

Superior Clamping and Gripping



Highlights Program Gripping Systems

NEW Trends, Innovations and more than 80 No.1 Products





Superior Clamping and Gripping

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

For more information visit our website: www.gb.schunk.com/Lehmann









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

Top Performance in the Team

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

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

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

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

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

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

Heinz-Dieter Schunk

Henrik A. Schunk

Kristina I. Schunk

G. Savenon

SCHUNK Components The right Solution for every Trend.

With pioneering spirit and perfectionism we shape the future of gripping systems.

As trend setters, we are decisive leaders in cutting edge automation topics with our safe, robust and intelligent gripping technology. We accept the challenge and open up new possibilities in sustainable, efficient production automation with our gripping competence and no. 1 products.

More than 2,500 standard grippers

More than **300** mechatronic grippers

More than 12,000 gripping system solutions implemented

More than 1,000,000 products in use worldwide



... in your Automated Handling System



The NEW SCHUNK PGN-plus and PGN-plus-Electric Grippers

The NEW SCHUNK PGN-plus gripper and its mechatronic counterpart, the NEW PGN-plus-Electric – now with NEW permanent lubrication in the multitooth guidance! Experience the new benchmark for universal grippers.



SCHUNK Finger Designer eGRIP NEW: Gripper Finger made of Aluminum and Steel

Additive manufactured gripper finger – in addition to polyamide, now also available in aluminum and steel at the press of a button. With SCHUNK eGRIP, your gripper is designed and ordered in 15 minutes.



Mega Trend Industry 4.0

Intelligent SCHUNK components deliver information, can be networked and are ready for Industry 4.0. Discover the SCHUNK potential for smart production processes.

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

Our superior components can unlock potential you didn't even know you had. In your machine. SCHUNK Synergy – the perfectly harmonized relationship between clamping technology and gripping systems turns our customers into productivity champions ...





The NEW SCHUNK Website – Concentrated Know-how Online

Informative, fast, intuitive. The new SCHUNK web presence sets a benchmark with its exceptional user friendliness and intuitive operation – on desktops, tablets or smartphones.

www.schunk.com



SCHUNK Innovations 2016

Discover SCHUNK benchmark products, innovations and assembly enhancements that are setting standards around the world in our customer's added value chains.



SCHUNK No. 1 Products

Maximize the potential of your machine. With superior SCHUNK components and SCHUNK Synergy – perfectly harmonized interplay between clamping technology and gripping systems.

Awards

With our pioneering spirit and perfectionism, we create the latest developments in gripping systems and clamping technology. Highly recognized and coveted awards and prizes honor the excellent performance of our company, as well as our entire SCHUNK team.

We are proud that our total commitment contributed to gaining these achievements. We want to take this opportunity of saying thank you for the repeated recognition – at both the national and international level.



Dr. Rudolf Eberle Prize 1986 Gripping Systems

EuroMold Award 1998 TRIBOS

2002 SINO-T



iF product design award

1999 TRIBOS

2004 ROTA THW plus

2004 SRU

2005 TANDEM PZS

2009 ZENTRICO THL plus

2011 PHL

2012 ROTA NCL

2015 EGS

Junior Chamber Prize

2005 Junior Chamber Prize 2008 Junior Chamber Prize

Technology Award "Tech-Stars"

2006 3-Finger Dextrous Gripper Hand



Enterprise Medal of the State of Baden-Wuerttemberg
2006 Heinz-Dieter Schunk

A & D Best Product Award 2007 System GEMOTEC



Industry Award

2008 Machine Building: Gripper with Spindle Interface

2008 SWS-I-011

2010 PPU-E

2012 EGP 40 (BEST OF 2012)

2013 NSR Robot Coupling (BEST OF 2013)



MM Award at AUTOMATICA

2008 Dextrous Hand SDH-2

2010 MPG-plus

2012 Powerball Lightweight Arm LWA 4P

2014 SCHUNK Safety System



Innovation Award

German Mechanical Engineering Prize

2008 Heinz-Dieter Schunk





2009 PPU (November 2009) 2010 CFK (August 2010)



Engelberger Robotics Award

2010 Heinz-Dieter Schunk



Bosch Global Supplier Award

2011/2012 SCHUNK GmbH & Co. KG



Preferred Supplier of the Bosch Group

2012 SCHUNK GmbH & Co. KG

2013 SCHUNK GmbH & Co. KG



Training Company of the Year Federal Metal Association

2011 SCHUNK GmbH & Co. KG



red dot award

2013 Powerball Lightweight Arm LWA 4P



MM Innovation Prize – Milestones of the Industry

2015 SCHUNK GmbH & Co. KG

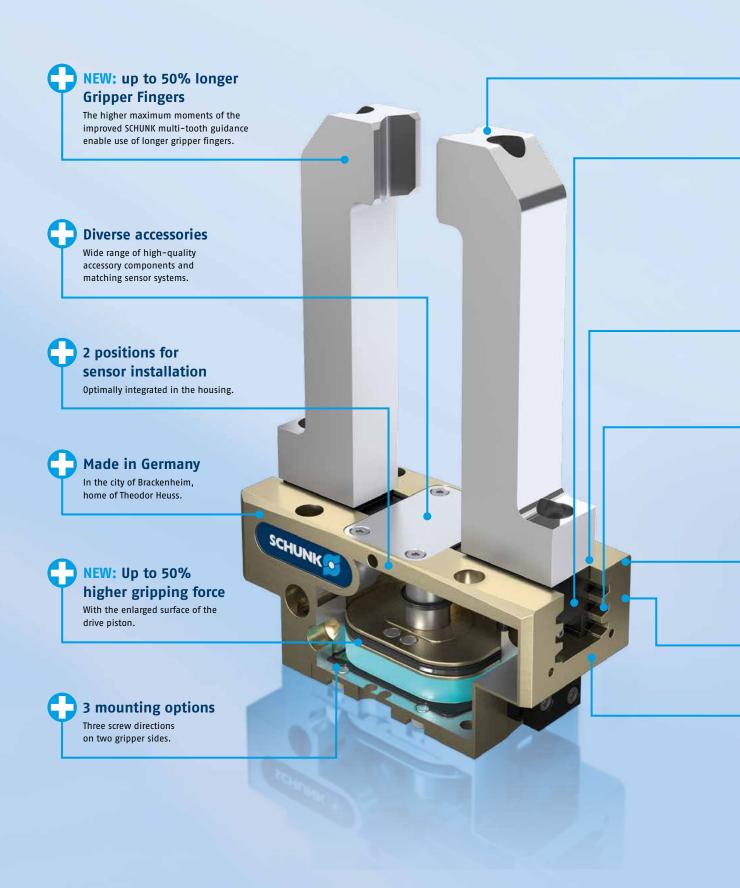


"Entrepreneurial Heart"
WirtschaftsWoche and the company Würth
2016 Henrik A. Schunk



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NEW: Maximum reliable performance with up to 60% larger angled surface

Larger angled surface and therefore lower surface pressure for low-wear transmission of forces to the base jaw for a reliable process.

Design with optimized interfering contours

NEW: Lifelong

Ideal for use in confined spaces.

maintenance-free*
The SCHUNK multi-tooth guidance

with continuous lubricant pockets ensures even, permanent lubrication.

2,120 variations
To meet every requirement.

55 stroke variants

Workpiece weight of up to 80 kg

The NEW SCHUNK PGN-plus Gripper! Now NEW with Permanent Lubrication in the Multi-tooth Guidance!

The NEW PGN-plus with its unique permanent lubrication combines innovative technology with SCHUNK gripping technology that has proven its effectiveness 100,000 times over. It is based on the SCHUNK PGN-plus with multi-tooth guidance, the best-selling premium product at the top of the market. With the technological perfection and unique precision of its multi-tooth guidance, the SCHUNK PGN-plus sets the benchmark for pneumatic universal grippers.

Never before has a gripper been as precise as with the superior multi-tooth guidance from SCHUNK. Now, SCHUNK has equipped the multi-tooth guidance with continuous lubricant pockets. They ensure permanent lubrication as well as a rapid and evenly distributed lubricant film, even with short strokes.

The end result: permanent lubrication increases the already long life span of the SCHUNK perennial, making it practically maintenance-free.

This crucial advantage of the NEW SCHUNK PGN-plus universal gripper is further enhanced by its mechatronic counterpart, the NEW PGN-plus Electric:

- Rapid and even lubricant distribution even with short strokes
- Reduced total cost of ownership (TCO)
- Permanently higher performance
- · More compact, efficient systems
- · Continuously reliable and robust

For more information see

pages 22 to 25

 More than 50 million cycles under normal, clean operating conditions.



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

Designed and ordered in 15 Minutes.

SCHUNK eGRIP is the first fully automatic, web-based 3D design tool for additive manufactured gripper fingers. The license-free, browser-based web tool dramatically shortens design and ordering times for customized gripper fingers.

Your advantages with the SCHUNK eGRIP Finger Designer

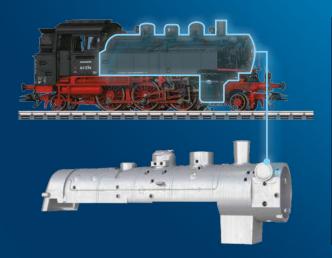
- ✓ Delivered in **1 week**
- √ 100% accurate fitting
- √ 50% cost reduction for gripper fingers



www.egrip.schunk.com

Practical example.

SCHUNK eGRIP also makes it possible to easily achieve **form-fit finger geometries**, which are otherwise difficult or impossible to manufacture.



Cast-iron workpiece

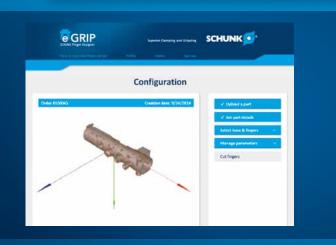
Steam boiler of a model railway locomotive











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





SCHUNK gripper

MPG-plus





Prieumatic SCHUNK gripper NEW PGN-plus



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

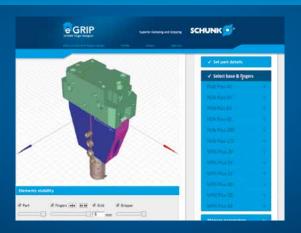
Customized for every user with a choice of three materials. In addition individual gripper fingers made of polyamide, SCHUNK eGRIP now extends the offer to include additive manufactured fingers made of aluminum and steel. An integrated lightweight structure lowers the weight of SCHUNK eGRIP metal fingers by up to 50 percent. More information is available on pages 30 and 31

Now NEW!
Gripper fingers made
of steel and aluminum

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



Delivered in **1 week**



SCHUNK eGRIP designs custom gripper fingers with the **optimal 3D contour** and a detailed offer including **price and delivery time.**



With **SCHUNK eGRIP** you receive custom SCHUNK gripper fingers fast.

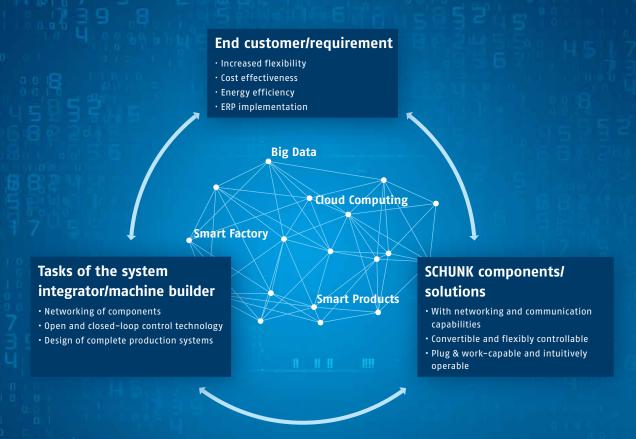
The Mega Trend of Industry 4.0

The term "Industry 4.0" represents an as yet incompletely perceived change in existing production structures and markets. This is because the intermingling of production and information technology within networked factories is creating new forms of wealth creation.

SCHUNK already allows its customers to achieve full potential. Reduction in production costs and set-up times as well as providing efficient, intelligent, mechatronic components from the world's largest product portfolio. This is also our objective for Industry 4.0. With SCHUNK Synergy, the perfectly matched interplay between clamping technology and gripping systems, we are showing our customers new

approaches to designing more efficient and automated production processes. Even today, intelligent SCHUNK components with networking capability provide the basis for flexible production automation. Of course, in close cooperation with machine builders or system integrators, it goes without saying.

Industry 4.0 Networking



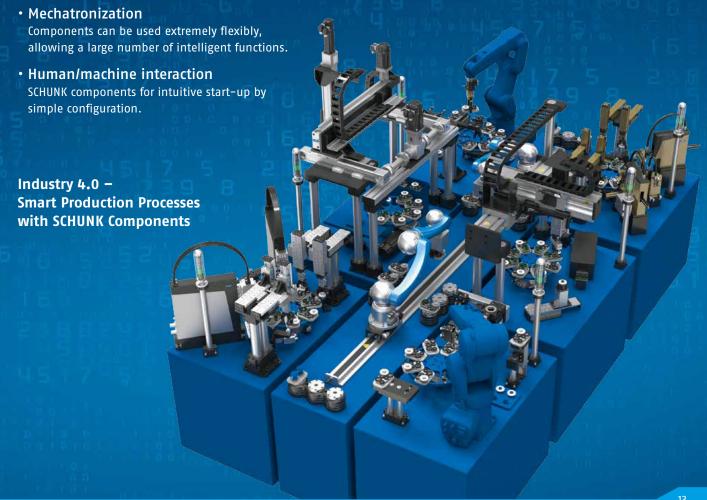
Sustainable Gripping Systems

SCHUNK components achieve more than one task. They supply information. As a partner for end customers, system integrators and machine builders, SCHUNK offers the widest product range for robots and handling solutions capable of delivering information and networking, i.e. Industry 4.0-ready.

The properties are clearly adapted to the needs of industry:

- Flexibility
 Freely positionable SCHUNK components that are quick and intuitive to adjust.
- Communication/interface
 SCHUNK components offer a wide range of communication interfaces for networking.
- Distributed/integrated intelligence
 In this context, SCHUNK is pushing ahead with future topics such as IO-Link and NFC.
- Mobility
 Energy-efficient drives and components developed with an eye to lightweight construction establish important basic preconditions.

- Safety
 Functional safety through certified, safe SCHUNK components.
- Quality assurance monitoring
 SCHUNK components deliver precise information for quality assurance and for monitoring system parameters and process data.
- Conversion capability
 Adaptation of the SCHUNK component to the customer's requirement. You benefit from the ability to configure variants right through to complete customer-specific solutions.



Gripping Meets Robotics

Discover SCHUNK End-of-Arm Expertise! For every Robot, every Industry, every Handling Task.

With its components and gripping systems SCHUNK sets standards worldwide in automation for every sector.

Our robot accessories include a uniquely extensive standard range of modules for the mechanical, sensoric, and power connection of handling devices and robots. The comprehensive range of robust and durable gripping modules for small components and universal gripping modules features high product quality, precision, and numerous sensing options.

With axis system handling solutions SCHUNK also opens up new perspectives for optimally priced and value-added automation solutions from a single source.

Take Advantage of the SCHUNK Modular System with more than 4,000 standard Components.





2,550 components



Universal rotary unit SRU-plus



Moving 450 components

Turning 600 components



Rotary module ERS



Force / torque sensor FTNet

Measuring 150 components

Compensating 90 components

Feed-through

50 components



Compensation unit AGE-F

Monitoring 60 components

Changing

100 components



Collision and overload sensor OPR



change system HWS

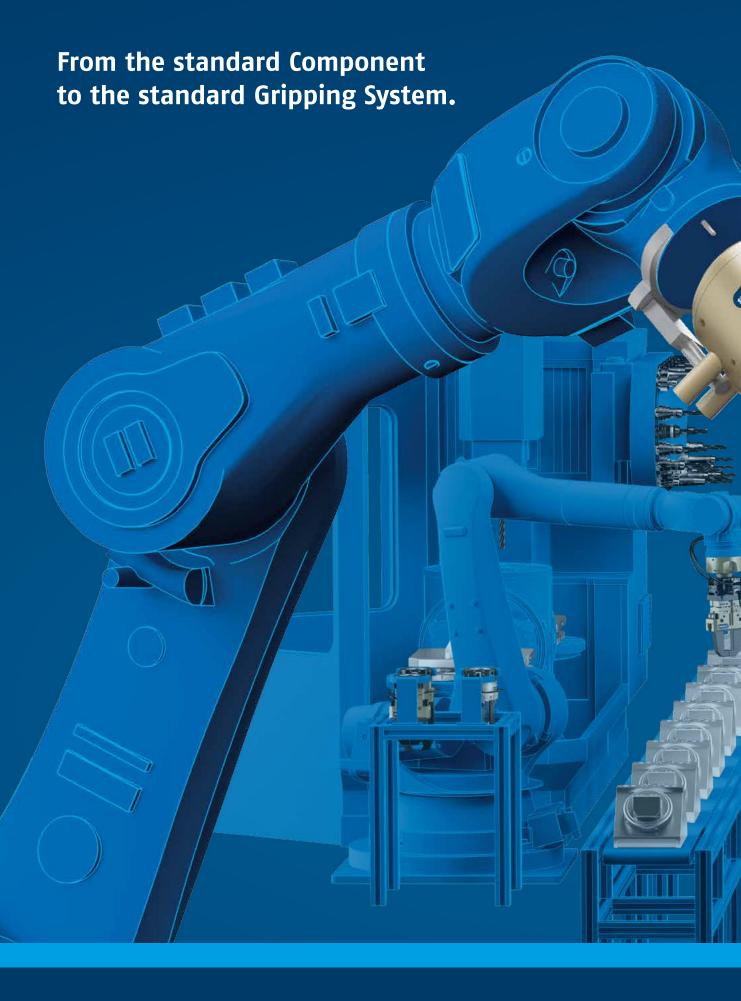


quick-change system SWS



Rotary feed-through DDF 2

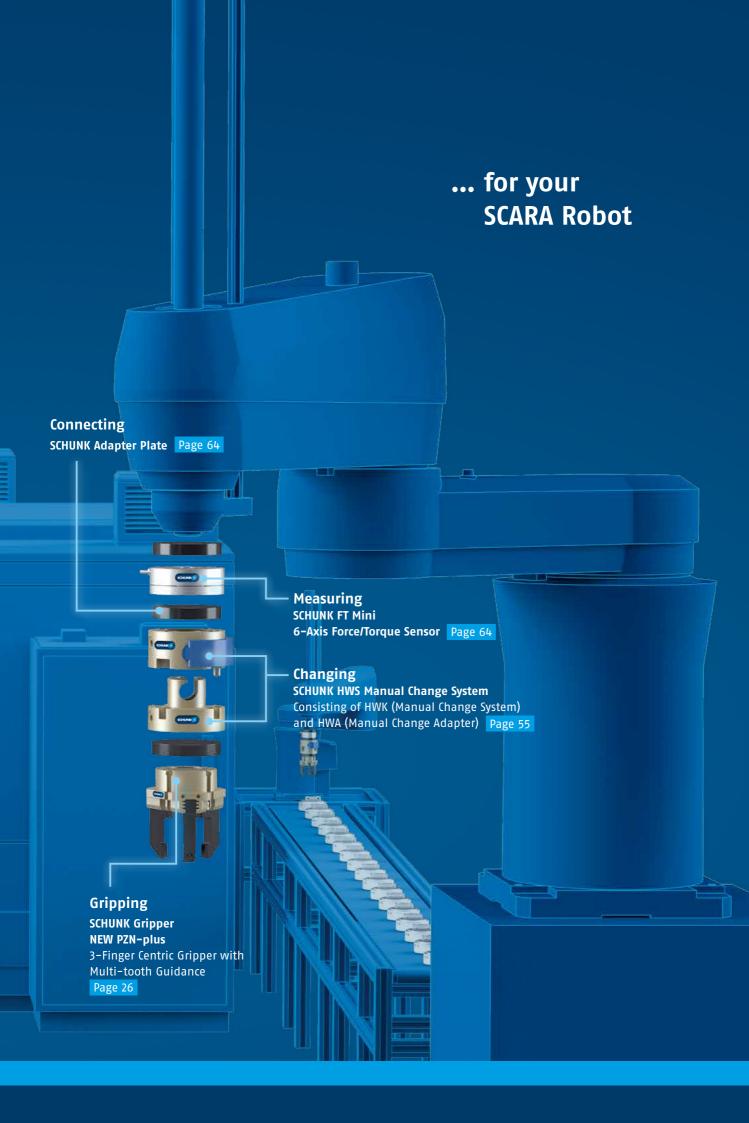
The SCHUNK End-of-Arm E

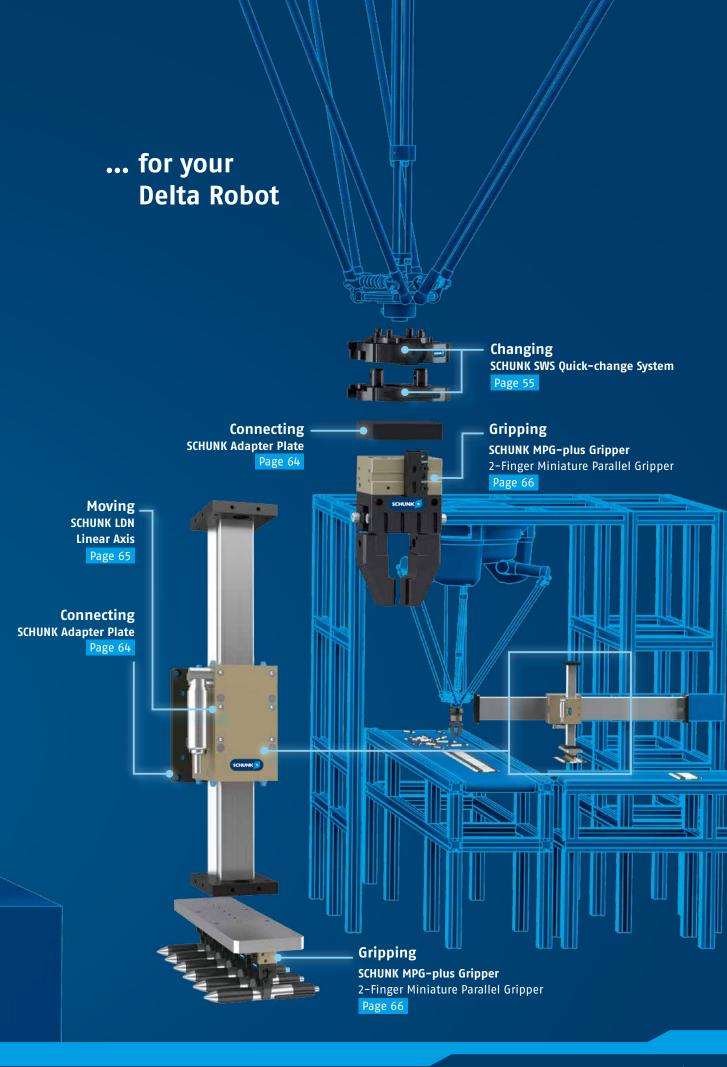


xpertise ...

... for your articulated arm robot







NEW www.schunk.com Informative, Fast, Intuitive.

The NEW SCHUNK website has arrived! With concentrated know-how and a modern design, it sets the benchmark with its high user friendliness and intuitive operation. On desktops, tablets or smartphones – allowing you to get easily oriented and find the suitable components for your project quickly. All the relevant, technical information, available up the variant level. You can find technical data and CAD files in 2D and 3D formats as well as application pictures and videos, catalogs, operating manuals and accessories.

In short: one extremely valuable click for you.



New Products

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The NEW SCHUNK PGN-plus 2-Finger Parallel Gripper. The world-proven Gripper on the Market – Now with NEW Permanent Lubrication in the Multi-tooth Guidance. Lifelong maintenance-free* Guaranteed!

Improved multi-tooth guidance and new permanent lubrication

The NEW SCHUNK PGN-plus is raising the bar even higher for pneumatically powered universal grippers. The NEW SCHUNK PGN-plus has three new technical features bringing it to its top position. Firstly, improved multi-tooth guidance. By enlarging supporting dimensions between the six load-bearing shoulders of the patented multi-tooth guidance, higher moments can be accommodated and thus up to 50% longer fingers can be used. Secondly, permanent lubrication is provided via continuous lubrication pockets in the guidance. For short strokes in particular, the principle of minimum quantity lubrication ensures an especially quick and even distribution of the lubricant so that the gripper is maintenance-free under normal, clean ambient conditions.

Power right down to the fingertips

Thirdly, the NEW SCHUNK PGN-plus has an enlarged drive piston area, whereby gripping force is increased by up to 50%. The NEW SCHUNK PGN-plus benefits from a unique accessory program. Virtually the entire spectrum of conceivable automation applications can be mastered with process reliability using the universal modular gripper system. With the NEW PGN-plus, SCHUNK is underscoring its long-life functional warranty, robustness and reliability as well as precision in the µm range. In the first step, the new gripper benchmark is being introduced in sizes 50 to 125. Expansion to all existing PGN-plus unit sizes is planned.

Benefit from the advantages:

- up to **50%** longer gripper fingers
- up to **120%** higher finger load
- up to **50%** higher gripping force





The NEW SCHUNK PGN-plus Gripper!

Improved multi-tooth guidance with permanent lubrication, higher maximum moments and force.

* More than 50 million cycles under normal, clean operating conditions.

The NEW PGN-plus

SCHUNK Grippers

Series expansion

Available in size 64: from August 2016 | sizes 50, 80 - 175: from September/October 2016







Weight 0.17 kg .. 1.35 kg



Gripping force 160 N .. 2,780 N



Stroke per finger 2 mm .. 13 mm



Workpiece weight 0.8 kg .. 13.9 kg

Product features

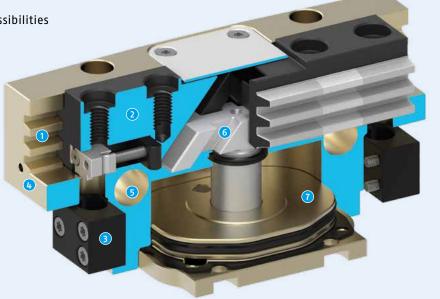
- Improved SCHUNK multi-tooth guidance with enlarged supporting dimension
- · Increased moment and force absorption
- Lubricant pockets with flat lubricating wedge in the multi-tooth guidance
- · Enlarged drive piston surface
- · Improved degree of efficiency and wear reduction
- · Precise repeat accuracy 0.01 mm

Your advantage

- Use of up to 50% longer gripper fingers due to higher maximum moments
- Handling of higher workpiece weights through up to 50% increased gripping force
- Rapid and even lubricant distribution even with short strokes
- · Reduced total cost of ownership (TCO)
- · Permanently higher performance
- · More compact, efficient systems
- · Continuously reliable and robust

Function cross section

- 1 Multi-tooth guidance
- 2 Base jaw
- 3 Mounting for sensor
- 4 Housing
- 5 Centering and mounting possibilities
- 6 Wedge hook principle
- 7 Piston drive



The NEW SCHUNK PGN-plus-Electric Gripper. The First Simple Electric Gripper with Multi-tooth Guidance, Digital Actuation, and 24 V Drive.

Mechatronic universal genius

Due to the NEW SCHUNK PGN-plus-Electric, SCHUNK is transferring the service package for the NEW SCHUNK PGN-plus pneumatic universal gripper to the electrical handling area. Like its pneumatic role model, the NEW SCHUNK PGN-plus-Electric also has improved multi-tooth guidance for the accommodation of higher maximum moments, a continuous lubrication pocket in the guide contour, and the proven diagonal-pull kinematics with a high surface coverage in all stroke positions. The mechatronic universal gripper is powered by a brushless DC servo motor. Therefore, permanently high process stability and a long service life with minimal maintenance requirements are ensured. The NEW SCHUNK PGN-plus-Electric benefits from a unique accessory program. Virtually the entire spectrum of conceivable automation applications can be mastered with process reliability using the universal modular gripper system.

Fully integrated control and power electronics

The mechatronic universal gripper makes the switch from pneumatic to electric components particularly easy: it has an identical screw connection pattern to its pneumatic counterpart, and the 24–V gripper is easily controlled via digital I/O. Up to two gripping positions can also be monitored by means of an additional M8 standard connection. The required control and power electronics are already completely integrated into the compact module, so that no space is taken up in the control cabinet. Neither extensive mechatronic know-how nor additional programming are necessary for commissioning. The gripping force of the NEW SCHUNK PGN-plus-Electric can be adjusted in four stages. The gripper will initially be available in size 80. Other sizes are planned.

Benefit from the advantages:

- up to **50%** longer gripper fingers
- up to **120%** higher finger load
- easy digital actuation and gripping force adjustment



The NEW SCHUNK PGN-plus-Electric Gripper!

Proven multi-tooth guidance with permanent lubrication, higher maximum moments and adjustable gripping force.

The NEW PGN-plus-Electric

SCHUNK Grippers

New product

Series expansion

Available from September 2016







Weight 1.01 kg



Gripping force up to 570 N



Stroke per finger 8 mm



Workpiece weight up to 3.0 kg

Product features

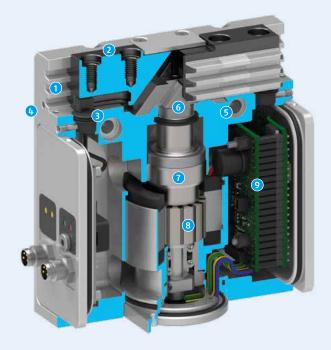
- · Fully integrated control and power electronics
- The gripping force can be adjusted over four stages
- Improved SCHUNK multi-tooth guidance with enlarged supporting dimension
- · Increased moment and force absorption
- · Lubricant pockets with flat lubricating wedge in the multi-tooth guidance
- · Brushless DC servomotor
- · Proven diagonal pull kinematics with higher surface coverage in the end positions
- Improved degree of efficiency and wear reduction
- Precise repeat accuracy 0.01 mm

Your advantage

- · Easy commissioning and rapid integration into existing systems
- · Use of up to 50% longer gripper fingers due to higher maximum moments
- · More space in the control cabinet as an external controller is no longer needed
- · Handling of higher workpiece weights through up to 50% increased gripping force
- · Rapid and even lubricant distribution even with short strokes
- · Reduced total cost of ownership (TCO)
- · More compact, efficient systems

Function cross section

- 1 Multi-tooth guidance
- 2 Base jaw
- 3 Sensor system
- 4 Housing
- 5 Centering and mounting possibilities
- 6 Wedge hook principle
- 7 Spindle nut
- 8 Drive
- Electronic control unit



The NEW PZN-plus 3-Finger Centric Gripper. Now NEW with Permanent Lubrication in the Multi-tooth Guidance. Lifelong maintenance-free.* Guaranteed!

New benchmark with centric grippers

The NEW SCHUNK PZN-plus centric gripper is now also equipped with a permanent lubrication unit in the multitooth guidance which, under normal, clean working conditions, ensures lifelong maintenance-free operation. With short strokes in particular, the continuous lubricant pockets produce an especially fast and even distribution of lubricant along the entire multi-tooth guidance contour. As with the NEW PGN-plus, the supporting dimensions between the six load-bearing shoulders of the patented multi-tooth guidance have been enlarged, so that higher moment can be accommodated and longer fingers can be used. In order to ensure a perfect accuracy of fit, each individual base jaw is carefully ground manually and fitted to its housing individually. In addition, the large piston drive area produces maximum gripping force. Compared with conventional T-slot guided centric grippers, the new SCHUNK PZN-plus enables up to 50% longer gripper fingers and a finger load up to 120% higher.

Comprehensive accessories

As part of the universal SCHUNK gripper module, the NEW SCHUNK PZN-plus centric grippers benefit from a range of accessories that is unique in its scope. Virtually the entire spectrum of conceivable automation applications can be achieved in a reliable process, from machine and system loading in the machining industry and foundries through to assembly applications in the automotive and electrical industries as well as to sensitive handling tasks in medical technology and the pharmaceutical industry. The universal grippers are equally well-suited for use in areas with high temperatures, contamination, aggressive media, as well as for clean rooms. Optionally, the energy supply can be connected with screws or by using a hose-free direct connection.

Benefit from the advantages:

- up to **50%** longer gripper fingers
- up to **120%** higher finger load
- up to **50%** higher gripping force





The NEW SCHUNK PZN-plus Gripper!

Improved multi-tooth guidance with permanent lubrication, higher maximum moments and force.

 More than 50 million cycles under normal, clean operating conditions.

The NEW PZN-plus

SCHUNK Grippers

Series expansion

Available from April 2017







Weight 0.27 kg .. 3.34 kg



Gripping force 325 N .. 8,450 N



Stroke per finger 2 mm .. 13 mm



Workpiece weight 1.65 kg .. 29 kg

Product features

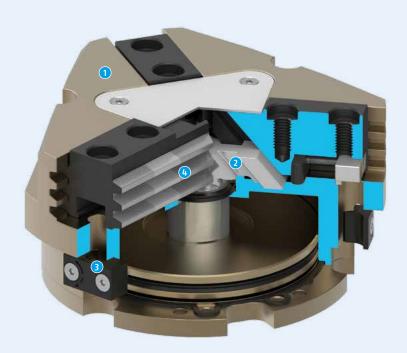
- Improved SCHUNK multi-tooth guidance with enlarged supporting dimension
- · Increased moment and force absorption
- Lubricant pockets with flat lubricating wedge in the multi-tooth guidance
- · Enlarged drive piston surface
- Improved degree of efficiency and wear reduction
- · Precise repeat accuracy 0.01 mm

Your advantage

- Use of up to 50% longer gripper fingers due to higher maximum moments
- Handling of higher workpiece weights through up to 50% increased gripping force
- Rapid and even lubricant distribution even with short strokes
- · Reduced total cost of ownership (TCO)
- · Permanently higher performance
- · More compact, efficient systems
- · Continuously reliable and robust

Function cross section

- 1 Housing
- Wedge hook principle
- 3 Sensor system
- Multi-tooth guidance



EGL 90 2-Finger Parallel Gripper. Intelligent Powerhouse for Handling and Assembly.

Optimal combination of power and intelligence

The SCHUNK EGL 90 2-finger parallel gripper, with a variable gripping force between 50 and 600 N is one of the most powerful and flexible mechatronic grippers on the market. Since the finger position, closing speed, and gripping force are freely programmable within a maximum stroke of 42.5 mm per finger, diverse components up to 3 kg can be precisely handled and are force-fit gripped. The gripper fingers can be prepositioned to reduce cycle times. A brushless servomotor ensures continuous and reliable operation with no maintenance required. To maintain the position in the event of a power outage the gripper features an electrically operated brake.

Fast commissioning

The entire control and power electronics of the EGL 90 are integrated to save space and to allow decentral operation and even mobile use, due to the 24 V DC operating voltage. Standard Profibus DP and CAN bus interfaces allow fast and easy integration in higher level system controllers. The gripper also features a USB-port as a service interface. Since the EGL 90 fulfills industrial standards and the basic version is connected only by means of industrial connectors, installation time is reduced to a minimum.





Highly flexible!

Intelligent powerhouse with variable gripping force adjustment.







Weight 1.8 kg



Gripping force 50 N .. 600 N



Stroke per finger 42.5 mm



Workpiece weight 3 kg

Product features

- Freely programmable finger position, closing speed, and gripping force
- Pre-positionable gripper fingers
- · Completely integrated control and power electronics
- 24 V DC operating voltage
- · Mobile use possible
- · Standard interfaces Profibus DP and CAN bus
- Service interface with USB-port
- · Brushless servomotor

Your advantage

- Fast and easy integration in higher level system controllers
- · Long-term reliable operation with no maintenance costs
- · Reduced assembly time due to industrial standards

Function cross section

- 1 Control electronics
- 2 Encoder
- 3 Electric brake
- O Drive
- **5** Kinematics
- 6 Service window





SCHUNK Finger Designer GRIP Individual Gripper Fingers at the Press of a Button – Now also in Aluminum and Steel.

Lightweight design included

With its web-based 3D design tool SCHUNK eGRIP, in addition to individual gripper fingers made of polyamide, it is now also possible to design and order additive manufactured fingers made of aluminum and steel in less than 15 minutes. After entering just a few details and uploading the workpiece data as a STEP or STL file, the SCHUNK eGRIP license-free online tool has enough information to calculate individual gripper fingers with optimum 3D contour and to create a detailed offer with price and delivery time within seconds. To reduce the weight at the tool center point, the aluminum and steel fingers include a standard integrated grid structure. Compared to conventionally manufactured gripper fingers, this allows for a weight savings of between 10 and 50%. The effects are clearly noticeable, especially with steel. Using a volume-based price model, SCHUNK can pass on the cost benefits of additive manufacturing for aluminum and steel to the consumer: the smaller the finger, the more affordable the price.

Innovative ordering process

New to the ordering process: the automatically saved offer can be retrieved at a later point in time, further edited or requested via e-mail by using the configuration number. The external contour of the generated modules, consisting of gripper, top jaws and workpiece, can also be downloaded free of charge as an STL file and used directly for the construction of the system. Follow-up orders are just as easy: any orders that are made can be activated again or adjusted at any time.







Pneumatic SCHUNK gripper NEW PGN-plus

Integrated Lightweight Design!

Immediately available



Available for SCHUNK

PGN-plus 40 .. 125

MPG-plus 20 .. 64

EGP 25 .. 50

Product features

- · Additive manufacturing method
- Materials: polyamide 12 (PA 2200 or 2201), aluminum (AlSi10Mg), steel (1.4404)
- Metal finger able to be configured and manufactured with high rigidity
- Design and ordering time under 15 minutes
- · Quick availability

Your advantage

- The manufacture of gripper finger contours that are otherwise impossible or time-consuming to achieve with conventional machining
- Less expenditure of force and no clamp marks due to form-fit clamping
- Simple and fast design and production of fingers for complex workpieces
- Weight and volume reduction of up to 50% due to automatic savings in materials due to the grid structures in the design

Gripper finger material design

- 1 Steel and aluminum
- 2 Black polyamide
- 3 White polyamide







EGS Rotary Gripping Unit. The world's most compact electric Rotary Gripping Unit.

The new efficiency class in small component handling

The SCHUNK EGS electric rotary gripping unit makes the switch to pneumatic handling solutions easy. It is the first unit to combine electric gripping and rotation in a single compact housing. The low-maintenance and attractively priced 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. The module is equipped with stationary, brushless and therefore wear-free 24 V DC motors. It requires no moving cables, slip rings or shock absorbers, which increases the process stability and availability of assembly systems.

Extremely easy commissioning

Both the angle of rotation and the gripping force can be adjusted independently of each other directly at the module. Monitoring is possible via inductive proximity switches. The module is controlled directly/digitally or via a fieldbus distributor. The entire control and power electronics for decentral control of the motors are integrated directly in the module. This eliminates the need for external controllers and additional programming. The SCHUNK EGS features a torque of 0.04 Nm and a freely definable angle of rotation between 40° and 290°. The gripping force is 30 N, the stroke/jaw 3 mm. The swiveling time is 0.18 s/180° and the gripping time is 0.05 s/stroke.







Fast!

The swiveling time amounts to 0.18 s/180°, gripping time is 0.05 s/stroke.

Available from September 2016



Size 25



Gripping force 30 N



Stroke per jaw 3 mm



Torque 0.04 Nm



Workpiece weight 0.15 kg

Product features

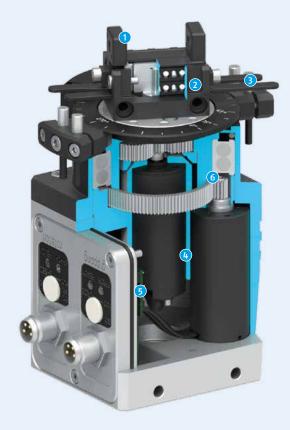
- Small dimensions of 58 mm x 45 mm x 89 mm
- Backlash-free pre-loaded junction roller guides for high-precision gripping and virtually constant gripping forces over the entire finger length
- Swiveling time 0.18 s/180°
- Gripping time 0.05 s/stroke
- Freely definable angle of rotation between 40° and 290°
- Brushless 24 V DC motors
- 4 digital inputs (open gripper, close gripper, rotate left, rotate right)
- · Controlled with 24 V

Your advantage

- · Fast conversion to pneumatic-free handling
- Convenient configuration without external controllers and additional programming
- Gripping and rotating with one extremely compact module
- · Easy, fast commissioning

Function cross section

- 1 Base jaw
- 2 Junction roller guide
- 3 Monitoring
- O Drives
- **5** Control electronics
- 6 Patented gear coupling



ERD Rotary Module. The only Torque Motor with integrated Air Feed-through and Absolute Stroke Measuring System on the Market.

Complete module SIL 2-certified

The SCHUNK ERD rotary module is the first endlessly rotating and SIL 2-certified miniature module especially designed for assembly applications in the electronics, consumer goods and pharmaceuticals industries. It is equipped with two integrated air feed-throughs, four electrical feed-throughs, and a SIL 2-certified absolute stroke measuring system. The module makes it possible to implement space-saving, high-torque, high-speed assembly systems that even meet the demanding requirements of the new machinery directives. The rotary module is driven by a brushless synchronous motor with permanent excitation.

Time saving on system restart

Its special geometry ensures high dynamic properties and acceleration. In addition, pneumatic actuators connected to it can be actuated faster because of the optimized air feed-throughs. Both factors taken together ensure short cycle times and high productivity. The absolute-value transducer means that there is no need for time-consuming reference runs either when starting up or after an emergency off; furthermore, the repeat accuracy, specified as 0.01°, also benefits. A large number of pole pairings in the module ensures that it generates a high rated torque of up to 1.2 Nm even at low RPM values. The module has a long service life because it contains hardly any wearing parts.





With absolute stroke measuring system!
Use in functional safety areas up to SIL 2.



Sizes 04 .. 12



Nominal torques 0.4 Nm .. 1.2 Nm



Repeat accuracy 0.01°



Air feed-through



Electrical feed-through

Product features

- · Endlessly rotating miniature module
- SIL 2-certified
- Absolute stroke measuring system with SIL 2-certification
- · Pneumatic and electrical feed-throughs
- Brushless synchronous motor with permanent excitation
- · Large number of pole pairings
- Bosch–Rexroth IndraDrive CS or IndraDrive Advanced drive control units
- Optionally available in protection classes IP40 or IP54

Your advantage

- · High acceleration due to special motor geometry
- · Shortest cycle times due to high dynamics
- No reference runs when starting up the system or after emergency stop situations due to an absolute stroke measuring system
- Faster actuation of the actuator in high-speed applications because of optimized air feed-throughs

Function cross section

- 1 Motor connector
- 2 Absolute-value transducer connection plug
- 3 Primary part
- 4 Secondary part
- 5 Air and electrical feed-throughs
- 6 Screw connection



ELP Linear Module. The easiest electric Linear Module on the Market to adjust.

Easy commissioning in only two steps

The SCHUNK ELP linear module is the new technological benchmark for use in modular assembly. Ready for operation in only two work steps. All you need to do is to adjust the end positions mechanically with a screw and the speed of extension and retraction using rotary switches on the side. The SCHUNK ELP features an auto-learn function which allows the speed to be automatically configured according to the add-on weight. In this way, incorrect configurations can be compensated for. Since the low-maintenance 24 V linear direct drive also automatically regulates the brake process, there is no need for shock absorbers. What are the benefits you ask? The SCHUNK ELP is practically wear-free and is therefore robust, with a long service life. You do not have to worry about adjusting of any shock absorbers.

Compact and convenient

The control and power electronics are directly integrated into the module, so you can configure the SCHUNK ELP without any external controllers or additional programming, making it much easier for you. The module can be decentrically controlled via a fieldbus distributor or simply via digital signals just like with pneumatic valves, which doesn't require any know-how in mechatronics. The highly flexible SCHUNK ELP boasts repeat accuracy of ±0.01 mm, making it ideal for assembly automation demanding high precision. The module makes it easy to change from pneumatic to mechatronic components.





Unique auto-learn Function!
Speed adjustment in 2 to 5 strokes.





Weight
1.8 .. 8.3 kg



Stroke 30 .. 200 mm



Rated force



Repeat accuracy ±0.01 mm

Product features

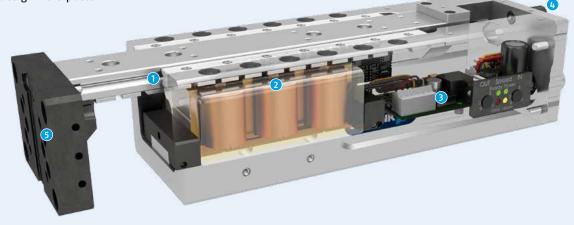
- Repeat accuracy ±0.01 mm
- Low-maintenance 24 V linear motor drive
- · Mechanical end position adjustment
- Adjusting speed of extension and retraction using rotary switches
- Drive and control with auto-learn function completely integrated into module
- · Control via fieldbus distributor or digital I/O

Your advantage

- Fewer wearing parts and longer maintenance intervals as there are no hydraulic shock absorbers
- Reduction of commissioning expenditure due to automatic speed settings
- High load handling and end position precision in all assembly positions due to play-free junction roller guides

Function cross section

- 1 Roller guide
- 2 Drive
- 3 Electronic control unit
- 4 Connecting plug
- 5 Modular design hole pattern



New modules for the SCHUNK Pillar Assembly System. Greater Flexibility and simple Adjustment of the Handling Units.

More than 10,000 possible combinations

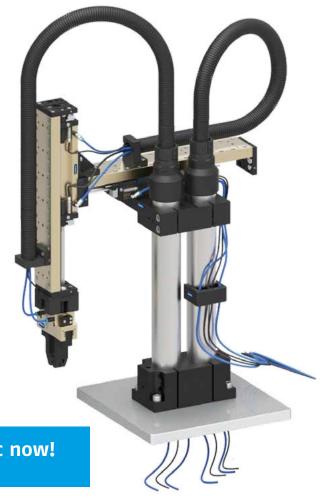
SCHUNK offers the most extensive range of modules in the world for high-performance assembly. The heart of the design is the pillar assembly system that is unique in scope with numerous standardized pillar profiles, adapter plates, centering and connection elements. New assembly sections and innovative media routing now expand the possible applications of the system. With the new modules in the SCHUNK pillar assembly system, it is now possible to achieve complete ranges more cost effectively and economically without sacrificing flexibility and precision.

Quick and easy media routing from the modular system

By integrating various standard elements into the modular system, SCHUNK now offers all media routing possibilities. For one thing, hoses and cables can be routed directly through the pillar. For another, these can be clipped onto the pillars in a time-saving and reliable process.

More versatile and more economical

The SCHUNK APEA mounting plate allows compact structures even directly above a single pillar. The SCHUNK AMEH/AMDH and SCHUNK AMEV/AMDV mounting plates, for their part, extend the already highly versatile range of combination options in the modular system. In the SCHUNK AMEH/AMDH, the mounting surface is arranged horizontally and at right angles to the pillar. In the SCHUNK AMEV/AMDV, the mounting surface is vertical and thus arranged parallel to the pillar. The SCHUNK STG split set collar which facilitates the complete assembly is also new. Fitted below the elements, it can be used for fine positioning of the height of the elements by means of screws. The set collar is in two pieces and can be reused for other positions afterwards. All elements are equipped with additional threads to make the assembly more versatile. This means brackets, cable ducts or those clamps can be attached during set-up.



Even more economic now! Modules for greater flexibility.

SCHUNK Pillar Assembly System

Modular Assembly Automation

New product

Series expansion

Immediately available





Pillar diameter 20 .. 55 mm

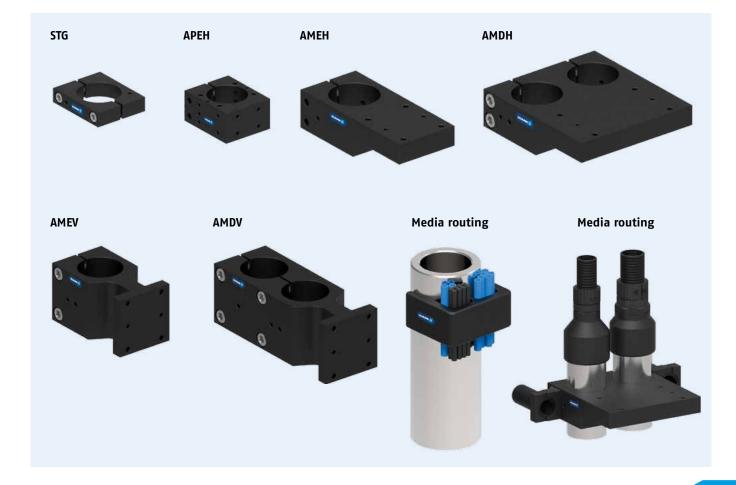
Number of module elements

Product features structural element

- Depending on the assembly element, the assembly could be easily expanded in parallel, orthogonal or directly above the pillars
- · Ground and hard-chromium plated steel pillars
- Precise shape and positional tolerances
- Three pillar diameters \emptyset 20, 35, and 55 mm
- Assembly and centering holes for simple and precise fitting exchange
- Additional thread for mounting further elements such as brackets, cable ducts or hose clamps

Product features media routing

- Simple and ingenious system for handling modules
- For pillar diameters Ø 35 and 55 mm



AGI Compensation Unit. The world's first intelligent and sensitive Compensation Unit with Power Control.

Constant process force at the front end

With its integrated real-time power control, the SCHUNK AGI sensitive compensation unit defines a new benchmark in SCHUNK's robot accessory range. It gives robots and axial systems a precise tactile sense at the front end. Without having to adjust or perform detailed programming regarding the traverse path, the intelligent module ensures the previously defined power directly upon contact with the workpiece. As regulation is decentralized without the involvement of the system control, high traverse speeds along a workpiece contour are possible. Here, the defined parameters are adhered to precisely and the maximum value is never exceeded. There is consistent compensation for workpiece tolerances or positions. Furthermore, serial gravitation compensation makes sure that the precise function is guaranteed even if the orientation changes.

Reduction in cycle time

The SCHUNK AGI minimizes the programming effort, prevents damage to the tool or the workpiece and can bring about considerable savings in the cycle time. Whether you are glueing, assembling, inserting, depositing or stacking, the module often pays for itself within a very short period of time. It is even possible to handle sensitive parts operating at maximum performance. It can be used with all standard robots. Communication is via Ethernet TCP. Profinet, analog I/O, CAN bus, Ethernet XML, Modbus TCP or Profibus are also possible.



In real time!

Constant process force ensured at the first go.

Available from the 4th quarter of 2016



Sizes 111-01 111-04 131-10



Forces 3 N .. 100 N 6 N .. 200 N 24 N .. 800 N



Minimal power 3 N 6 N 24 N



Compensation stroke 11.5 mm 35.5 mm 98 mm



65

65

IP protection class 65

Product features

- · Combined pneumatic and electrical drive
- · Power-controlled flexibility
- · Permanent power control
- Integrated gravitation compensation
- Communication via all conventional bus systems such as Ethernet TCP/IP or Profinet

Your advantage

- Handling sensitive workpieces such as those made of glass
- Significantly easier programming of robots and gantry axes due to workpiece contact signal
- Reduction of programming work with different applications
- · Higher flexibility with workpiece tolerances

Function overview

- 1 Protective sleeve for up to IP65
- Compensation stroke
- 3 ISO flange pattern for end effectors
- ISO flange pattern for easy mounting to robots



SHS Manual Change System. With integrated Monitoring of Locking and Presence Control.

Manual changing system with extensive equipment

The SCHUNK SHS quick-change system sets a new standard for manually operable tool changers for robots. It has a space-saving locking mechanism and offers numerous possibilities for the feed-through of air, vacuum, and signals. A large number of air feed-throughs in relation to the size, which can be connected both axially and radially, opens up ample leeway in system planning. Large cross-sections also ensure a high air flow and quick actuation of the actuators. In the process, special gaskets ensure a seal that is so tight that the system can also be used for the connection of a vacuum.

Extensive line of options

The SCHUNK SHS can be optionally equipped with an integrated tool presence control and a locking query. Various electrical feed-throughs from the SCHUNK standard program can be connected for the delivery of signals to the modules by means of a flange provide as standard equipment. The non-corrosive manual changing system is available in six sizes (40 to 125) with four to 12 air feed-throughs. It is equipped with hole patterns for SIO flanges for simple assembly on the robot arm. SCHUNK has expanded its portfolio for quick-change tools with this series.



Robust!

Non-corrosive lock bolt and with ISO flange pattern.





Handling weight up to 75 kg



Moment loading up to 320 Nm



Air feed-throughs 4 .. 12



Repeat accuracy < 0.02 mm

Product features

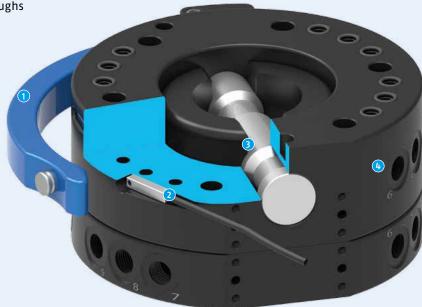
- Integrated monitoring of locking and presence monitoring
- · Integrated air feed-throughs
- · Non-corrosive as standard
- ISO flange pattern

Your advantage

- Feeding through of compressed air and vacuum possible with special gaskets
- Comfortable operation even in the most constrained spaces with hinged locking lever

Functional cross section

- 1 Hand lever for intuitive locking and unlocking
- 2 Integrated lock monitoring
- 3 Non-corrosive lock bolts
- Integrated air feed-throughs



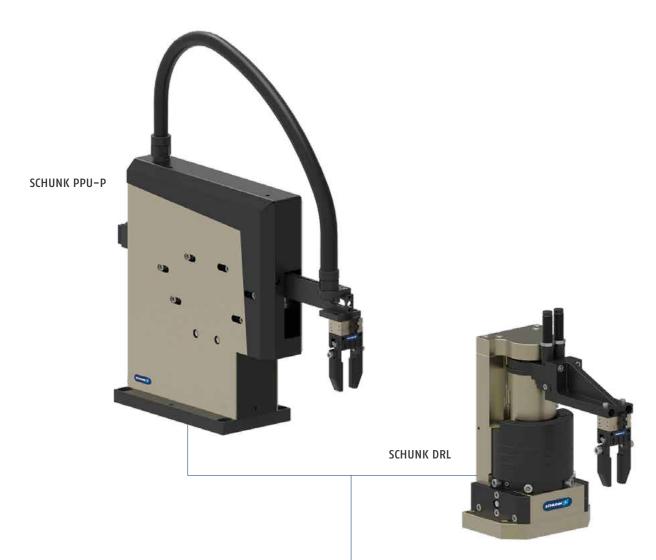
PLC Functional Component for PPU-P and DRL. The First Neutral PLC Functional Component for Pneumatic Pick & Place Modules.

For all conventional PLC software

In the electronics, medical technology and consumer goods assembly fields, the SCHUNK PPU-P and SCHUNK DRL pneumatically controlled high-performance assembly units are seen as the benchmarks for highly dynamic pick & place operations. To make their commissioning even more convenient, a neutral PLC functional module for simplified control has now been developed, with which the sequential program can be integrated in almost every standard PLC software.

Versatile adaptability

With minimal effort, the sequence that has been pre-configured in the preset can be expanded or adjusted flexibly based on the individual application. This eliminates the need for basic modeling of the process. The inputs for the sensor signals and the outputs for the valve signals are also pre-defined and only require assigning. The tool runs under CODESYS version 2.11/Service Pack 9 or the TwinCat System Control v2.11.0. Additional variants are planned.



More convenient!
Easier actuation and commissioning.





Immediately available



Available for SCHUNK PPU-P DRL

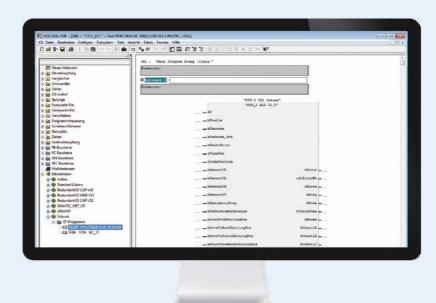
Product features

- · Available in neutral data formats
- Preset example process with all of the basic functionalities, which can be adjusted individually
- Inputs for all sensor signals and outputs for valve signals are defined

Your advantage

- Eliminates manual programming of the program process, as an example process has been preset
- · Versatile adaptability to customer applications
- Easy connection of the control unit to the sensor and valve signals

Program section from the PLC software



Superior Clamping and Gripping

It's time to use your machine's

With superior components, find potentials in your machine, where you would least expect to find them.

Make full use of your machine's potential – with the extensive product portfolio from SCHUNK.

SCHUNK, the competence leader for clamping technology and gripping systems, can now open up the full potential of your processing machines and production processes. Reduce costs by combining accurate, flexible workpiece machining with dynamic production automation.

SCHUNK Synergy - when everything fits together.

With SCHUNK Synergy, you benefit from superior components from our innovative family-owned company and the result of a perfectly harmonized interplay of clamping technology and gripping systems. The more SCHUNK, the more efficient it is.



full potential!

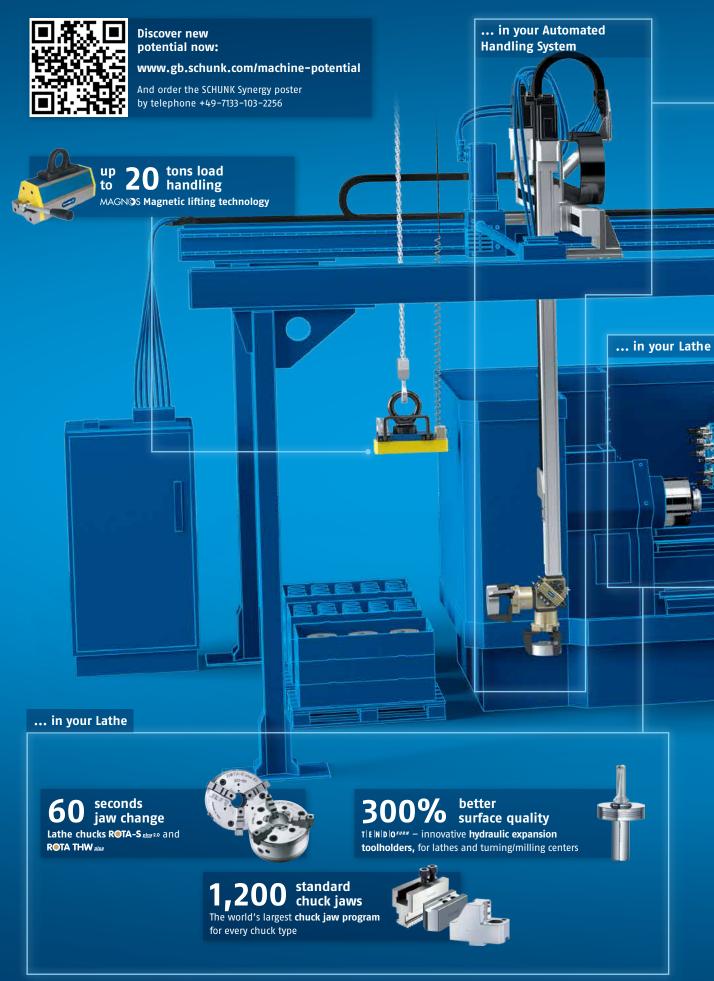


"Clamping technology and gripping systems – the perfectly adjusted interplay makes you a champion in terms of productivity. We call it SCHUNK Synergy.

Let's have a look where the potentials in your machines are hidden."

Ja Callecum

SCHUNK No. 1 Products for higher Productivity...



... in your Automated Handling System



No. 1 unique

The **NEW PGN-plus**, the world-proven gripper on the market – Now NEW with permanent lubrication in the multi-tooth guidance



more 500 standard combinations

for **line and room gantries** from the modular system

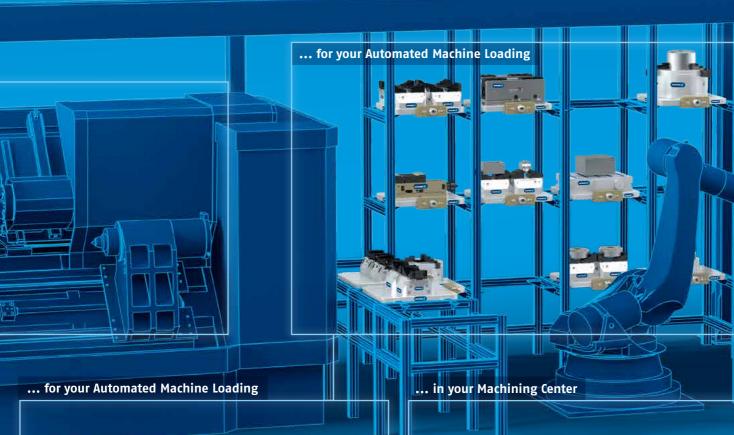
100% cycle increase
Universal rotary module SRU-plus 20-S,
the new benchmark in top performance



90% faster gripper change

SWS Quick-change system – fully automatic gripper change within seconds







300 kg load capacity

NSR-A Robot coupling for pallet handling – space-saving and extremely flexible

100% control
KANGERT KSP plus Clamping force
block with jaw monitoring



30% more productivity

Automated machine loading with the NEW SCHUNK Gripper PGN-plus with GSW Spindle interface



90% less set-up costs

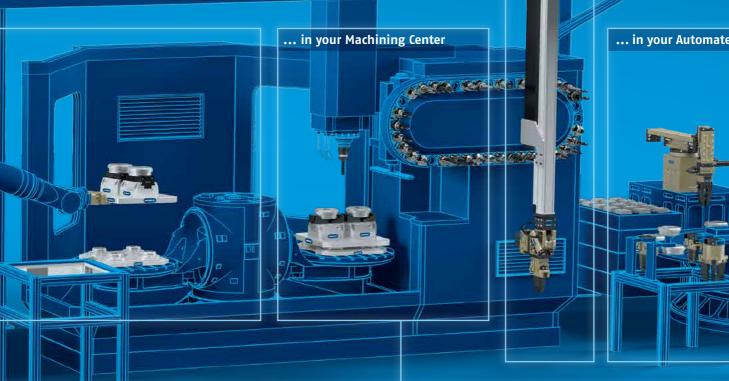
with **VER**⊕-S, due to set-up during processing time



VER⊚-S NSE *mini* – the pneumatic quick-change pallet system in a very flat design









customized solutions

Hydraulic expansion technology for tool or workpiece clamping

encapsulated

K○NTEC KSK Centric clamping vise fully functional in harsh environments





-sided workpiece machining

in one set-up - MAGNOS Magnetic clamping technology



mm shank diameter

TIRIIIBIOIS mini sets a benchmark in micro machining

less than

μ run-out 3 μ run-oι accuracy

TIRIJIBIOIS'-SVL Super-slim tool extension optimized interfering contours



to 85,000 rpm TiriliBiols-S predestined for

high-speed cutting

... in your Automated Assembly



better gripping better gripping force - mass ratio

EGP - The powerful electronic gripper for small components with integrated electronics





greater gripping force

MPG-plus - The most powerful pneumatic miniature gripper in the market



110 picks per minute

PPU-E - The fastest pick & place unit in the market, PPU-P with 90 picks/min



d Assembly



Future handling



degrees of freedom

Powerball lightweight arm LWA 4P The lightweight arm with the world's most compact performance. Used on mobile platforms.



less than $\supseteq \mu$ run-out accuracy

TIRIIIBIOIS - R with unique patented polygonal clamping technology



Versatile clamping range with GZB-S Intermediate sleeves



Nm torque with Ø 32 mm

TIEIN DIO E compact for large volume cutting, boring, reaming, and threads



more 3 years of experience in T|E|N|D|O Hydraulic expansion

technology. TIE |N|D|O', the original. With 29 interfaces, versatile, with 3 μ run-out accuracy

SCHUNK toolholders

suitable for all

TIENDO-SVL Tool extension -

optimized interfering contours and super-slim



μ permanent run-out accuracy

T|E|N|D|O zero, perfect vibration damping, resulting in up to 50% longer service life







SCHUNK No. 1 Products for higher Productivity in your Automated Machine Loading.

By using our modules you will maximize your system productivity due to faster loading and changing processes. The systematic use of single modules from SCHUNK clamping technology and gripping systems pays off as single components and even more when used in combination.

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

30% more productivity
75 kN holding force
300 kg payload capacity

SCHUNK No. 1 Products for higher Productivity for your Automated Machine Loading.



300 kg loading capacity

NSR-A

Robot Coupling for Pallet Handling

Process reliable, precise, and space-saving

Automated pallet loading redefined. The slim SCHUNK NSR-A lightweight coupling with minimized interfering contours works extremely close to the machine table. Low designs consisting of a module for stationary use and clamping pallet are easy to implement. This leaves a lot of space in the machine room for the workpiece and axis movements.

- · Highest pull-in forces of up to 15,000 N
- · Lightweight of 1.6 kg
- · Transmittable torques of up to 600 Nm
- Integrated slide monitoring and pallet presence monitoring





90% faster gripper change

SWS Quick-change System

One system, two components.

The standardized SCHUNK quick-change system SWS establishes the connection between the gripping system and robots or gantries. For manual change, SCHUNK offers the HWS manual change system.





75 kN holding force

VER@-\$ NSA plus Automated Palletizing System

Highly efficient automation

Positioned within seconds with a repeat accuracy of < 0.005 mm, SCHUNK NSA plus is the precision module for automated machine loading. Built very low, it leaves ample space in the machine room.



Tombstones with **VER**@-S Quick-change Pallet Module

Fundamental high performers

Three tombstone shapes. Extremely compact design. Ideally suited to the selected SCHUNK clamping device. Activate the full power potential of your horizontal machining centers.



SCHUNK No. 1 Products for higher Productivity for your Automated Machine Loading.



30% more productivity due to automated machine loading

NEW PZN-plus Gripper with GSW-B Spindle Interface

The clever productivity booster

Cuts set-up times and saves complex and expensive automated solutions. The SCHUNK gripper sits in a toolholder like a tool and can easily be changed into the spindle due to the standard interface. The result: fully automatic workpiece change only with the help of the axis movements of the machine tool.

NEW PZN-plus gripper with flexible GSW-B-AGE Compensation Unit

Before it breaks

Excessive forces during automatic machine loading?
The SCHUNK GSW-B-AGE yields, compensation for tolerances and inaccuracies in six degrees of freedom is the answer.

180° rotation

SRH Swivel Head

Precise rotation and long life span

Maximum automated system productivity for demanding rotation tasks. Modules in the SCHUNK SRH series have a consistently modular structure and comprise tried-and-tested SRU rotary modules in conjunction with SRH rotary corners, EDF electrical feed-throughs and MDF media feed-throughs.



30 seconds, and the machine room is clean.

RGG Cleaning Unit

Sparkling clean machine table

Can be used for workpiece and machine room. Fits on almost any conventional toolholder mountings with a diameter of 20 mm. Cleans using air or coolant. Simply put into the machine and reduce idle times.



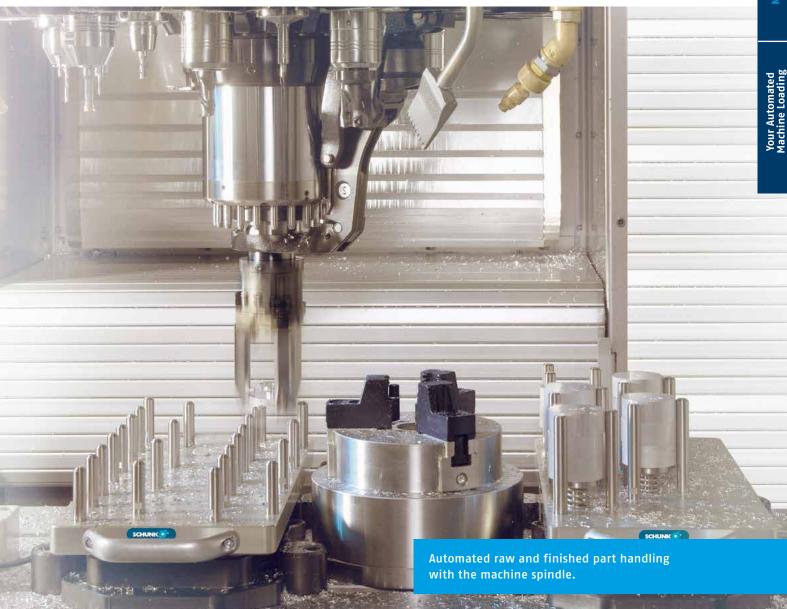
4.9 kg maximum workpiece weight

Vacuum Gripper GSW-V

Making machine tools more productive

Universal, maintenance-free tool for handling a large variety of flat components. Due to the integrated Venturi nozzle, this SCHUNK gripper doesn't need additional parts to generate a vacuum.





0% electricity requirement

Magnetic Gripper GSW-M

Attracting pole position

Maximum system productivity due to lean automation. Whether it's metal sheets, bearing rings or workpieces with complex contours – the SCHUNK magnetic gripper handles anything ferromagnetic without making adjustments or the need to change fingers, and efficiently based on the machine's own axis without electricity.

12 sizes available

Beta Linear Axis

Dynamic and smooth-running

You can choose between roller guides and profiled rail guides,

depending on the application.

The Beta series enables economical axis applications with high requirements for dynamics and smooth running. Long strokes can also be achieved with this axis type.









SCHUNK No. 1 Products for higher Productivity in your Automated Handling System.

SCHUNK offers the world's largest program of grippers, rotary, and swivel modules, linear modules, and robot accessories. Handling and assembly processes in the field of automation require diversity in variations of modules, particularly if the standard components are combined with each other. Discover the unforeseen possibilities.

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

More than 500 standard combinations for line and room gantries

90% faster gripper change

100% cycle increase

More than **500** standard combinations

Line and Room Gantries LPP/LPE/RPE

Standard gantries from a modular system

Pre-assembled for immediate start-up. Pneumatic or electric. These standardized configurations can be combined into customized gantries, saving up to 50% in investment, project planning, assembly and installation.

- 5 kg, 10 kg, and 20 kg payload
- · 300 mm in to 1,500 mm X-stroke/Y-stroke
- 25 mm in to 500 mm Z-stroke



360^o endlessly turning

ERM Electric Rotary Module

Extremely adaptable – integrates perfectly

The drive can be freely adjusted in 90° steps. In this way, the interfering contour of the SCHUNK rotary module can be optimally adjusted to the gantries or robots.

Depending on the engine, the endlessly turning module has torques of up to max. 75 Nm. It can attain any intermediate positions and is designed for a maximum speed of up to 62.5 RPM.

The No. 1 in gripping

The NEW SCHUNK PGN-plus 2-Finger Parallel Gripper

Now NEW with permanent lubrication in the multi-tooth guidance.
Lifelong maintenance-free.*
Guaranteed!

High-precision handling, higher maximum moments, higher gripping forces. Various options for special cases of application.

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



Up to **1,750** N gripping force

EGA Long-stroke Gripper

Adaptable, robust, compact.

With adaptation possibilities for all commonly available servo motors, the SCHUNK EGA is the most versatile electric long-stroke gripper that can be used on the market. Easily integrated in the automation system control, all properties of the current system can be transferred to the module.

IP65 protection class

OPR Collision and Overload Protection

Rapid reaction

Particularly designed for the use on small robots. Due to the minimum reaction time, the SCHUNK OPR reliably prevents damages due to collisions or overloads.





100% cycle increase

SRU-plus 20-S **Universal Rotary** Actuator

The new benchmark

Increase cycle numbers by up to 100% compared to state-of-the-art rotary actuators of the same size. The SCHUNK high-speed module allows for swiveling times from 0.3 s and cycle numbers of up to 3,700 cycles per hour.

Performance Level d/SIL 3

EGN Safety Gripping System

Permanently live

With the SLS, SOS and STO functionalities, the SCHUNK EGN gripping system certified in accordance with DIN EN ISO 13849 enables safe human/machine collaboration. In emergency stop mode as well, the gripper remains energized for securely holding the workpiece.









SCHUNK No. 1 Products for higher Productivity for your Automated Assembly.

Wherever pick & place and assembly tasks place the highest demands on precision and economy, SCHUNK is the solution provider for perfect implementation. No matter whether partially or fully automatic. No matter which drive medium. The innovative SCHUNK components always get that little bit of extra power out of your processes.

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

110 picks per minute

combination options

3 compensation directions

SCHUNK No. 1 Products for higher Productivity for your Automated Assembly.



6 degrees of freedom

FT 6-Axis-Force-**Moment Sensors**



The largest diversity of variations on the market

SCHUNK 6-axis force-moment sensors measure forces and moments of 6 components during applications such as polishing, deburring, and difficult milling operations.

100% precision fitting



The individual connection

SCHUNK adapter plates ensure a high fitting accuracy in the interaction of robot accessory modules and ISO flange interfaces.

250 RPM endless turning

ERS Electric Rotary Module with DDF



Compact electric rotary module with integrated pneumatic and electric feed-through.

Compensation in 3 directions

TCU Compensation Unit

Optimal mounting or joining position

For automated joining or gripping of precise components. The SCHUNK TCU compensation unit compensates in X-, Y-, and Z-direction, corrects angle errors, and achieves rotational compensation.

110 picks per minute

PPU-P and PPU-E Pick & Place Units

The fastest in their class

With 110 picks per minute, the servo-electric SCHUNK PPU-E is the fastest pick & place unit in the market. SCHUNK PPU-P keeps up a brisk pace pneumatically with 90 picks per minute. Both are the ultimate in high-speed assembly work.

- · 2 kg 5 kg payload
- 10 microns repeat accuracy
- · Plug & Work makes start-up as easy as can be



combination possibilities

SCHUNK Modular Assembly System

More individuality and economy

Comprehensive, top class modular system for individual solutions. Benefit from the variety of components for automated assembly that have been tried and tested 100,000 times.



Up to **75** cycles per minute

DRL Rotary Pick & Place Unit

High-speed assembly with integrated rotary motion

Highly dynamic yet steady pick & place operations with rotating angles of 90° or 180°. The DRL is a specialized trendsetter for modular high-performance assembly in the SCHUNK program.



Over **10,000** possible combinations

Pillar Assembly System

The heart of the design in the most extensive modular program in the world

Unique pillar assembly system with numerous standardized pillar profiles, adapter plates, centering and connection elements. With more than 10,000 possible combinations, it is the most extensive modular program in the world for high-performance assembly.



6 sizes available

LDN Linear Module

For high-precision high-speed applications

Powerful servo motors can achieve a high rated force even in smaller modules. Alternatively, higher masses can be moved in vertical applications.



SCHUNK No. 1 Products for higher Productivity for your Automated Assembly.



Up to 6 parts per cycle

RVK Collection Gripper

With 4 or 6 grippers

The SCHUNK RVK increases the productivity of pick & place applications by the collect & place principle. It collects the parts directly one after another, brings them collectively to the assembly or placement locations and puts them down there one after another.

- Collect & place principle is very easy to implement with RVK
- · Minimizing cycle time and traverse paths
- · Integrated valve technology
- Integrated electric feed-through for permanent monitoring of all grippers, leading to high process reliability.
- Simple mounting of the RVK on ERS 135, ERS 170 or RST-D 087 from SCHUNK

25% higher gripping force



The benchmark

The most powerful miniature pneumatic gripper on the market. Ready for use around the world, wherever small parts need to be handled reliably and quickly. With its power density, the MPG-plus sets the new standard for handling small parts.

180% better gripping force/mass ratio!

EGP Electric Gripper for small components

The alternative

The most compact electric gripper for small components on the market. Based on the platform of the tried-and-tested pneumatic SCHUNK MPG-plus. The SCHUNK EGP makes changing from pneumatic to mechatronic gripping modules into child's play.

Swiveling time **0.18** s/180°

EGS Gripping Rotary Unit

Efficiency class in handling small parts

The most compact electrical gripping rotary unit in the world. The SCHUNK EGS combines electrical gripping and swiveling in the most compact space within a single housing. The angle of rotation can be defined freely between 40° and 320°, and can be set directly on the module as the gripping force can.

340° rotation range

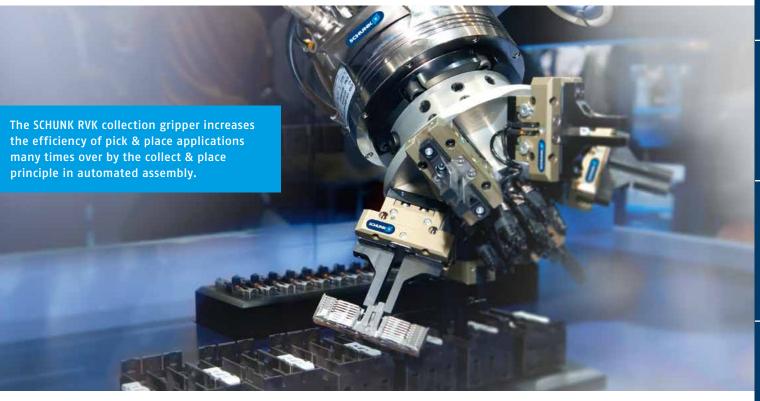
Powerball ERB

Well-rounded and intelligent

The unique SCHUNK rotary module with swiveling/tilting function combines high torque and precision in the smallest of spaces. With up to 34 Nm and a weight of 3 kg, the SCHUNK ERB sets benchmarks in mechatronic integration.



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



50% higher moment load

DDF 2 Rotary Feed-through

Flexibly rotating up to 360°

The latest standard for modern robot and assembly applications.

With 3 variants, the DDF 2 offers full flexibility for different process requirements.

You have the choise: Pneumatic feed-through, feeding through of electric signals or the combination of both.

High torque 29.3 Nm

RST-D Ring Indexing Table

Versatile with power!

The SCHUNK RST-D for modular high-performance assembly possesses any amount of power for larger structures and up to six optional pneumatic feed-throughs. The pitch can be set to 4, 6, 8, 12 or even 16 steps as desired.



4 air feed-throughs

CWS Manual Change System

Manually fast

The SCHUNK CWS flat and weight-reduced manual change system ensures a fast 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.



LM Linear Module

Standard solution for high-precision applications

The linear modules of the LM series are equipped with pre-loaded junction rollers in hardened prismatic running rails as guides. This precision guidance system guarantees absolute freedom from play in the overall system and offers high load capacities in all directions.







SCHUNK No. 1 Products for higher Productivity in your Service Robotics Application.

Inspection systems, applications on mobile platforms, human to machine and human to human interaction. On the economic side of things, service robotics is becoming increasingly dynamic. Our mechatronic products are setting new standards in both professional and private spheres. SCHUNK is pushing development forward.

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

> 7 degrees of freedom

100% flexibility

340° rotation range



SCHUNK Mobile Gripping
Systems for higher
Productivity in your
Service Robotics Application.

SCHUNK is working intensively on numerous service robot projects worldwide. Due to the battery operation, our revolutionary developments are predestined for mobile platforms and independent. Their progress is documented by field-tested applications and projects in the research and testing phase.







Quality Assurance

The LWA 4P is a highly flexible handling device for a fully automated laboratory system at ThyssenKrupp AG. The 6-axis Powerball lightweight arm from SCHUNK is equipped with a mechatronic PG 070 gripper, and handles sensitive cement samples.



Laboratory Use

SCHUNK mobile gripping system components are used for new automation solutions in laboratory environments of the pharmaceutical and chemical industry.



Microchip Production

By using SCHUNK lightweight robots, our customized solutions provide flexible linking in industrial production. This example shows a mobile robot, carrying out transportation tasks such as loading and unloading in cleanroom conditions.



Exploration

The remote-controlled robot developed by the Harris company makes it possible to safely remove hazardous materials. As a manipulator, a modular lightweight arm based on SCHUNK PRL-plus modules is used.



Future Service Robotics

Wrists and the 1-finger-hand from the standardized module program for mobile gripping systems from SCHUNK ensure for mobile handling of the Care-0-bot® 4 of the Fraunhofer Institute for Production Technology and Automation IPA.



Rehab and Care Robot

The battery-powered SCHUNK LWA 4D lightweight arm has 7 degrees of freedom. Service robots developed by researches at the University of Bremen, help people with disabilities to achieve more independence.

SCHUNK No. 1 Products for higher Productivity in your Service Robotics Application.



6 degrees of freedom

Powerball Lightweight Arm LWA 4P

A lightweight arm with the world's best compact performance

The arm has three ideally integrated Powerball modules, offering 6 degrees of freedom. Integrated intelligence makes powerful, mobile handling possible as never before.

- Weight/load capacity ratio of 2:1
- · Gripping radius of over 700 mm
- Excellent repeat accuracy of ±0.15 mm
- 24 V DC supply for mobile applications
- For every mobile platform independent of the manufacturer

First industrial 5-finger hand

SVH 5-Finger Gripping Hand

An extremely wide range of sensitive gripping operations

The industrial version of the anthropomorphic SCHUNK SVH 5-finger hand grips nearly as perfectly as the human hand. Due to the integrated control in the wrist, the SCHUNK SVH can accomplish almost all of the movements of the human hand.



120 N gripping force

WSG 2-Finger Parallel Gripper

Configured in 2 minutes

Sensitive handling. This sensitive gripper communicates via Profibus DP, CAN or Ethernet TCP/IP. Due to an integrated web server and tactile sensors, handling tasks of the future are simple.



100% flexibility

SDH-2 3-Finger Industrial Hand

Using people as its model

The SCHUNK 3-finger industrial hand features maximum flexibility when it comes to the shape, size, and above all, position of the gripped parts. Form-fit and force-fit gripping with integrated tactile sensors make it a sensitive helper.



Height 14 mm

FWS Manual Change System

Extremely flat

The SCHUNK FWS flat manual change system is used where it is important to have the shortest possible clearance between the robot arm and tool, and the weight should be low.





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



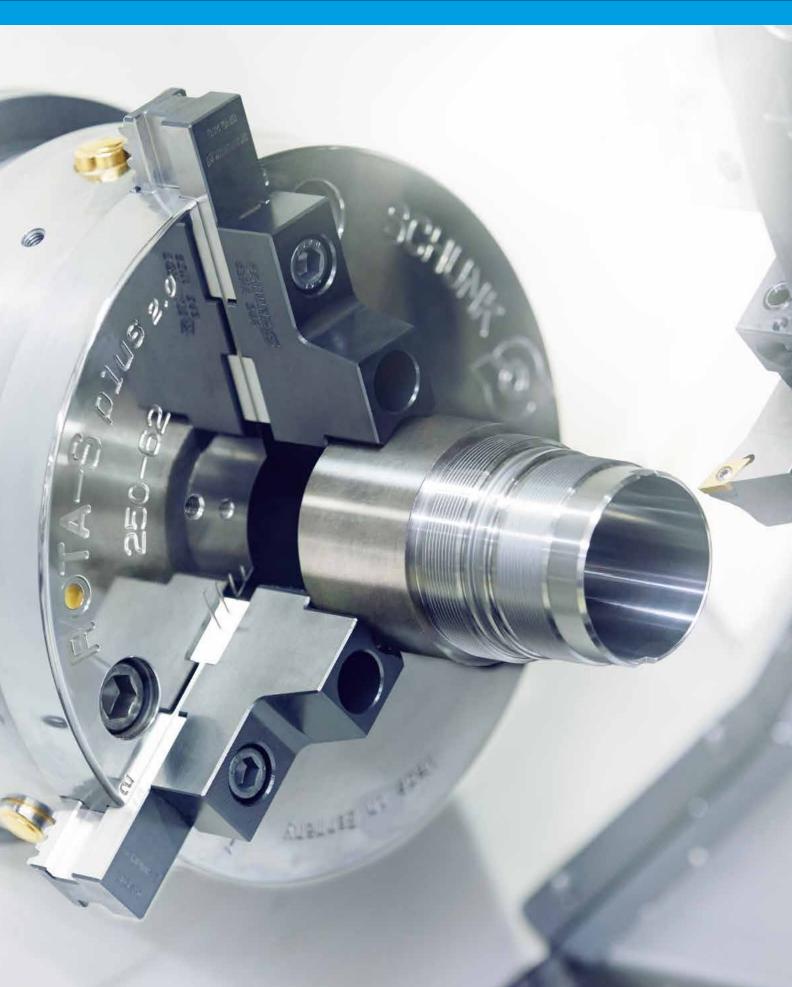
10 degrees of freedom

LWA 4D Dextrous Lightweight Arm

From mine detectors to the latest in rehabilitation systems. The SCHUNK lightweight arm LWA 4D sets standards and can be found on service robots all over the world – often combined with our sensitive gripping systems.









SCHUNK No. 1 Products for higher Productivity in your Lathe.

From powerful chucks, precision toolholders, and the world's largest standard chuck jaw program up to customized chuck jaw and hydraulic expansion toolholder solutions. SCHUNK always offers you the appropriate product.

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

< 60 seconds quick jaw change

50% larger clamping range

0.01 mm repeat accuracy



Sold more than 10,000 times

ROTA-S plus 2.0

Manual Chuck

The new generation

Its predecessor ROTA-S plus has already been sold by SCHUNK 10,000 times. The new generation ranks high due to: Higher RPM and cutting speeds due to permanently high clamping forces. Convenient jaw change in less than a minute due to optimized jaw quick-change system. Faster to use due to maximum operator safety. The ten-thousand-fold proven concept has now been perfected. It sets the standard.

- · High jaw change repeat accuracy
- · 3-fold base jaw securing
- More convenience through sensible accessories such as expansion arbor and changeable protection sleeves



60 seconds quick jaw change

ROTA THW plus

Power Chuck

Quick to adapt

The set-up time killer as of batch size 1. Quickly adaptable to a whole variety of clamping jobs due to jaw change in less than a minute.



410 kN clamping force

ROTA NCO

Power Chuck

Bursting with power

The specialist for rough machining with a large jaw stroke and long life span. Does the job that others give up on. Up to 410 kN clamping force.



0.01 mm repeat accuracy

VER⊚-S NSL turn Quick-Change Pallet System

Set-up timer killer for mill/turn centers

Safe clamping even below a speed of 2,000 RPM. Very simple connecting interface with a repeat accuracy of 0.01 mm turns the module for stationary use into a turbo productivity station.

Clamping range 4 - 460 mm

ZENTRICO THL plus Steady Rests

Highly precise with a long service life

A plus for any lathe in shaft machining. Excellent centering and repeat accuracy combined with maximum clamping forces. Integrated hydraulic cylinder with a large clamping range. For all around precision.



SCHUNK No. 1 Products for higher Productivity in your Lathe.



16,000,000 chuck jaws sold worldwide

With more than 1,200 different types, this is the world's largest standard program of chuck jaws for any lathe chuck application. More than 16 million standard chuck jaws have been delivered by SCHUNK since 1966 and are in use all over the world.



50% larger clamping range

SCHUNK Claw Jaw

Even more bite!

Unbeatable when it comes to transmitting high torques. The sharp serrations quickly claw into the workpiece surface and clamp them safely in one go. The possible combinations of basic, intermediate and top jaws expand the standard components' range of application by up to 50%.

3° maximum deflection possible

Pendulum Jaws

Intelligent yielding

As strong as necessary, as flexible as possible. Thin-walled workpieces can be clamped safely, without being deformed and at low-cost with standardized SCHUNK pendulum jaws with 6- or 12-point clamping. Within very little time conventional 3-jaw chucks can be re-equipped, to allow for 6-point clamping.

60,000 customized chuck jaw solutions

SCHUNK Chuck Jaws in special design

For complex clamping tasks

Modified SCHUNK standard jaw or complex special design. Perfectly customized, ideal solutions. As individual as necessary. As economical as possible.





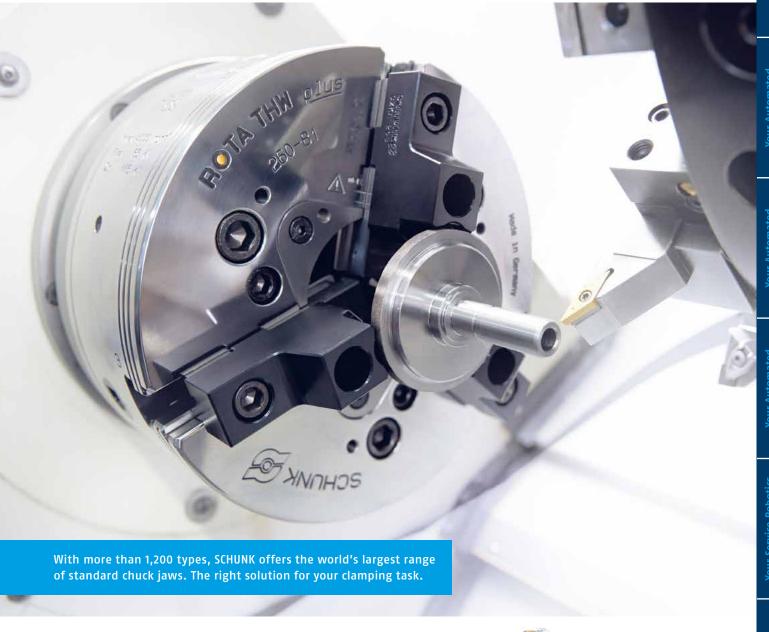
30 – 40% less wear

Universal Base Jaw for Wedge-Bar Chuck

Honing for precision

Exclusive at SCHUNK: Base jaws – hardened and precision ground. Frequent top jaw changes easily cause wear on both components if the locating surface is not ground. SCHUNK base jaws stand for maximum repeat accuracy, perfect power transmission and longevity.





Up to 300% improved surface finish

T|E|N|D|O^{FURN} Hydraulic Expansion Toolholder

Including vibration damping!

The only modular SCHUNK hydraulic expansion toolholder that requires no manufacturer-specific interface. Unique vibration damping for excellent workpiece surfaces. Two inserts: DSE double vise for run-out and repeat accuracy of < 0.003 mm. DKE lathe clamping insert for increased productivity with the equipment at hand.









SCHUNK No. 1 Products for higher Productivity in your Machining Center.

Innovative and highly precise toolholding systems in the SCHUNK Total Tooling program featuring the largest modular system of stationary worldholding cover a unique range of machining requirements.

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

0 interfering contour

O μ permanent run-out accuracy

0.3 mm shank diameter



Up to 300% longer tool life*

T | E | N | D | O° E compact **Hydraulic Expansion Toolholder**

Full power

The ultimate for large volume cutting. Convincingly priced, it makes it easy for you to change from mechanical and thermal toolholders to the more precise SCHUNK TENDO quality.

- Highest torques up to 2,000 Nm (with a diameter of 32)
- Run-out accuracy and repeat accuracy < 0.003 mm
- · Up to 40% raised tool life
- * Verified in a study by the wbk Institute of Production Technology at the Karlsruhe Institute of Technology (KIT).

100% suitable

T E N D O SVL Tool Extension

Long and super-slim

The innovative, SCHUNK TENDO SVL tool extension with optimized interference contours from SCHUNK sets new standards in regard to set-up time and costs. The extension is clamped into any SCHUNK toolholder within seconds. The SCHUNK TENDO SVL has been designed for and is suitable for the precise machining of hard-to-reach areas.



100% pull-out safety

T E N D O Aviation **Hydraulic Expansion Toolholder**

Pull-out safety lock - easy to use and economical.

The integrated pull-out safety lock ensures correct tool orientation and form-fit clamping on weld-on shanks. Micro creep movements are completely eliminated while maintaining extremely close form and position tolerances.



Milling at full speed!







0 μ permanent run-out accuracy

T E N D O zero **Hydraulic Expansion Toolholder**

Down to 0.000 mm in no time

Your pro for tight tolerances during drilling, reaming and drill-finishing. Perfect whenever you require the ultimate in run-out accuracy. For even cutting action and minimum tool costs. Perfect vibration damping for up to 50% longer tool service lives. Minimal set-up costs due to fast, safe tool changes.



O Interfering contour

T E N D O ES **Hydraulic Expansion Toolholder**

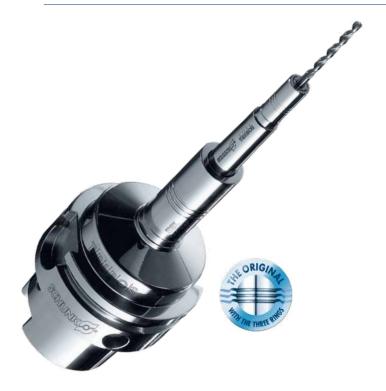
The powerhouse without interfering contour

First choice when power and every bit of machining area counts. Tool clamping is done directly in the mounting taper. The result is: maximum holding forces, run-out accuracy < 0.003 mm, and additional space in the machine room.





SCHUNK No. 1 Products for higher Productivity in your Machining Center.



0.3 mm shank diameter T|R|I|B|O|S°-Mini Polygonal Clamping Technology

The smallest, exchangeable precision toolholder

Used in the medical, dental, electrical engineering, watch and jeweley, countersunk electrodes, and mold making industries. SCHUNK TRIBOS-Mini sets the standards where miniaturization needs to be implemented economically. This tiny one for minimal shank diameters of 0.3 mm is the benchmark in micro machining. This tool allows for extremely precise applications.

- Run-out accuracy of < 0.003 at 2.5 x D
- Balancing grade G2.5 at 25,000 RPM or Rev._{max} < 1 gmm
- · Quick and easy tool changes

3 μ run-out accuracy

T|R|I|B|O|S°-R Polygonal Clamping Technology

Stable and precise

Ideal for volume machining through selectively optimized radial stiffness and clamping force and a run-out accuracy of < 0.003 mm. A special chamber system dampens vibrations and allows for a better surface and longer tool life.



85,000 RPM

T|R|I|B|O|S*-S Polygonal Clamping Technology

Extremely slim design

Designed slimmer than any other known toolholder system on the market. Predestined for precise machining tasks in difficult to reach workpiece areas due to its run-out accuracy of < 0.003 mm.



85,000 RPM

T|R|I|B|O|S°-RM Polygonal Clamping Technology

The small one for high-speed cutting

High radial stiffness due to small compact design and excellent runout accuracy of < 0.003 mm. SCHUNK TRIBOS-RM is the compact precision champion when it comes to high speed ranges of up to 85,000 revolutions of tools as of 3 mm.



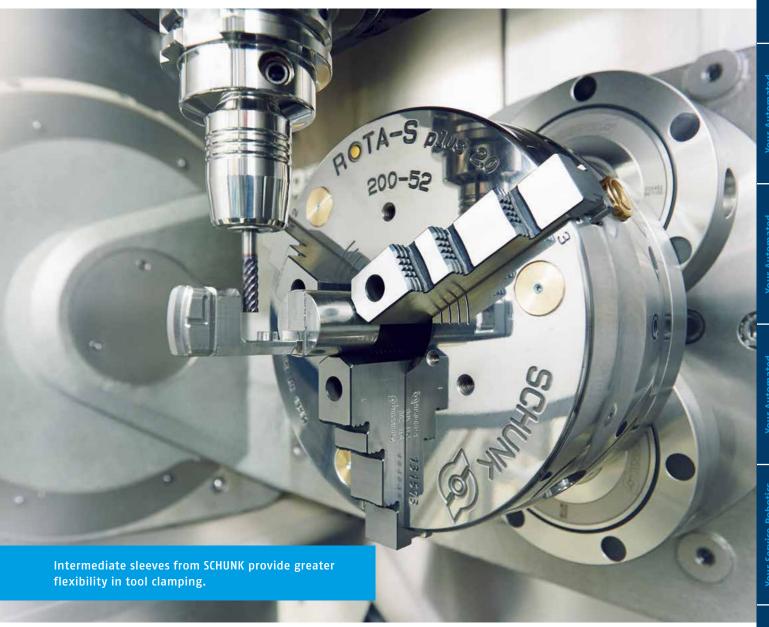
3 μ run-out accuracy

T|R|I|B|O|S°-SVL Tool Extension

Better price due to standardization

Super-slim tool extension, made for highly precise machining of difficult to reach areas. Flexibly combined with standard toolholders and tools, an SCHUNK SVL saves you from buying expensive special tools.





Coolant-proof up to 80 bar or peripheral coolant

GZB-S Universal Intermediate Sleeve

Systematic cooling

Versatile application with SCHUNK TENDO, SCHUNK TRIBOS and SCHUNK SINO-R in the clamping range of 3 to 25 mm. Six coolant slots make the difference. SCHUNK intermediate sleeves with their innovative peripheral coolant allow you to keep cool when it comes to high-precision machining.





5-sided workpiece machining in one set-up

MAGNOS

Square Pole Technology

Economy cubed

Due to the level positioning of the workpieces on the SCHUNK MAGNOS magnetic chuck, all of the five workpiece sides are easily accessible and can be machined from all sides in one set-up.

Increased tool life and process reliability

Consistent permanent magnetic holding force across the entire workpiece effectively minimizes vibrations and leads to improved surfaces and noticable greater precision.

Minimum set-up times and increased productivity

The workpiece is clamped in seconds. Fine adjustment of the clamping elements or re-clamping the workpiece in the machining process are no longer required, nor are timeconsuming set-up times and machine shutdown times.

100% encapsulated

KONTEC KSK Centric Clamping Vise

When the going gets rough

100% encapsulated. Fully functional in rough environments. Nothing keeps the sealed SCHUNK centric clamping vise from doing its job. No soiling. No jammed chips.



More than **75,000** implemented customized solutions

Customized Hydraulic Expansion Technology

For tool or workpiece clamping.
SCHUNK offers customized
hydraulic expansion toolholders when standard
solutions have reached
their limits even for extreme
requirements.



0.01 mm clamping precision

TAN DEM®

Clamping Force Blocks

Enormous power with highest precision

There is room for power in the smallest machining area. In confined spaces these compact versions with high clamping forces and a maximum repeat clamping accuracy of 0.01 mm ensure precise results.



±0.03 mm height tolerance

PLANDS

Vacuum Clamping Technology 🕮

For process-reliable clamping

For fast and process-reliable clamping of flat-surface workpieces with an even underside. Even mechanically difficult to clamp components are clamped perfectly easy and deformation-free.



SCHUNK No. 1 Products for higher Productivity in your Machining Center.

4-fold clamping station VERO-S NSL plus 400 incl. 4 NSE plus 138 quick-change pallet modules

90% less set-up costs

VER®-S

Quick-change Pallet System

The thriving one in the SCHUNK system

The set-up time killer for higher machine running times and a more rational production with batch sizes starting at one. Discover the ideal clamping solution for your machine.

- 90% less set-up costs
- · With maximum pull-in forces of up to 40,000 N
- Repeat accuracy of < 0.005 mm



2-fold clamping station VERO-S NSL plus 200 incl. 2 NSE plus 138 quickchange pallet modules



6-fold clamping station VERO-S NSL plus 600 incl. 6 NSE plus 138 quickchange pallet modules



8-fold clamping station VERO-S NSL plus 800 incl. 8 NSE plus 138 quick-change pallet modules

More than **500** variations for workpiece clamping

VER@-S Quick-change Pallet System

The largest modular system for individualists

SCHUNK VERO-S clamps workpieces, pallets, clamping stations, and tombstones via one or more clamping pins. It offers the best clamping solution for every machine. Raised modules offer additional flexibility. With SCHUNK almost everything can be clamped – precise down to the micron and according to your individual needs.



Combination with SCHUNK KONTEC system



Combination with SCHUNK MAGNOS magnetic clamping technology



Combination with SCHUNK TANDEM system



Combination with SCHUNK ROTA chuck



Combination with SCHUNK tombstones

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



Height 20 mm

VER⊚-S NSE *mini* Quick-change Pallet System

Super-thin design

At a height of 20 mm, the SCHUNK quick-change pallet system VERO-S NSE *mini* is extremely thin. It is an expert in direct workpiece and pallet clamping, and in assembly. Ideal for smaller machines and simpler machining jobs.



2-fold, 4-fold or X-fold

VER⊚-S NSL *mini* Quick-change Pallet System

Variability due to the modular system

Whether as a 2-fold, 4-fold or multiple clamping station – SCHUNK VERO-S NSL *mini* can be adapted to any individual requirement. For any application. On all conventional machine tables.



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