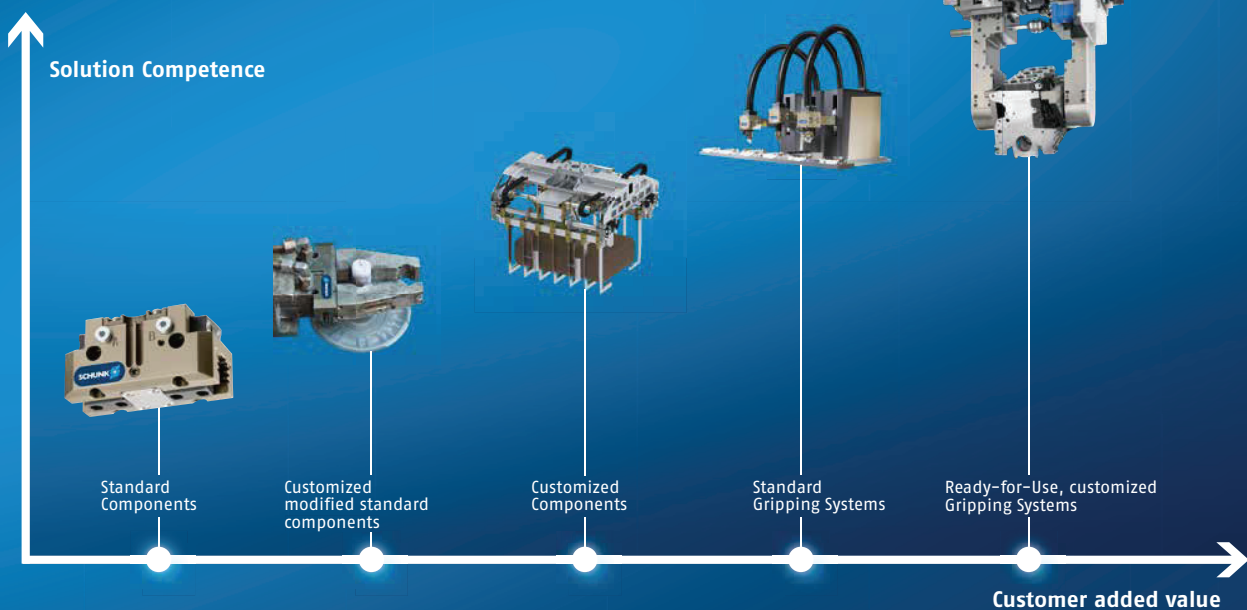
## From standard Components to customized Gripping Systems.

### 1 personal contact for your solution from one source.

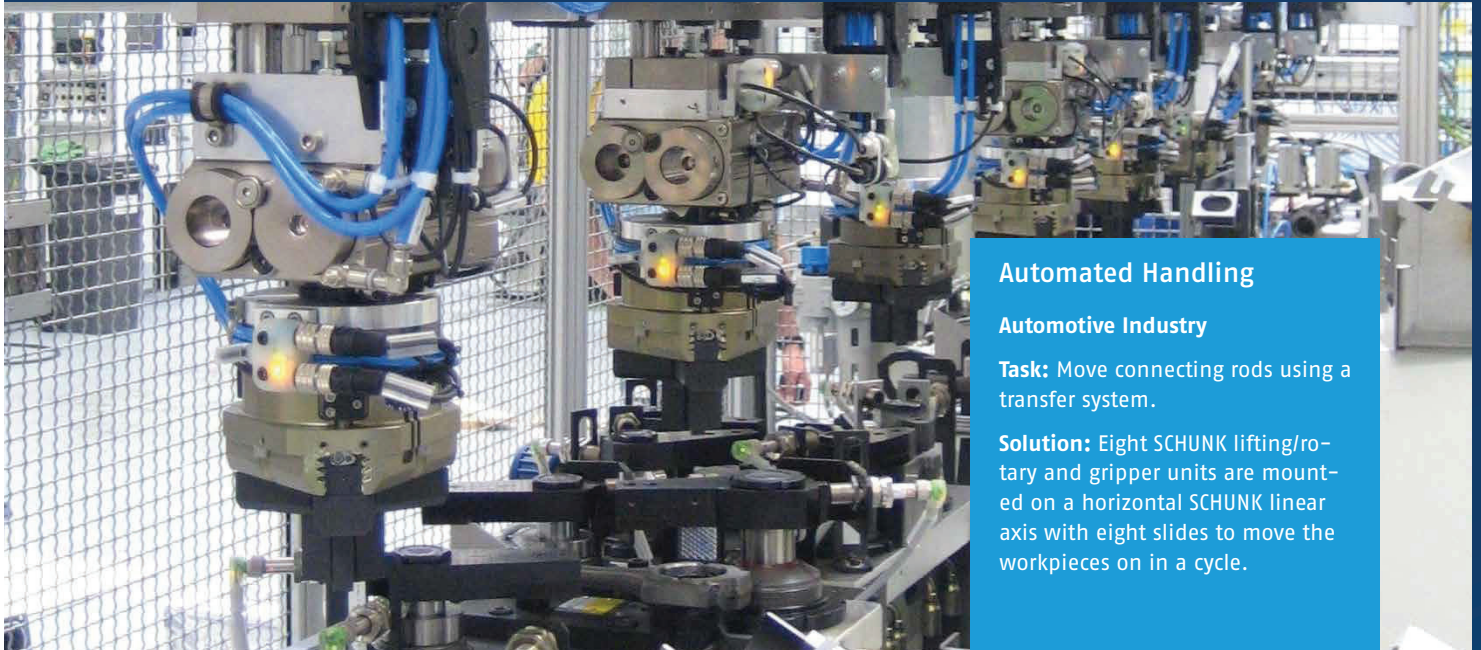
For smooth communications, a personal contact person is available to you from the start of the project until completion. Your contact acts as the liaison between you and those involved in the project, and ensures that information is exchanged smoothly. From planning, to continued support after the conclusion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

### Your added value

- Over 30 years of experience with gripping systems
- Over 12,000 implemented gripping systems for most diverse industries
- The world's largest modular system with perfectly adapted standard components
- Highest accuracy of fit due to standardized interfaces
- Shorter project lead times due to standardized systems
- Process-reliable implementation and planning security without extra project costs
- Functional assembly groups fitted on request or ready for use
- Time savings due to the perfect solution from a single source







## Automated Handling

### Automotive Industry

**Task:** Move connecting rods using a transfer system.

**Solution:** Eight SCHUNK lifting/rotary and gripper units are mounted on a horizontal SCHUNK linear axis with eight slides to move the workpieces on in a cycle.



## Handling of Sand Cores

### Foundry Industry

**Task:** Sand cores with different weights and interfering contours need to be gripped in a process-optimized way.

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



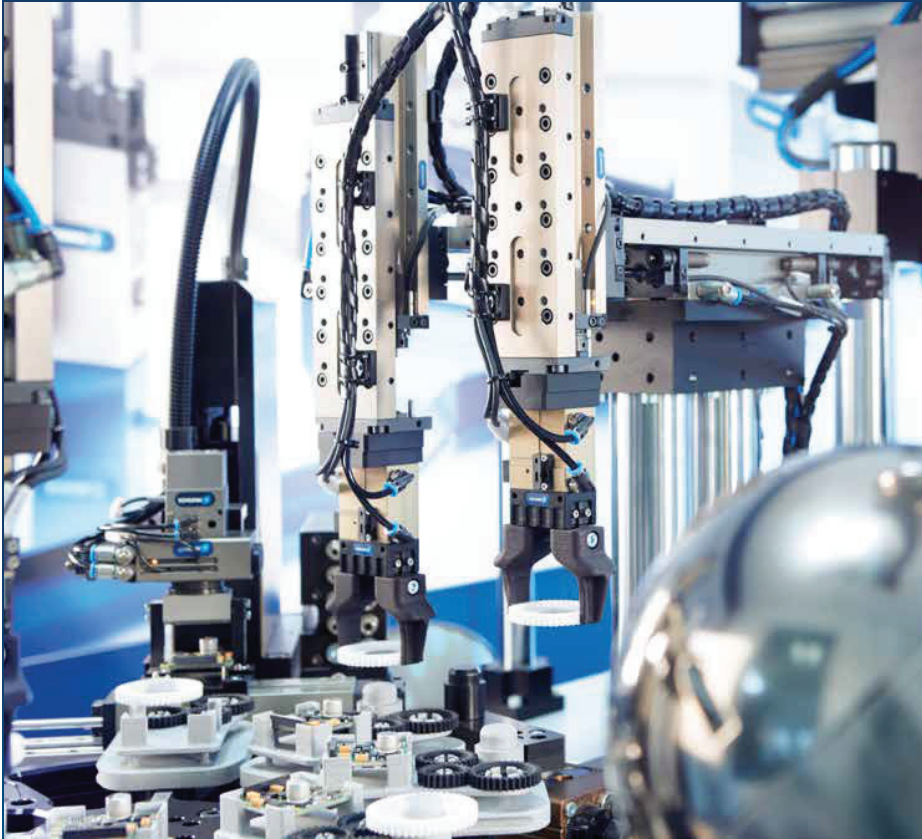
## Conrod Handling

### Automotive Industry

**Task:** To save costs using multiple handling of conrod parts during production.

**Solution:** A especially developed conrod gripper based on a pneumatic SCHUNK universal gripper PGN-plus with special gripper fingers is mounted on a SCHUNK rotary module ERM. 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.





## Handling Plastic Gears

### Plastics Industry

**Task:** Plastic gears must be moved fast and accurately positioned during an assembly process.

**Solution:** Pneumatic and mechatronic SCHUNK Pick & Place units from the SCHUNK modular assembly system come individually designed for use. As well as grippers for small components such as the SCHUNK MPG-plus.



## Handling of Hinge Parts

### Metal Industry

**Task:** Hinge parts have to be reliably transferred to the workpiece carrier in the linear transfer system.

**Solution:** Electric and pneumatic SCHUNK Pick & Place components with pillar assembly system and a compact Pick & Place unit, SCHUNK gripper for small components EGP and 2-finger parallel gripper PGN-plus as well as a swivel unit SRU-mini come available for use.



## Handling of Worm Gear Shafts

### Metal-cutting Industry

**Task:** To remove worm gear shafts in a machining center and store them temporarily before they are machined further.

**Solution:** A customized SCHUNK gripping system solution comprising two pneumatic 2-finger parallel grippers PGN-plus mounted on a SCHUNK swivel head SRH-plus, which take in turns a finished ground part from a clamping device and replace it with a blank. Finish-machined parts are deposited on a pallet, raw parts are gripped from the pallet.

# 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
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### The SCHUNK Gripper Catalog

The world's most comprehensive gripper portfolio of more than 1,800 pages. Order now!



## Gripping Systems

Quantity

### Highlights New Products

Current innovations in SCHUNK Gripping Systems

☐

### Complete Program Gripping Systems

Catalogs SCHUNK Grippers, Rotary Modules, Linear Modules, Robot Accessories

☐

### Catalog SCHUNK Grippers

The compact SCHUNK Gripping Competence on over 1,760 pages

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The whole variety of SCHUNK Linear Modules on over 750 pages

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Cutting-edge technology for rotary movements on more than 610 pages

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### Catalog Robot Accessories

The SCHUNK End-of-Arm Competence on over 830 pages  
The optimum interaction between the robot arm and gripper

☐

### Product Overview SCHUNK Grippers

SCHUNK Gripper at a glance

☐

### Product Overview Rotary Modules

SCHUNK Rotary Modules at a glance

☐

### Product Overview Linear Modules

SCHUNK Linear Modules at a glance

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### Product Overview Robot Accessories

SCHUNK Robot Accessories at a glance

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### Product Overview Modular Assembly Automation

Comprehensive range from the modular system

☐

### Product Overview Mechatronics<sup>3</sup>

Alternative – Adaptable – Intelligent

☐

## Depaneling Machine

### Product Overview Depaneling Machine

Solutions for the complete spectrum of depaneling technology

☐

## Clamping Technology

Quantity

### Highlights New Products

Current innovations in SCHUNK Clamping Technology

☐

### Complete Program Clamping Technology

Catalogs Toolholders, Stationary Workholding, Lathe Chucks, Chuck Jaws

☐

### Catalog Toolholders

The complete precision toolholder range for perfect machining on around 520 pages

☐

### Catalog Lathe Chucks

Lathe chucks for sophisticated machining of world-renowned quality on 650 compact pages

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With 1,200 Types – the world's largest chuck jaw program on over 720 pages

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### Product Overview Lathe Chuck Technology

The whole World of Lathe Chucks

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5-sided workpiece machining in one set-up

☐

### Product Catalog PLANOS Vacuum Clamping Technology

The universal, modular designed clamping system with high holding forces

☐

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☐

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# 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.  
[schunk.com/lehmann](http://schunk.com/lehmann)

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

**681** minutes without a goal  
against him on 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**  
implement hydraulic expansion  
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