

Superior Clamping and Gripping

SCHUNK®

Gripping Meets Robotics

SCHUNK End-of-Arm Competence: From the Component to the Gripping System





Superior Clamping and Gripping

Jens Lehmann stands for precise gripping, and concentrated, safe holding. As a brand ambassador of the SCHUNK team, the No. 1 goalkeeper repesents 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

Jens Lehmann



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

Top Performance in the Team

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

In order to boost efficiency, SCHUNK customers have bought more than 2,000,000 precision toolholders, 1,000,000 gripping modules, 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 2,300 employees on our innovative family-owned company.

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

Heinz-Dieter Schunk Henrik A. Schunk Kristina I. Schunk

SCHUNK Gripping Technology Milestones

Due to our 30 years of expertise, we now offer our customers the world's largest range of standardized gripping modules.

PPG

First pneumatic SCHUNK standard gripper. 100% constant gripping center due to integrated synchronization.



1983

PGN-plus

The only 2-finger parallel gripper with multi-tooth guidance. 100% functional precision.



2000

SDH

First SCHUNK 3-finger gripping hand with tactile sensors. With 76 measuring points per sensor field.
MECHATRONIK3



2006

MPG-plus

The most powerful miniature pneumatic gripper on the market. 25% higher gripping force at the same module size.



2010

Awards!

With a pioneering spirit and perfection we create the developments in clamping technology and gripping systems. Highly recognized and coveted awards, and prizes honor the excellent performance of our company, as well as our SCHUNK team.
We are pleased that we can set benchmarks with our full commitment. We want to take this opportunity to say thank you for the multiple recognitions – at national and international levels.



Dr. Rudolf Eberle Prize
1986 Gripping Systems

EuroMold Award
1998 TRIBOS
2002 SINO-T

Advertising Excellence Award
2002 SCHUNK "Power"-Advertising

iF product design award
1999 TRIBOS
2004 ROTA THW plus
2004 SRU
2005 TANDEM PZS
2009 ZENTRICO THL plus
2011 PHL
2012 ROTA NCL

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 Wurttemberg
2006 Heinz-Dieter Schunk

A & D Best Product Award
2007 System GEMOTEC

SCHUNK Grippers proven since 1983

SCHUNK®

PRL

Integration of gripper arm modules PRL in Care-O-Bot®. Up to 216 Nm continuous torque.



2008

Powerball Lightweight Arm LWA 4P for a mobile gripping system

The lightweight arm with the world's best compact performance, used on mobile platforms. Up to 6 degrees of freedom.



2010

SVH 5-Finger Hand

First ready for series 5-finger hand with 9 motors



2012 / 2013

First certified Safety Gripping System EGN / EZN

First servo-electric SCHUNK safety gripping systems



2014

INDUSTRIE PREIS

Industry award
2008 Machine building: Gripper with spindle interface
2008 SWS-I-011
2010 PPU-E
2012 EGP 40 (BEST OF 2012)
2013 VERO-S NSR (BEST OF 2013)



MM Award to the AUTOMATICA
2008 Dextrous Hand SDH-2
2010 MPG-plus
2012 Powerball Lightweight Arm LWA 4P
2014 SCHUNK Safety Gripping Systems



German Machine Tool Industry Award
2008 Heinz-Dieter Schunk

PROCESS Innovation Award

Process Innovation Award
2009 UNIPLACE

KE Konstruktion & Engineering
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

reddot

red dot award
2013 Powerball Lightweight Arm LWA 4P



Founder's Prize of Baden Wurttemberg Savings Bank Finance Group
2013 Heinz-Dieter Schunk

SCHUNK Gripping Technology

More than 30 years of gripping expertise is the basis for the world's largest standardized gripping technology product range with more than 4,000 components and for an average of 2,000 standard and customer-specific gripping systems per year.

Components

Standard
Components



Gripper Modules



Rotary Modules



Linear Modules



Robot Accessories



Pick & Place Units



Gripping Hands



Lightweight Arms

Customer-Specific
Components

From standard components further developed in accordance with customer requirements to exclusive customer-specific new developments.

Examples:



Wafer Grippers

made of laser-forming material with SCHUNK LGP gripper



Compact Vises

for sheet metal machining, pneumatically actuated



Packaging Grippers

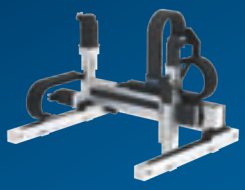
High-speed grippers according to legal, hygienic, and production specifications

Gripping Systems

Standard
Gripping Systems



Modular Assembly Automation



Line and Room Gantries



Solution composed of several SCHUNK standard components for robots and gantries

Customer-Specific
Gripping Systems

Solution composed of several SCHUNK components, of which at least one is further developed or newly developed specifically for the customer.

Examples:



Connecting Rod Handling



Aluminum Foil Handling



Modular and Mobile Gripping Systems

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Gripping Meets Robotics

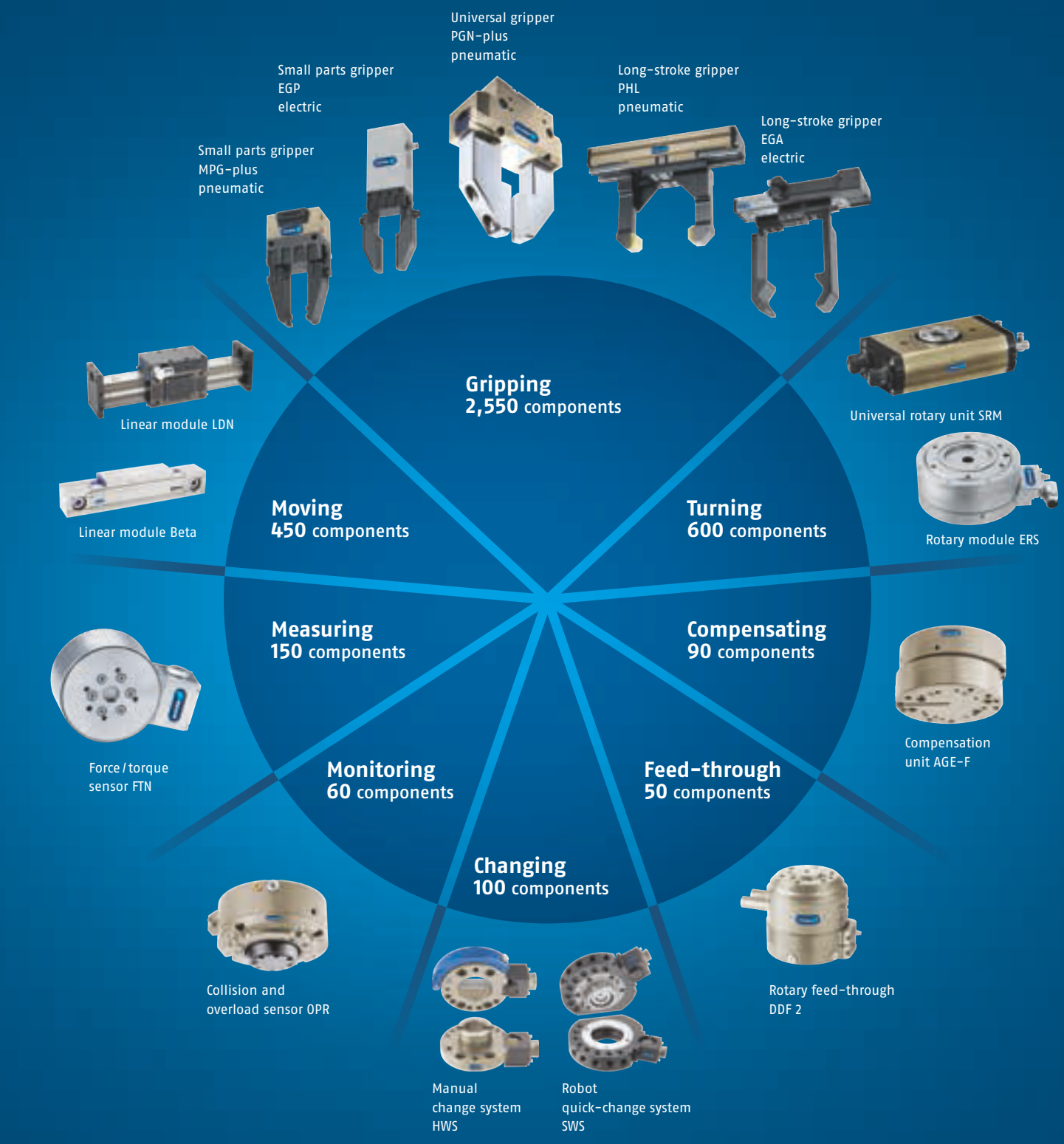
Discover SCHUNK End-of-Arm Expertise! For every Robot, every Industry, every Handling Task.

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 grippers for small components and universal grippers features high product quality, precision, and numerous sensing options.

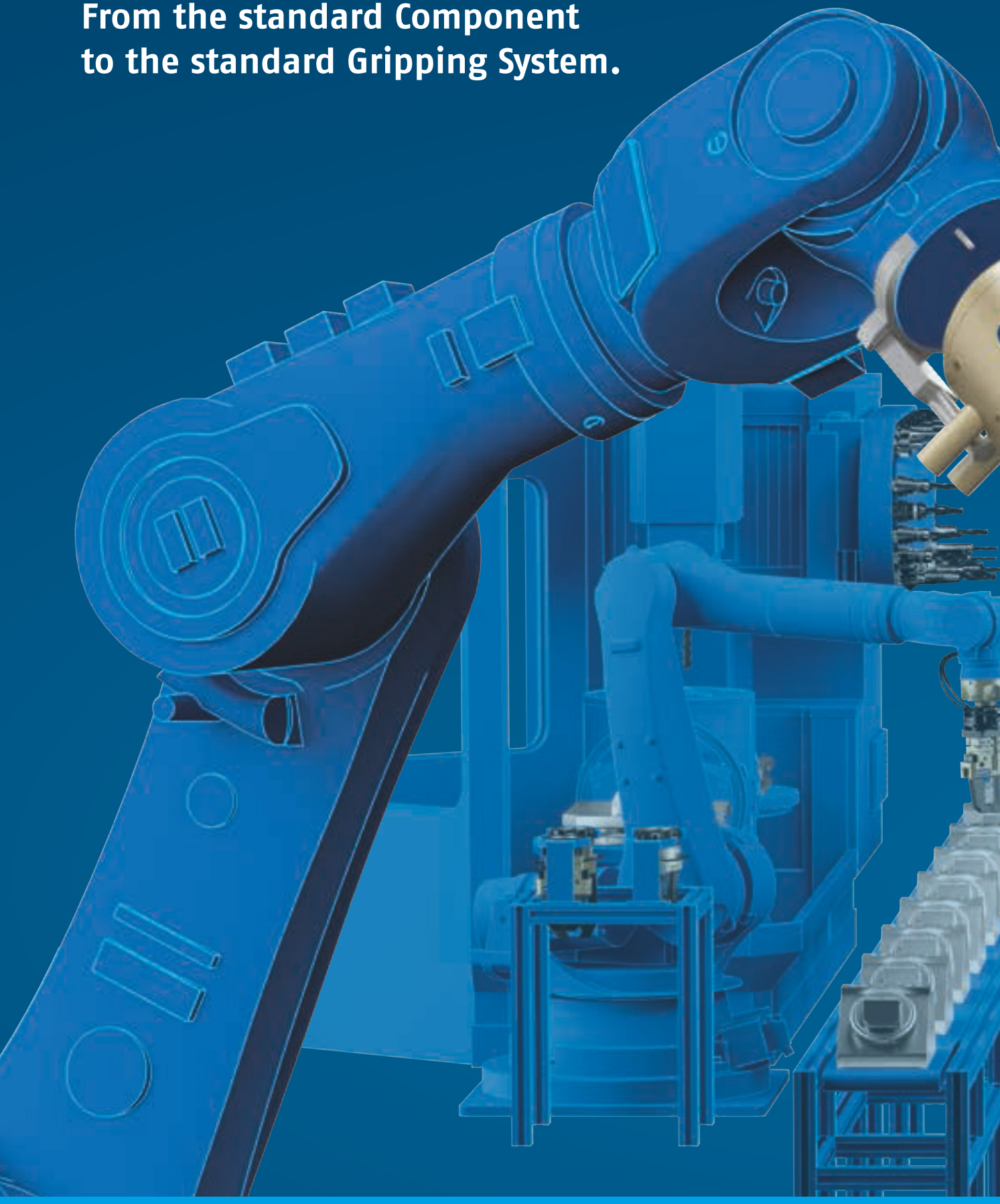
With axis system handling solutions SCHUNK also opens up new perspectives for optimally priced and value-added automation solutions from a single source.

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



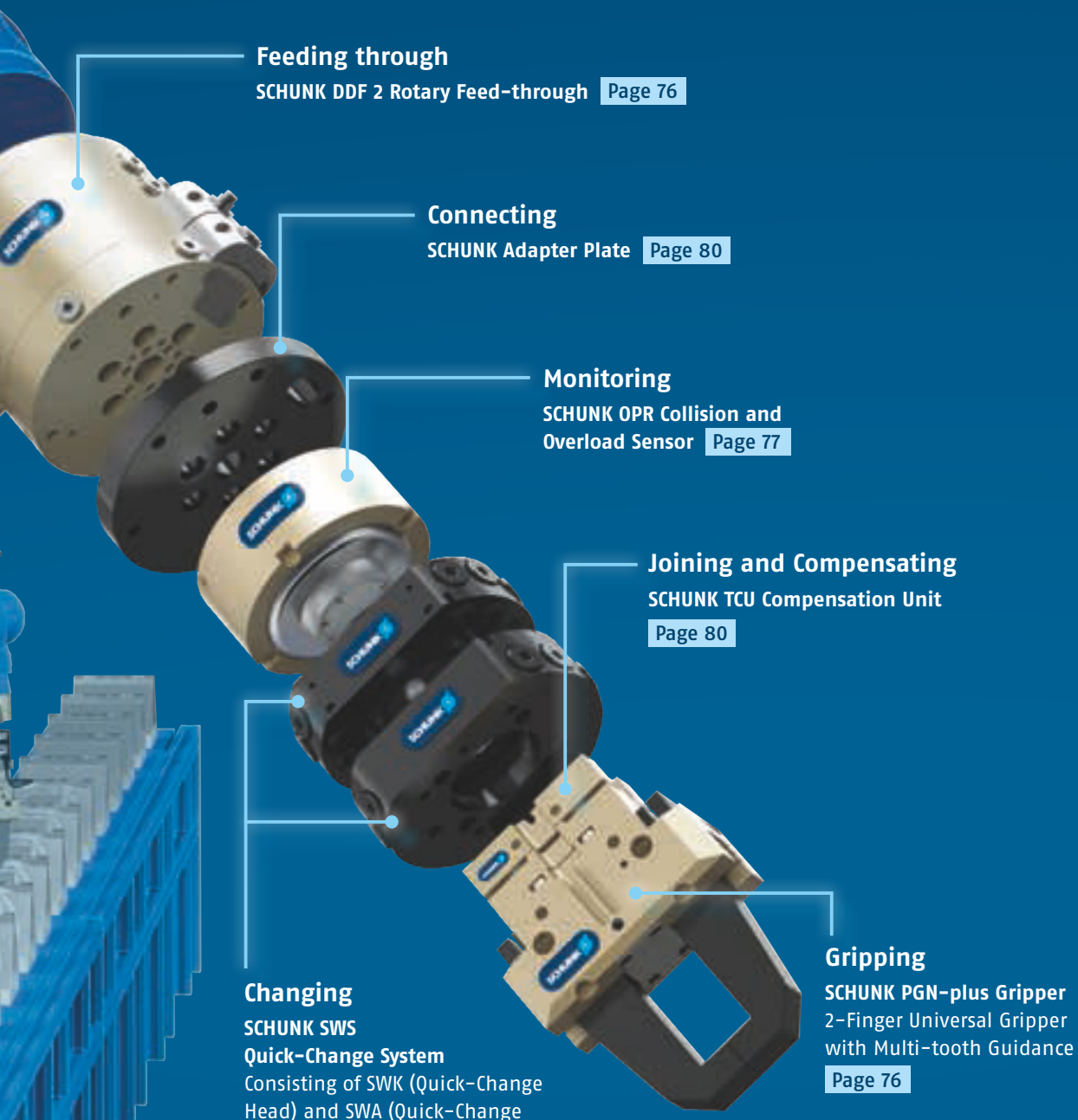
The SCHUNK End-of-Arm

From the standard Component to the standard Gripping System.



Expertise ...

... for your articulated arm robot



Feeding through
SCHUNK DDF 2 Rotary Feed-through Page 76

Connecting
SCHUNK Adapter Plate Page 80

Monitoring
SCHUNK OPR Collision and Overload Sensor Page 77

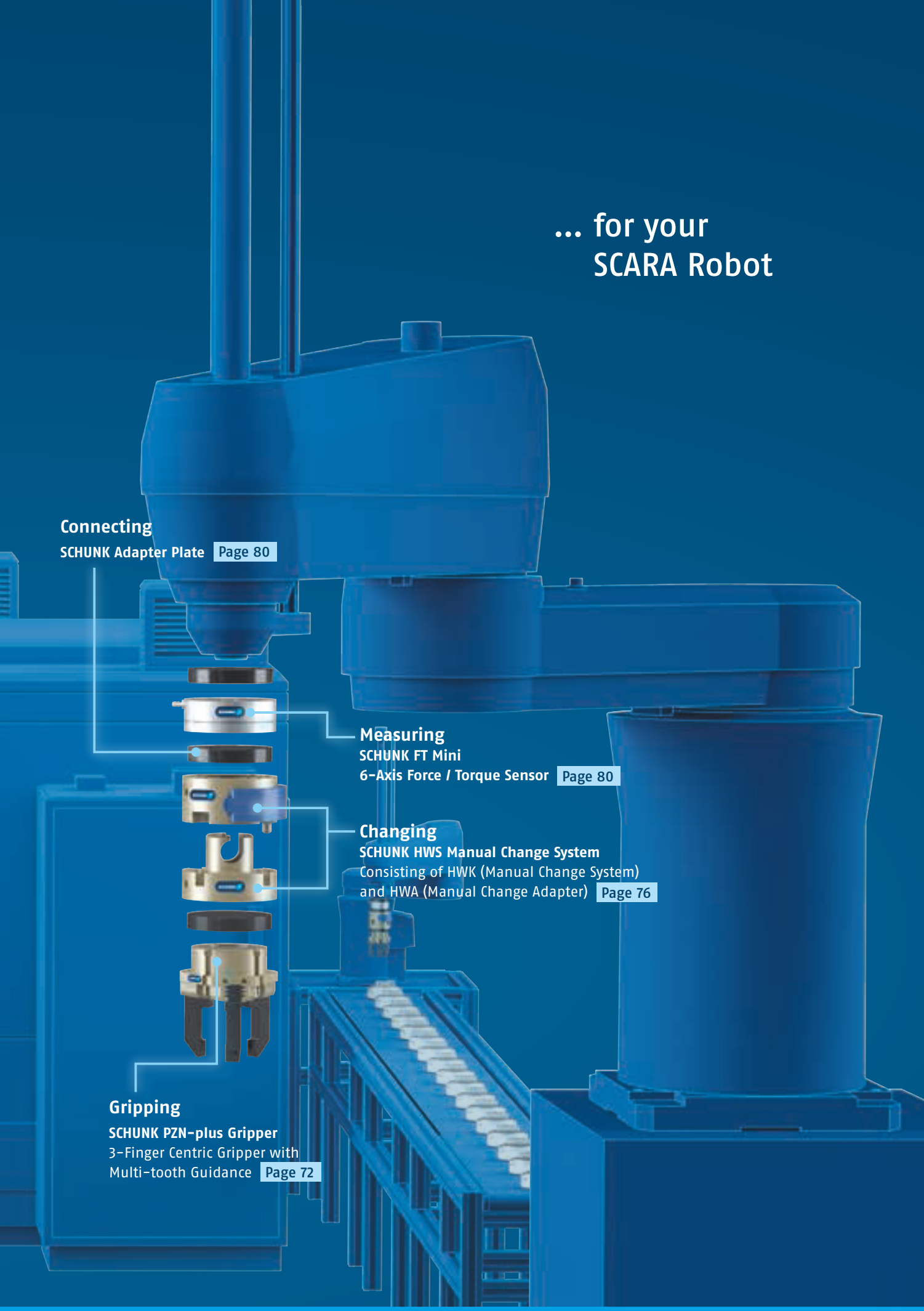
Joining and Compensating
SCHUNK TCU Compensation Unit
Page 80

Changing
SCHUNK SWS Quick-Change System
Consisting of SWK (Quick-Change Head) and SWA (Quick-Change Adapter) Page 76

Gripping
SCHUNK PGN-plus Gripper
2-Finger Universal Gripper with Multi-tooth Guidance
Page 76

Find out more about SCHUNK customer-specific components and gripping systems on Pages 14 to 15

... for your SCARA Robot



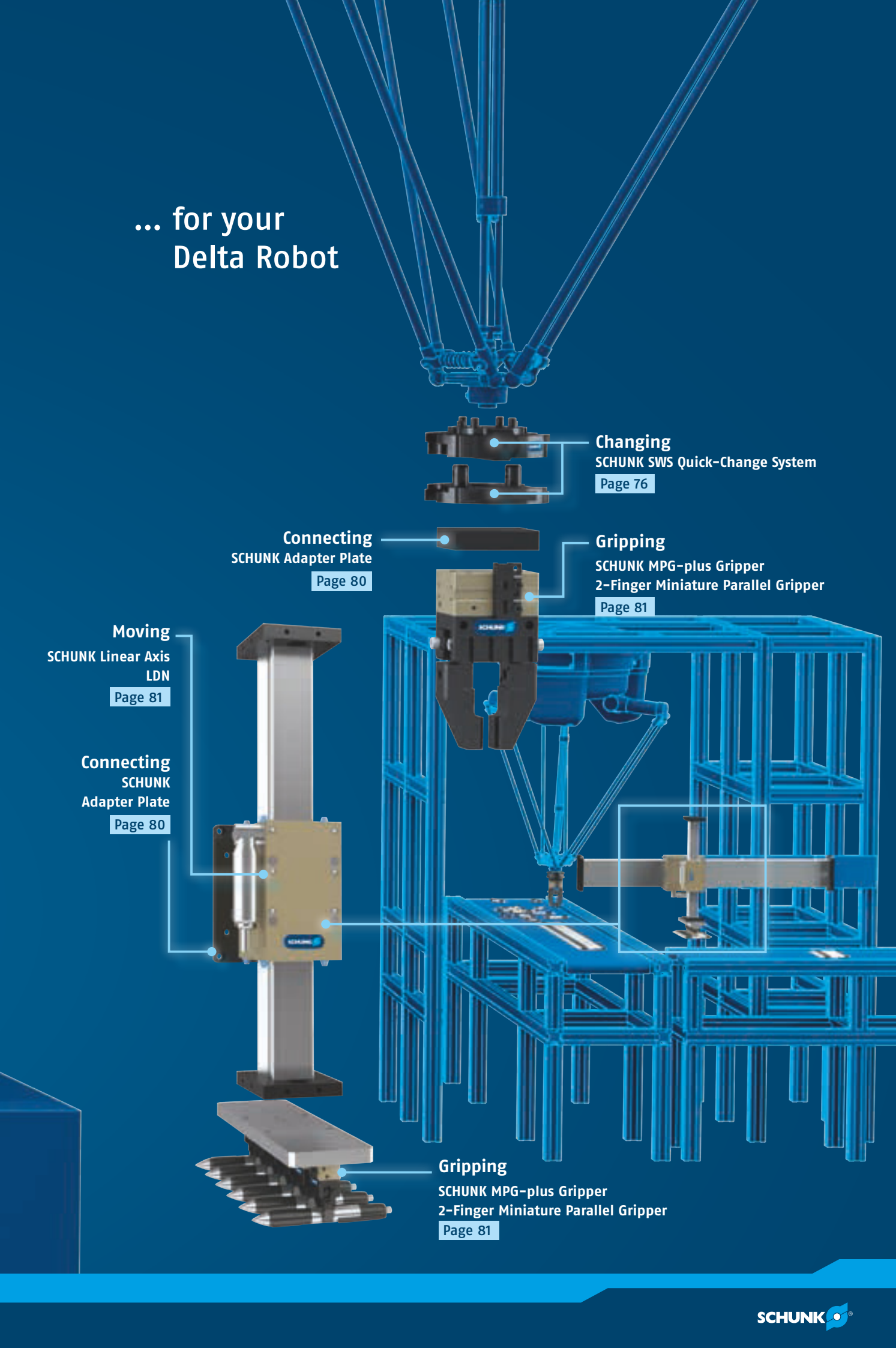
Connecting
SCHUNK Adapter Plate Page 80

Measuring
SCHUNK FT Mini
6-Axis Force / Torque Sensor Page 80

Changing
SCHUNK HWS Manual Change System
Consisting of HWK (Manual Change System) and HWA (Manual Change Adapter) Page 76

Gripping
SCHUNK PZN-plus Gripper
3-Finger Centric Gripper with Multi-tooth Guidance Page 72

... for your Delta Robot



Changing
SCHUNK SWS Quick-Change System
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Connecting
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Gripping
SCHUNK MPG-plus Gripper
2-Finger Miniature Parallel Gripper
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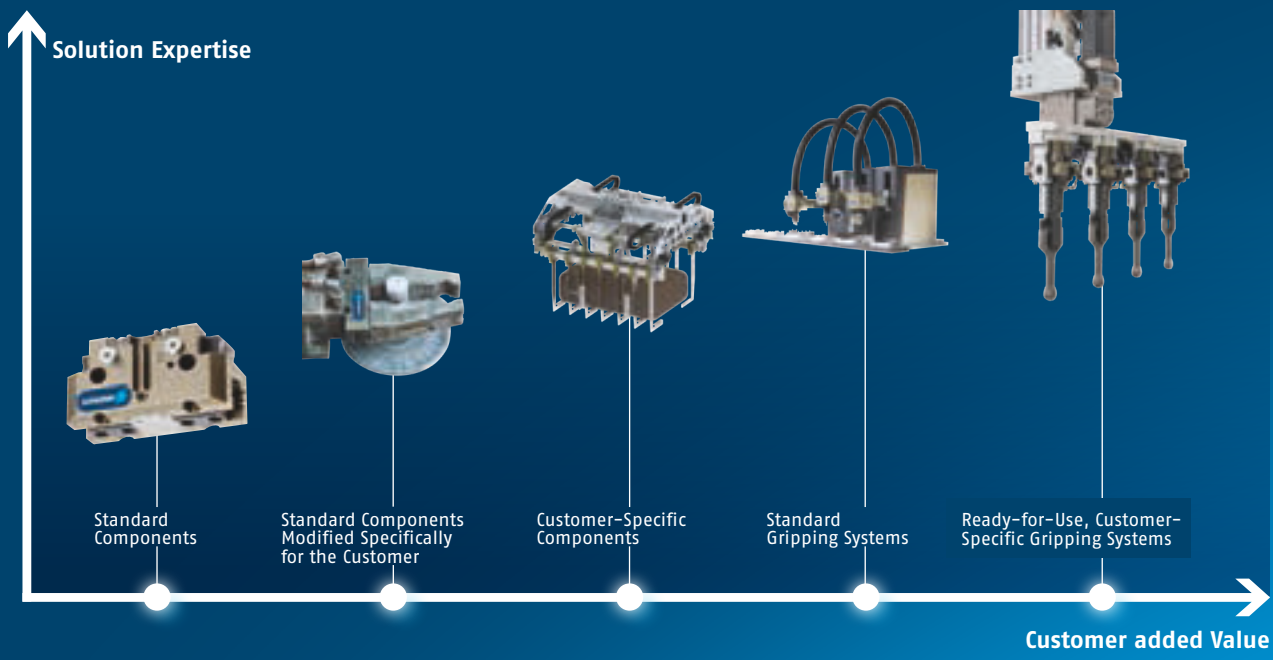
Moving
SCHUNK Linear Axis
LDN
Page 81

Connecting
SCHUNK
Adapter Plate
Page 80

Gripping
SCHUNK MPG-plus Gripper
2-Finger Miniature Parallel Gripper
Page 81

Customer-Specific Components and Gripping Systems

From the Standard Component to the Customer-Specific Gripping System



Just 1 Expert
Contact Person for a 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 person is the interface between you and the individuals involved in the project and ensures that information is exchanged smoothly.

From planning to continued support after the conclusion of the project, SCHUNK guarantees that your project will be handled cooperatively and efficiently.

Find out more about SCHUNK standard components and standard gripping systems on Pages 8 to 13

Your Advantage

- Over 30 years of experience in gripping technology
- Over 10,000 implemented gripping systems for a wide range of industries
- Modular design with perfectly coordinated standard components
- Compete accuracy of fit due to standardized interfaces
- Shorter project lead times due to standardized systems
- Reliable implementation processes and planning security without extra project costs
- Functional assemblies fitted on request or ready for use
- Time savings due to the perfect solution from a single source

Examples of ...

Robots



Task
Loading rough aluminum parts into and unloading finished aluminum parts from machine tools.

SCHUNK Solution
The aluminum blanks of the aluminum rims are finished machined in several steps. The blanks are gripped from the conveyor belt and inserted into the machine tool by modified SCHUNK PFH 2-finger long-stroke grippers. After the first machining process, the finished part is removed and the next rough part is immediately inserted. The grippers also have special plastic inserts on the gripper fingers.

SCHUNK Products



PFH
2-Finger Long-Stroke Gripper

Axis Systems



Task
A loading gantry is needed for a machine tool.

SCHUNK Solution
Rough parts are loaded into the machine and finished parts are removed from the machine by a pneumatic SCHUNK rotary actuator with double gripper. This significantly reduces the cycle time.

SCHUNK Products



X-Axis (Horizontal) D240-ZSS
Toothed Belt Drive
Linear Module



Z-Axis (Vertical) D240-SSS
Spindle Axis
Linear Module



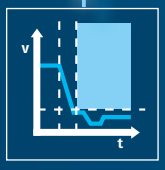
SRU-plus
Rotary Actuator



PGN-plus
Universal Gripper

SCHUNK
EGN Safety Gripping System

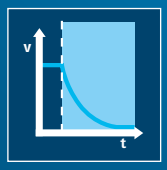
DGUV Test
MF 14001
Sicherheit geprüft
tested safety



SLS
Safe
Limited Speed



SOS
Safe
Operating Stop



STO
Safe
Torque Off

① Normal Operation

② Protection Zone 1

③ Protection Zone 2

World Premiere! The first certified Safety Gripping System.

A universal Actuator Concept for safe Human / Machine Collaborations.





SCHUNK
Safety Gripping Systems
MM Award 2014

SCHUNK closes a gap in the safety concept of your complete system with a unique, standardized safety component.

In contrast to other solutions on the market, the DGUV-certified SCHUNK EGN and EZN safety gripping systems continue to be powered even during emergency-stop operation and safely and actively maintain their gripping force. The workpiece remains securely held.

The incredible advantages for you:

- Safety according to **EN ISO 13849**
- Definition of **graduated protection zones**
- **Prevents** complete **emergency shut-off** of the production process
- Safe **limited speed** and **safe operating stop**
- Gripper switches back to the regular operating mode **without delay** after protection zone release
- **No restarting** of the system is required
- **Performance Level d / SIL 3** in combination with the SCHUNK ECM controller and the SCHUNK safety module
- Safety functionality can be **retrofitted** in existing EGN and EZN applications

Find out more about the SCHUNK EGN and EZN safety gripping systems on Pages 24 to 25



Premiere!
SRM Universal Rotary Unit.

Maximum compact performance. Large center hole. Maximum Flexibility.

The SCHUNK SRM ensures high performance and endurance for production automation in the automotive industry, metal machining, as well as assembly and handling. Its torque, mass moment of inertia, and rotating time significantly exceed the forerunner, the top-range SCHUNK SRU-plus.

Your sensational advantages:

- **100%** universal for use in every rotary application
- Up to **25%** higher torque
- Up to **200%** increase in mass moment of inertia for three times higher loads with the same size
- Up to **55%** larger center bore for the feed-through of different media and compact system design
- **Large and robust screw connection pattern** for handling of heavy loads
- Defined shock absorber stroke and quick clamping of the end position for **fast and easy commissioning**
- **Numerous options** for a larger spectrum of possible applications

Learn more about the SRM universal rotary unit on Pages 34 – 35

New Products

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Electric EGP 25-Speed 2-Finger Gripper for Small Components. The most compact and fastest electric Gripper for Small Components on the Market.

Excellent stroke to closing time ratio

The SCHUNK EGP in size 25 is already the smallest electric gripper for small components on the market today. The SCHUNK EGP 25 once again sets a record in speed. With a rapid 0.03 s closing time it is the fastest in its weight class and has opened up unexpected potential in high-speed Pick & Place systems. This speedy little powerhouse weighs 100 g, features a stroke of 3 mm and a gripping force up to 7 N. This makes it suitable for the handling of workpieces up to 35 g in friction-fit clamping.

The size 40 of the Speed version offers gripping forces up to 30 N with a closing time of 0.06 s.

Ideal for quickly handling small parts

The SCHUNK EGP is based on the platform of the tried and tested pneumatic SCHUNK MPG-plus gripper for small components. In many cases, users can transfer the sensor systems used in the SCHUNK MPG-plus to the SCHUNK EGP and easily convert existing systems from pneumatic to electrical operation. Control of the SCHUNK MPG-plus can be digitally direct, or via a sensor distributor. The Pick & Place expert fulfills protection class IP30 and fits seamlessly in the program for modular high performance assembly from SCHUNK.

The new size 64 of the SCHUNK EGP is a new addition to the standard series. The gripper for challenging handling applications achieves gripping forces of up to 300 N with a fast closing time of 500 ms.

Alternative
Adaptable
Intelligent
MECHATRONIK3



With maximum dynamics!
A gripping time of only 0.03 s.

EGP

SCHUNK Grippers

New product | Follow-up product | **Series expansion**

EGP 25-speed: available immediately | EGP 40-speed: Available starting April 2015 | EGP 64: Available immediately

Sizes	Weight	Gripping force	Stroke per finger	Workpiece weight
25 .. 40-speed	0.1 .. 0.295 kg	12 .. 30 N	3 .. 6 mm	0.035 .. 0.15 kg
25 .. 64	0.11 .. 0.79 kg	40 .. 300 N	3 .. 10 mm	0.2 .. 1.25 kg

Product features

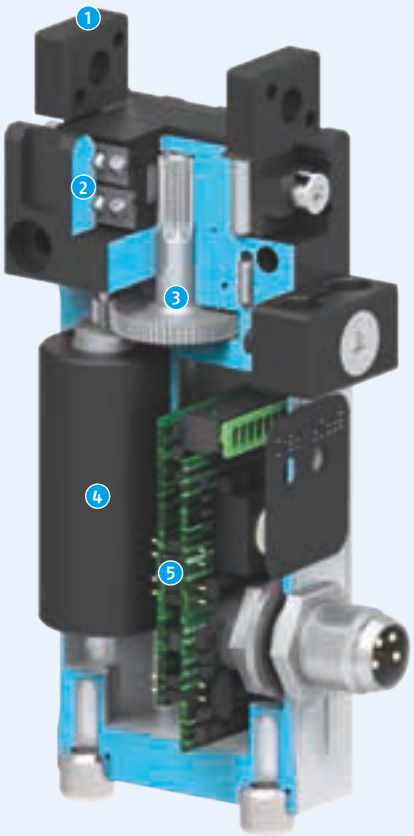
- Compact dimensions and low weight for small installation spaces and highly dynamic applications
- Short closing times for high cycles
- Simple controlling via two digital inputs (opening and closing)
- Electronics installed internally to save space
- Wear-resistant servo motor

Your advantage

- More flexible system designs, due to side and bottom mounting options for bolting through and on
- The sensor system of the SCHUNK MPG-plus can be used in many cases for the SCHUNK EGP, too
- Increased system productivity due to reduced wear-related downtimes

Cross Section

1. Base jaw
2. Cross roller guidance
3. Gears
4. Drive
5. Control electronics



Electric 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 48 mm per finger, diverse components with a weight of up to 3 kg can be handled with precision in force-fit gripping. The gripper fingers can be prepositioned to reduce cycle times. A brushless servo motor 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.



Alternative
Adaptable
Intelligent
MECHATRONIK 3

Highly flexible!
Intelligent powerhouse with variable gripping force adjustment.

EGL 90

SCHUNK Grippers

New product | Follow-up product | Series expansion

Available starting January 2015

Size	Weight	Gripping force	Stroke per finger	Workpiece weight
90	1.8 kg	50 N .. 600 N	48 mm	3 kg

Product features

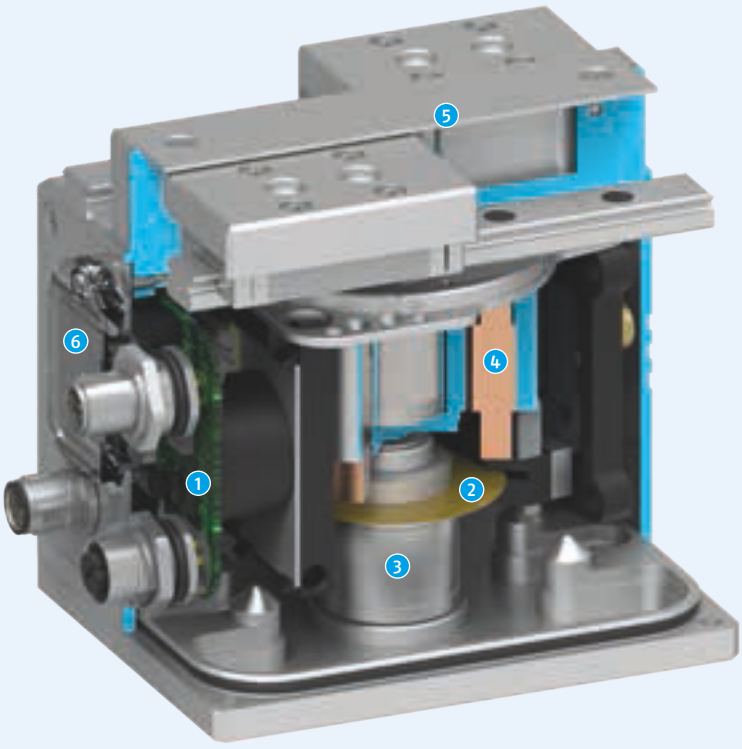
- Freely programmable finger position, closing speed and gripping force
- Pre-positionable gripper fingers
- Completely integrated control and power electronics
- 24 V DC operating voltage
- Mobile use possible
- Standard interfaces Profibus DP and CAN bus
- Service interface with USB port
- Brushless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

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

Sectional diagram

1. Control electronics
2. Encoder
3. Electric brake
4. Drive
5. Kinematics
6. Service window



Electric EGN 2-Finger Parallel Gripper.
Electric EZN 3-Finger Centric Gripper.
The first certified Safety Gripping Systems.

Safe stop – fast restart

With the SLS, SOS and STO functionalities the DIN EN ISO 13849 certified SCHUNK EGN and EZN gripper systems allow safe human-machine interaction. In the event that the production process is interrupted due to an emergency shut-off, the SCHUNK EGN and the SCHUNK EZN switch either to a state of safe limited speed or safe stop, depending on the activated safety zone. As opposed to existing solutions on the market the SCHUNK safety gripping systems remain continuously powered even during a safe operation stop, so that the gripped components can remain reliably held without mechanical maintenance of gripping force. As soon as the safety zone is released the gripper switches without delay – and without having to restart the system – back to the regular operating mode.

Safety functions can be retrofitted at any time

SCHUNK safety gripping systems are completely modular in design and are suitable for a broad spectrum of applications. The gripping force, speed and finger position can be adjusted and controlled flexibly during the handling process. All sizes feature the patented SCHUNK multi-tooth guidance. The SCHUNK EGN and EZN are controlled via the SCHUNK ECM controller with standard connection technology either by Profibus (up to 12 Mbit/s) or CAN bus (up to 1 Mbit/s). To use the certified functions SLS, SOS and STO, the gripper and controller are supplemented with the SCHUNK safety modules. Due to the modular design, existing EGN and EZN applications can be retrofitted with the safety functionality at any time. Both grippers are available in a dust-proof version. An optional protective sleeve can be mounted by the user.

DGUV Test
MF 14001
Sicherheit geprüft
tested safety



EGN



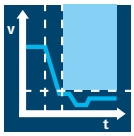
EZN

Learn more about the SCHUNK safety gripping systems EGN and EZN on Pages 16 – 17

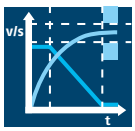


SCHUNK safety gripping systems MM Award 2014

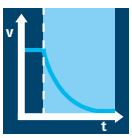
World premiere!
Certified safety gripping system. Can also be retrofitted!



Safe limited speed (SLS)



Safe operation stop (SOS)



Safe torque off (STO)

EGN | EZN

SCHUNK Grippers

New product | Follow-up product | Series expansion

Immediately available

	Sizes	Weight	Gripping force	Stroke per finger	Workpiece weight
EGN	80 .. 160	0.84 kg .. 3.0 kg	400 N .. 1000 N	8 mm .. 16 mm	2.1 kg .. 5.4 kg
EZN	64 .. 100	0.98 kg .. 2.3 kg	500 N .. 800 N	6 mm .. 10 mm	2.5 kg .. 4.0 kg

Product features

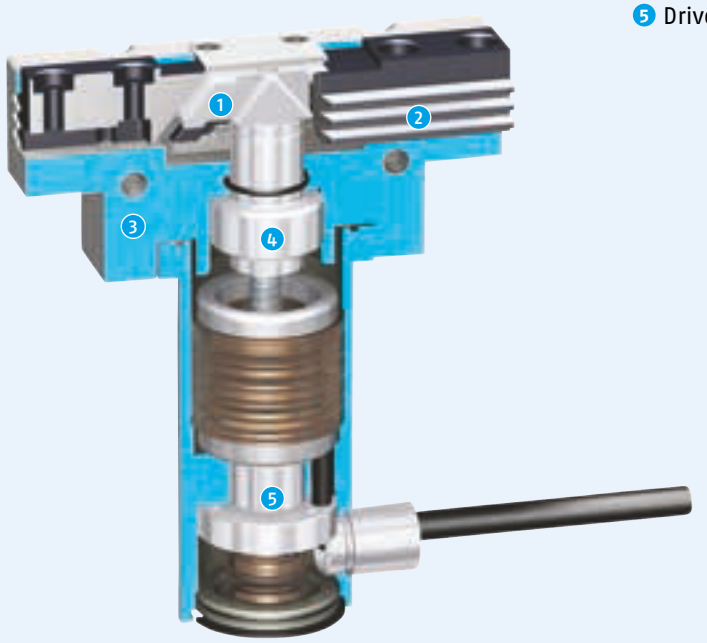
- Option now available for dusty, humid or caustic environments
- Modular gripper concept
- Certified SLS, SOS, and STO functionalities
- Performance Level d / SIL 3 in combination with SCHUNK ECM controller and the SCHUNK safety module
- Brushless servo motor
- Different lengths of robot-compatible cable sets

Your advantage

- Certified according to EN ISO 13849
- High gripping speed along with high force
- Simple commissioning and parameterization via PC, USB stick, or rotary encoding switch
- Safe holding of the workpiece even when the process is interrupted by an emergency shut-off
- Immediate return to the regular operating mode avoids restarting of the system

Cross Section

1. Wedge-hook design
2. Multi-tooth guidance
3. Housing
4. Spindle nut
5. Drive



Cross Section

1. Base jaw
2. Wedge-hook design
3. Housing
4. Kinematics
5. Drive



Electric WSG-25 2-Finger Parallel Gripper. The smallest intelligent Gripper on the Market with control via Ethernet TCP/IP.

Compact gripper with intelligence and sensitivity

The new WSG 25 small component gripper is the smallest intelligent gripper on the market that can be controlled via Ethernet TCP/IP. The WSG 25 was designed especially for use on small robots and in compact gantry systems. Both the finger position and the gripping force can be individually adapted for each stroke and continuously monitored. Even fragile small components can be handled with assured process stability. Like all gripper modules of the WSG series the WSG 25 can be put into operation quickly and easily by means of an intuitive user interface via Ethernet TCP/IP and any standard web browser, without the installation of additional software.
For this purpose it is equipped with an industrial M8 connector. The web server is already integrated in the gripper as a standard feature. It can also be used for remote diagnosis and for sending status e-mails.

Complete series – intuitive, integrated, intelligent

The intelligent mechatronic grippers of the WSG series are available in a total of four versions: The WSG 50 version can be controlled either via Ethernet TCP/IP, Profibus, CAN bus or eight virtual digital I/Os. In addition to the basic version WSG 050-110 with a stroke of 55 mm per finger, there is the long-stroke version WSG 050-210 with a stroke of 110 mm per finger. The WSG 32 on the other hand is substantially more compact and was designed especially for the handling of small and medium-sized components.



Alternative
Adaptable
Intelligent
MECHATRONIK 3

Extremely compact!
Only 25 mm wide!

Size 25, 32, and 50: Available immediately

Sizes	Weight	Gripping force	Stroke per finger	Workpiece weight
25	0.32 kg	5 N .. 20 N	32 mm	0.1 kg
32	0.55 kg	5 N .. 50 N	34 mm	0.25 kg
50	1.2 kg .. 1.6 kg	5 N .. 80 N	55 mm .. 105 mm	0.4 kg

Product features

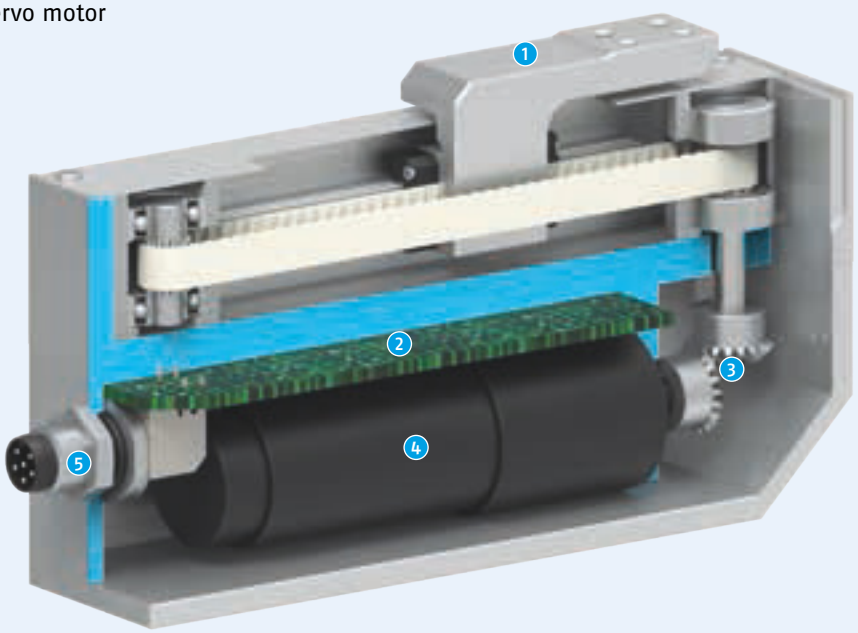
- Optionally with Profinet, CAN bus, or Ethernet interface
- Integrated gripping control with web server and in some cases Micro SD card
- Integrated sensor ports in the jaws for optional force-measuring jaws for sizes 32 and 50
- Gripped part monitoring already integrated

Your advantage

- Interface flexibility also when integrating into future systems
- Convenient configuration and diagnostics without software installation directly via Ethernet
- Direct gripping force feedback without interfering sensor system cables
- Implementation of safe processes without additional programming effort

Cross Section

1. Base jaw
2. Integrated control and power electronics for decentral control of the servo motor
3. Bevel gear stage
4. Drive
5. Power + Ethernet connectors



Electric LEG 2-Finger Long-Stroke Gripper. The multi-talented System for Package Handling.

Modular drive concept

With the SCHUNK LEG 2-finger long-stroke gripper, users from the packaging and automotive industries as well as metal machining, assembly and handling benefit from the advantages of modular gripping systems. In accordance with the modular concept, the SCHUNK LEG can be equipped with both pneumatic and electric drives. Users have the free choice of servo motors. This means that robot manufacturers can also use their own motors and control the gripper with the same command set used for the robot. In addition, the forces occurring in servo-electric drives can be measured and regulated.

Synchronous or asynchronous operation

If the SCHUNK LEG is operated with a single servo motor, both drive spindles are coupled and the fingers move synchronously. With two motors, on the other hand, the fingers can move independently to any positions in the gripping range. Both the guide rails and slides as well as the supporting side cheeks and the connecting elements are available in different sizes and versions. This allows the economical adaptation of the LEG to the particular task and load. The new sizes 400 and 520 from SCHUNK are new additions to the long-stroke gripper series.



Alternative
Adaptable
Intelligent
MECHATRONIK 3

Highly compatible!
Gripping system with adaptive drive concept.

LEG

SCHUNK Grippers

New product | Follow-up product | **Series expansion**

Immediately available

Sizes	Weight	Gripping force	Stroke per finger	Workpiece weight
400 .. 760	5.5 kg .. 11.4 kg	300 N .. 1500 N	0 mm .. 250 mm	20 kg

Product features

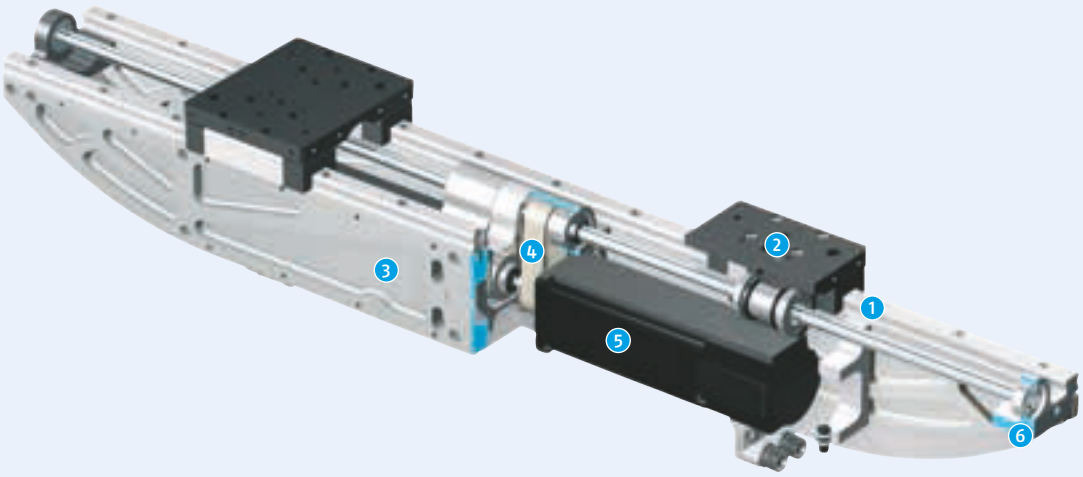
- Modular drive concept, compatible with every robot controller via standard servo motors
- Force- and position-controlled movements due to servo-electric drive
- Synchronous and asynchronous operation
- Coated
- Standard adapter plates on ISO flange

Your advantage

- Maximum process flexibility due to long gripper stroke
- Highest possible flexibility due to free position and gripping force control
- Dynamic processes due to low gripper weight
- Fast availability and adaptability due to modular design
- Easy integration as additional axis due to adaptive motor concept

Cross Section

1. Profiled rail guide
2. Base jaw
3. Housing
4. Kinematics
5. Motor installation space
6. Sensor system



Electric EGM Magnetic Gripper. Maximum holding Force in minimum Space.

Electricity instead of air

The SCHUNK EGM magnetic gripper is the powerhouse for flexible handling of ferromagnetic workpieces without interfering contours. The SCHUNK EGM is not pneumatically actuated but rather electrically in a fraction of a second. Therefore the SCHUNK EGM is particularly energy-efficient and process reliable. For actuation and deactivation just a short electric pulse is necessary, and the workpiece can be securely held in a emergency stop situations, too.

Flexible workpiece handling

With minimal set-up time and without the interfering contours of gripper fingers, the SCHUNK EGM can handle very different workpieces in alternation. Five sides of the workpiece are available for machining. Due to the variable number of magnet pole pairs, and adaption options to every common robot, optimal adaption to the individual applications is ensured.

Alternative
Adaptable
Intelligent
MECHATRONIK3



Energy-efficient!
Actuation through current pulse in seconds.

EGM

SCHUNK Grippers

New product | Follow-up product | Series expansion

Immediately available

Sizes	Weight	Max. workpiece weight	Maximum magnet surface
M-L-08, 15, 30	1 kg .. 3 kg	25 kg	37 cm²
M-Q-30, 50, 70	1.3 kg .. 7 kg	80 kg	98 cm²
B-Q-50, 70	5.5 kg .. 15 kg	140 kg	224 cm²

Product features

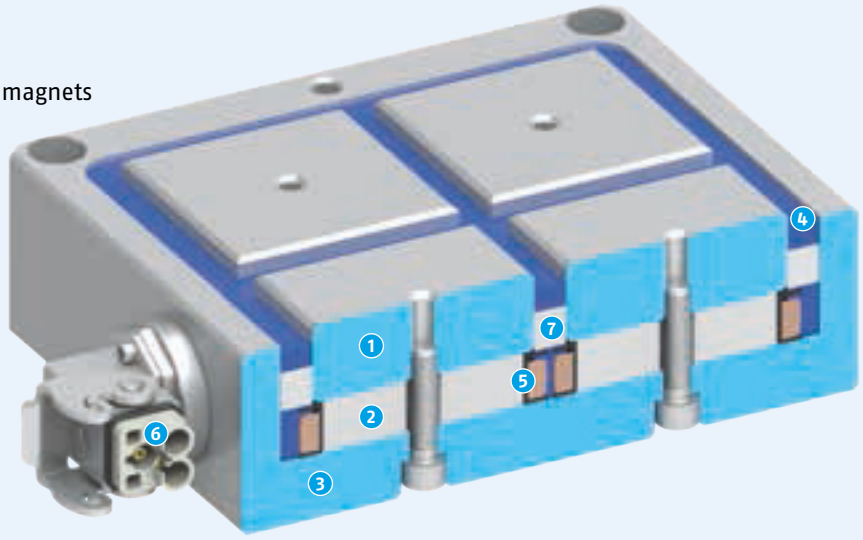
- Electro permanent magnet technology
- Simple digital actuation
- Standard pole extensions for simple adaptation to different geometries
- High holding forces in minimal space

Your advantage

- More flexibility and diversity due to access to workpiece with no interfering contours
- Cost effective due to minimal energy requirements
- Optimal adaptation due to variable number of magnetic poles

Cross Section

1. Magnetic poles made of steel
2. AlNiCo magnets (pole-reversible)
3. Base body made of steel
4. Potting compound
5. Coil
6. Cable connector
7. Neodymium parmenent magnets (not pole-reversible)



Electric 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 320°. 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.



Alternative
Adaptable
Intelligent
MECHATRONIK 3

Fast!
The swiveling time is only 0.18 s/180° and the gripping time is 0.05 s/stroke.

EGS

Rotary Gripping Modules

New product | Follow-up product | Series expansion

Available starting January 2015

Size	Gripping force	Stroke per jaw	Torque	Workpiece weight
25	30 N	3 mm	0.04 Nm	0.15 kg

Product features

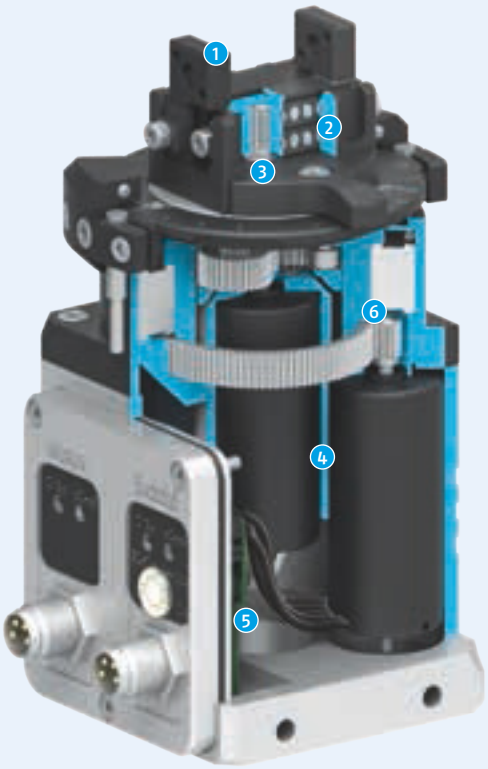
- Small dimensions of 58 mm x 45 mm x 89 mm
- Backlash-free pre-loaded junction roller guides for high-precision gripping and virtually constant gripping forces over the entire finger length
- Swiveling time 0.18 s/180°
- Gripping time 0.05 s/stroke
- Freely definable angle of rotation between 40° and 320°
- 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

Cross Section

1. Base jaw
2. Junction roller guide
3. Gear
4. Drives
5. Control electronics
6. Patented gear coupling



Pneumatic SRM Universal Rotary Unit. The most powerful Rotary Unit on the Market.

Larger center bore and maximum flexibility

The SCHUNK SRM universal rotary unit ensures high performance for production automation and differs significantly even in external appearance from the existing rotary modules on the market. The most striking features are the low interfering contour, the specially developed internal high-capacity dampers for maximum performance in a compact space and the large center hole for the feed-through of cables, hoses, workpieces or for the use of a camera. To speed up commissioning, the SRM features a pre-defined shock absorber stroke and fast clamping of the end position. In addition, a marking facilitates setting of the angle of rotation.
Correspondingly compact, it ensures a customized design at a cost-effectiveness ratio that is unique on the market.

Maximum compact performance

Just as convincing are the inner values: the torque, mass moment of inertia and rotating time of the SRM significantly exceed the previous, the top-range SCHUNK SRU-plus. In the size 40 version, for example, it was possible to increase the already high torque of the SRU-plus by another 25%. The increased mass moment of inertia is just as impressive: the compact SRM 16, for example, can rotate loads three times higher than the likewise high-end SRU-plus 20. The screw connection pattern of the new high-performance module is accordingly large and robust. SCHUNK optionally offers an air feed-through for compressed air or gases as well as an electric rotary feed-through for the reliable feed-through of sensor and actuator signals. It also offers the possibility of inductive monitoring. The SCHUNK SRM is available in sizes 16, 32 and 40. Other sizes and options to come.



Everything goes through!
Up to 55% larger center hole.

SRM

Rotary Modules

New product | Follow-up product | Series expansion

Available starting in early 2015

Sizes	Weight	Torque	Center bore diameter	Repeat accuracy
16	0.6 kg	1.5 Nm	10.5 mm	0.05°
32	3.0 kg	12 Nm	21 mm	0.05°
40	5.5 kg	25 Nm	26 mm	0.05°

Product features

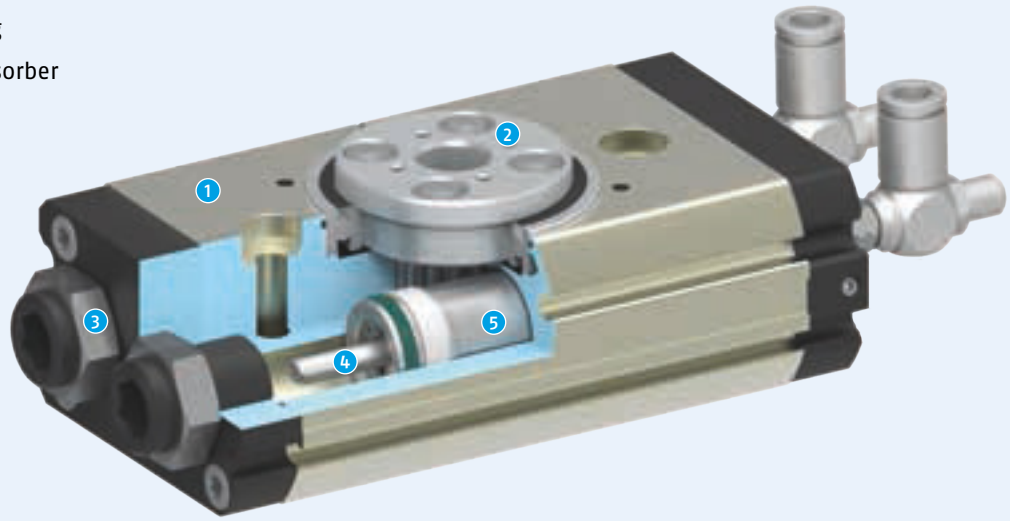
- Enlarged center hole
- Larger and more robust flange screw connection pattern
- Different damper types for a broad range of applications
- Numerous options: air feed-through (MDF), electric feed-through (EDF), inductive monitoring
- Calibration marking for angle of rotation
- End position clamping for process reliability

Your advantage

- Better mass moment of inertia range enables applications with smaller modules.
- Very compact design with internal shock absorbers. Minimized interfering contour
- Highly flexible due to modularity
- Angle of rotation marking simplifies commissioning
- Easy, fast commissioning

Cross Section

1. Housing made of press-drawn section
2. Robust flange screw connection pattern with large center hole
3. Calibration marking
4. Hydraulic shock absorber
5. Double piston drive



Electric PW Rotary Pan-Tilt Module. Maximum Flexibility and precise Positioning.

Two swiveling axes for precise positioning

The servo-electric SCHUNK PW expands the SCHUNK mechatronics line to include a modular and extremely powerful rotary pan-tilt module. It enables demanding automation solutions requiring maximum positioning flexibility as well as high torques and RPMs together with low cycle times. The entire control and power electronics are completely integrated. This eliminates external controllers and additional wiring. The position, speed, and torque are freely controllable. That makes the SCHUNK PW the ideal module for setting up rotary gripping units for loading and unloading of different sensitive workpieces.

Fast and easy commissioning

Like all PowerCubes of the second generation the SCHUNK PW is equipped with standard connection technology for fast and convenient connections. The controller is connected either by Profibus or CAN bus. The module features a USB port for commissioning and parameterization via PC with the SCHUNK Motion Tool. They can be addressed manually by means of an easy-to-configure rotary coding switch. Initial module movements can be implemented manually via DIP switches. The respective status is shown on an LED display. Direct feedback on the current status of the module, during commissioning or operation, for example, is provided by the 4 status LEDs.

Alternative
Adaptable
Intelligent
MECHATRONIK3



Flexible control!
Two freely programmable axes.

PW

Rotary Modules

New product | **Follow-up product** | Series expansion

Immediately available

Sizes	Weight	Torque
70 .. 90	2.0 .. 5.9 kg	12 .. 24 Nm

Product features

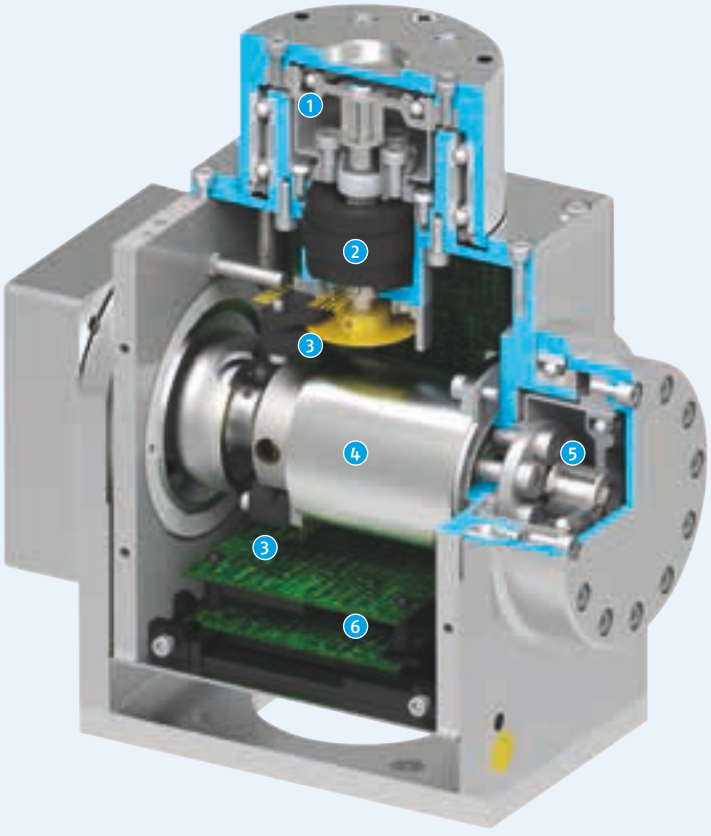
- Standard connection elements and integrated control concept
- Service interface: USB
- Fieldbus: Profibus or CAN bus
- Harmonic-Drive® gears
- Status display via 4 LEDs
- Brushless DC servo motor
- Integrated holding brake
- 4 digital inputs and outputs

Your advantage

- Implementation of user-defined applications through use of standard components
- Convenient firmware updates via USB drive
- Rotary coding switch for easy and manual address configuration directly at the module
- Integration of control and power electronics eliminates additional external controller
- Reduced wiring costs
- Easy, integrated monitoring of sensor signals

Cross Section

1. Axis 2
2. Servo motor axis 2
3. Encoder
4. Servo motor axis 1
5. Axis 1
6. Control electronics



PR 2, PDU 2, and PSM 2 electric high-performance Rotary Modules. Compact Powerhouses with integrated Intelligence.

The next generation of PowerCubes

Due to our success in labaratories, research, and industry applications with the first PowerCube, SCHUNK has further developed the modules of the second PowerCube generation, placing focus on heavy-duty use in industry. The SCHUNK PR 2, PDU 2, and PSM 2 high-performance rotary modules add three especially compact and powerful drives to the SCHUNK mechatronic product range. All regulating and power electronics have also been fully integrated into the new modules. This eliminates the need for an external controller, minimizes cabling, and reduces susceptibility to errors.

Fast and simple commissioning

Equipped with standardized plug connections, the modules can be quickly and easily connected. Control can be provided via Profibus (up to 12 Mbit/s) or CAN bus (up to 1 Mbit/s). The modules have a USB connection for commissioning and parameterization via PC with the SCHUNK Motion Tool. They can be manually addressed by means of a rotary encoding switch that is easy to adjust. Initial module movements can be realized manually via a DIP switch. The status of each module can be seen on an LED display. Initial module movements can be realized quickly via a DIP switch. The 4 LED statuses give direct feedback on the current status of the module, for example, during commissioning or operation.



PDU 2



PR 2



PSM 2

Compact performance!
Maximum performance in minimal space.

Alternative
Adaptable
Intelligent
MECHATRONIK3

PR 2, PDU 2, PSM 2

Rotary Modules

New product | Follow-up product | **Series expansion**

Immediately available

	Sizes	Weight	Torque	Speed
PR 2	70 / 90 / 110	2.0 kg .. 5.9 kg	16 Nm .. 184 Nm	25 RPM .. 78 RPM
PDU 2	70 / 90 / 110	1.9 kg .. 5.8 kg	16 Nm .. 184 Nm	25 RPM .. 78 RPM
PSM 2	70 / 90 / 110	1.8 kg .. 4.2 kg	0.45 Nm .. 1.8 Nm	1570 RPM .. 4320 RPM

Product features

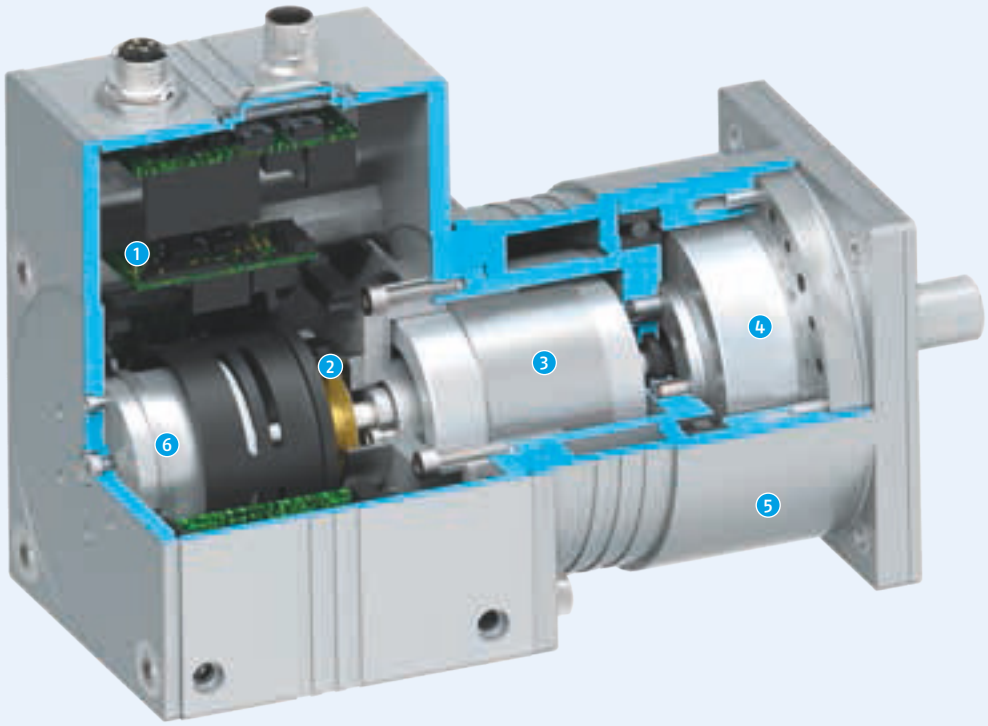
- Standard connecting elements and integrated control concept
- Service interface: USB host, USB device
- Fieldbus: Profibus or CAN bus
- Harmonic Drive® gears with three reduction levels per size (PR 2 / PDU 2)
- 4 LED status displays
- Brushless DC servo motor
- Integrated holding brake
- 2 digital inputs

Your advantage

- Any applications can be implemented with standard components
- Convenient firmware updates via USB stick
- Rotary encoding switch for simple and manual address setting directly on the module
- Rotating angle > 360° for a variety of applications
- The integration of the regulating and power electronics saves the need for additional external controllers and additional cabling
- Simple and integrated monitoring by sensor signals

Cross section PDU 2

1. Electronic control unit
2. Encoder
3. Brushless DC servo motor
4. Harmonic Drive® gear
5. Heat sink
6. Brake



Electric ELB Linear Module. The compact Short-stroke Axis for dynamic Assembly Applications.

Precise and fast

The SCHUNK ELB linear module was specially designed for fast and dynamic strokes. A combination of a powerful linear direct drive and an especially smooth-running, pre-loaded junction roller guide, the module is extremely compact, rigid and dynamic. The SCHUNK ELB positions comparatively high loads with an excellent permanent repeat accuracy of 0.01 mm. The maximum acceleration is 100 ms^{-2} and the maximum speed is 4 ms^{-1}. In demanding joining and positioning processes, users benefit from excellent precision and extremely short cycle times as well as high productivity and process stability.

Saves time and money

The high-precision module is available in stroke variants of 50 mm, 75 mm and 125 mm. It can optionally be equipped with an incremental stroke measuring system (sine-cosine interface) or an absolute stroke measuring system (Hiperface or SSI interface). An absolute-value transducer eliminates time-consuming reference runs during system startup and emergency stops.
In addition, the module requires neither end nor reference sensors, therefore reducing the investment costs, programming requirements and the number of cables in the cable set.



Alternative
Adaptable
Intelligent
MECHATRONIK 3

Flexible variants!
3 stroke variants 50 mm, 75 mm and 125 mm.

ELB

Linear Modules

New product | Follow-up product | Series expansion

Immediately available

Size	Strokes	Driving force	Repeat accuracy	Maximum speed
70	50 / 75 / 125 mm	150 N max.	0.01 mm	4 m/s

Product features

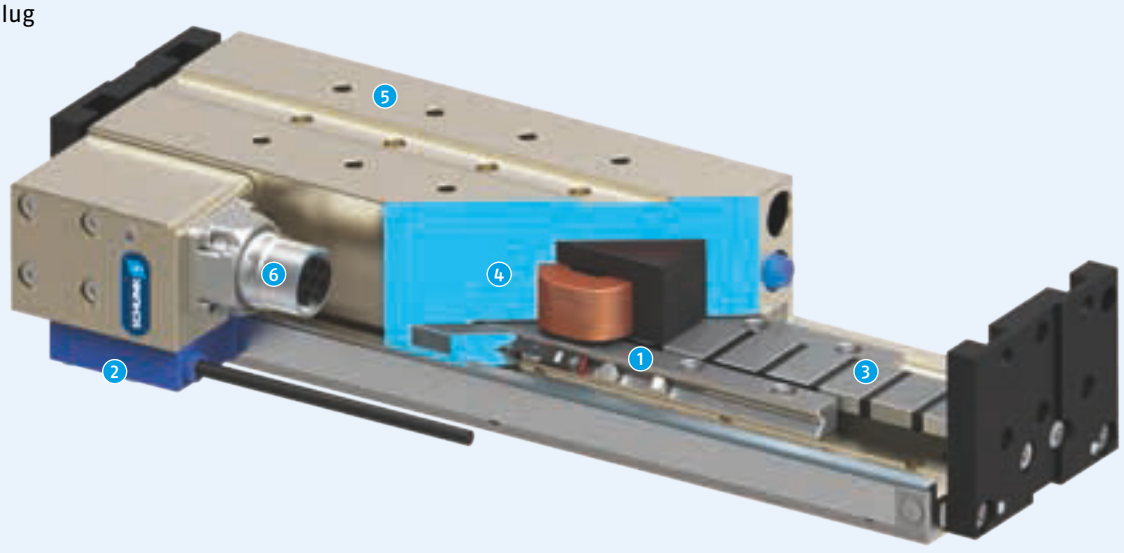
- Very compact unit due to use of junction roller guides
- Very smooth-running guidance
- Incremental or absolute stroke measuring system
- Optional holding brake available for Z-axis applications
- Standard control via Bosch Rexroth IndraDrive or Siemens Sinamics controller; others on request
- The controllers are available with standard interfaces, such as Sercos III, Profinet IO, EtherNet/IP, EtherCat, Profibus, Sercos 2

Your advantage

- No wearing parts
- Long service life and no maintenance costs
- Can be combined with numerous modules from the world's largest line of systems from SCHUNK for modular high-performance assembly
- Absolute-value transducer reduces programming costs and saves time during commissioning

Cross Section

1. Junction roller guide
2. Stroke measuring system
3. Secondary part
4. Primary part
5. Modular design hole pattern
6. Motor plug



Motor Hybrid Cable for PPU-E. Now available as an Option for all Sizes of the PPU-E.

Perfect accessory for Pick & Place high-speed assembly

The patented SCHUNK motor hybrid cable further expands the system product range of the Pick & Place units of the SCHUNK PPU-E series, which are linearly directly driven and therefore driven with a gear ratio of 1:1. The especially dimensionally stable and dirt-resistant motor hybrid cable is available as an option for all sizes. It makes it possible to construct low-maintenance, purely electric Pick & Place units with a C-axis and gripper. The low-wear SCHUNK motor hybrid cable supplies the electric actuators. The motor and transducer cables are completely integrated.

Enormous productivity guaranteed

The motor hybrid cable supplements the existing pneumatic hybrid cables. With both cable variants, electric and pneumatic rotary drives can now be operated with full utilization of the Pick & Place unit. The unique cable design enables up to 120 cycles per minute and therefore enormous productivity. It also guarantees a significantly longer service life than conventional cable solutions, so maintenance costs and unplanned system downtime are minimized.

Alternative
Adaptable
Intelligent
MECHATRONIK3



Low-wear!
High form stability and dirt resistance.

PPU-E with hybrid cable

Linear Modules

New product | Follow-up product | **Series expansion**

Immediately available

Sizes
15 .. 50

Product features

- Unique cable design
- Completely integrated motor and transducer cables
- Integrated air hoses and sensor wires
- Flat, dimensionally stable cable

Your advantage

- Construction of a purely electric Pick & Place unit with C-axis and gripper
- Higher operating speed for reduced cycle times
- Hybrid systems are also possible
- Cable does not kink to the side as in hose solutions

Cross Section

1. Power cable
2. Pneumatic hose
3. Sensor cable
4. Transducer cable
5. Central protective conductor



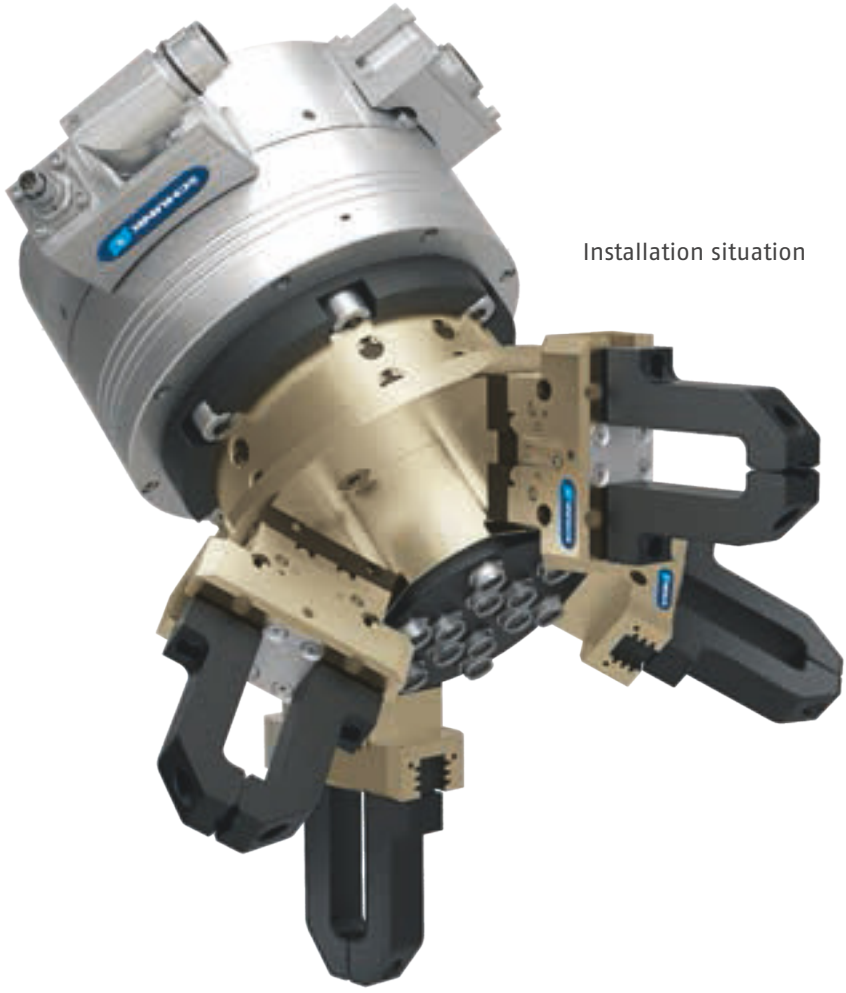
RVK Collection Gripper.
Highly productive with Collect & Place Applications.

Efficient high performance assembly

The all-purpose collection gripper SCHUNK RVK significantly increases the productivity of Pick & Place applications. Instead of picking up, moving, and positioning components one at a time – as is usual in high performance assembly – the Collect & Place principle of the SCHUNK RVK first collects several parts back-to-back. Only then are they brought to the assembly location and then set down back-to-back there. In this way, traverse paths are significantly reduced and up to six different parts are handled in the same cycle.

One cycle, six parts

The SCHUNK RVK collection gripper can be equipped with up to six standard grippers from SCHUNK's gripping system series, which is the most comprehensive of its kind in the world. With the aid of the integrated valve technology and also a pre-integrated electric pneumatic rotary feed-through, one gripper can be actuated while the others remain under pressure in the gripping position. All grippers can be monitored at any time independently of each other.



Installation situation

Highly productive!

The Collect & Place principle increases automated system productivity by minimizing cycle times and travelling distance.

RVK

Modular Assembly Automation

New product | Follow-up product | Series expansion

Immediately available

Size	Number of grippers	Weight	Air feed-through
100	4 or 6	1.7 kg .. 2.0 kg	2 x

Product features

- Compact design
- Adjustable to 4 or 6 grippers
- Pneumatic and electrical feed-throughs
- Attachable as standard to the SCHUNK ERS 135 and 170 rotary modules, to the SCHUNK RST-D 087 rotary indexing table, or directly to robots with a center hole
- All grippers permanently monitored
- Integrated valve technology

Your advantage

- Allows a particularly compact system design
- Can replace gripper stations and quick-change systems in space-limited applications
- After an emergency stop the reliably gripped components can be removed individually all grippers are monitored and therefore process reliable

Cross Section

1. Active gripper position
2. Piston activation
3. Passive gripper position
4. Versatile gripper connection
5. Electrical feed-through
6. Storage



VEH Adjusting Unit and APDA Mounting Plate. Quick-adjustment Module and Clamping Unit for Assembly Systems.

More than 10,000 possible combinations

SCHUNK offers the world's most comprehensive line of modules for high-performance assembly. At the core of the design is a unique support column system featuring numerous standardized column profiles, adapter plates, centering and connecting elements. The two new components will further expand the possible applications.

Fast and precise positioning

The SCHUNK VEH adjusting unit enables especially easy and precise fine adjustment of handling systems. The flat and compact quick-adjustment module can be positioned directly under the bases of Pick & Place units or other handling modules. An Allen key is used to adjust the Pick & Place positions of the handling system in seconds, both in the linear and the rotating axis. The SCHUNK VEH is ideal for both the SCHUNK SOE single base and the SCHUNK SOD double base and is available for support column diameters of 55 mm and 35 mm.

Mounting plate for compact assemblies

The SCHUNK APDA mounting plate expands the already very diverse combination options of the modular system. It allows mounting of components directly above existing support columns in order to produce especially compact solutions. The mounting plate offers diverse mounting options on all five surfaces and is ideal for column diameters of 55 mm and 35 mm.



Now even more flexible!
Modules for all compensation directions.

VEH, APDA

Modular Assembly Automation

New product | Follow-up product | Series expansion

Available immediately

Column diameter
35 .. 55 mm

SCHUNK VEH product features

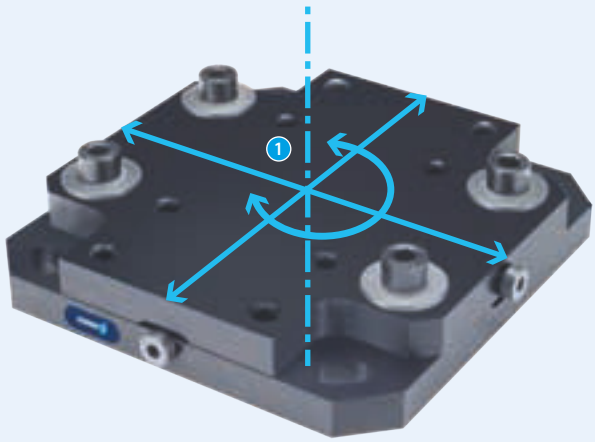
- Two linear compensation directions
- One rotary compensation direction
- Easy to adjust with a hexagon socket
- Flat design
- Fits simple and double socket

SCHUNK APDA product features

- Additional clamping element for compact assembly of entire handling systems
- Additional assembly can be mounted directly above the columns
- Numerous mounting options

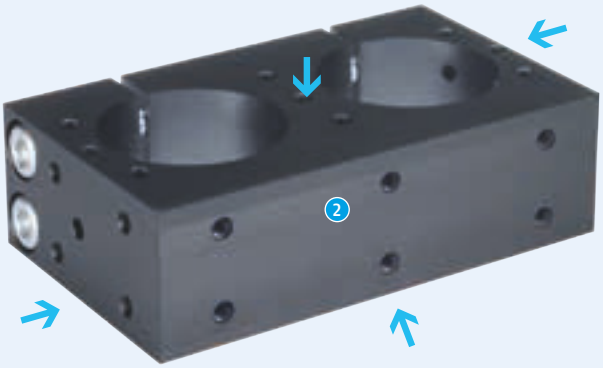
Adjusting unit VEH

1 Adjusting possibilities



Mounting plate APDA

2 Mounting surfaces



Software Kombibox and Software Toolbox. New Planning Tools for Assembly Systems.

The necessary accessories – at the press of a button

SCHUNK's line of modules for high-performance assembly offers more than 10,000 possible combinations for unique freedom of design and flexibility in the planning of assembly systems. SCHUNK has now issued updates for the time-proven planning tools "Kombibox" and "Toolbox". The Kombibox, which enables the fast and easy determination of which components are optimally compatible, has been expanded to allow more than 1,700 new combinations. All new products, such as the SCHUNK MPG-plus and EGP small component grippers, the SCHUNK ELB and HLM stroke modules or the SCHUNK Beta and Delta linear modules are now integrated in the tool. At the press of a button, users can determine both the suitable adapter plates and the required centering elements and DIN screws. As soon as the desired combination is defined, the Kombibox determines the required assembly accessories, including all standard parts and calculates the position coordinates of the combined modules.

Designed for process reliability – fast and easy

The software modules of the Toolbox series have also been significantly expanded, in order to facilitate the design of the single modules. "Toolbox Pick & Place", a new tool for selecting the SCHUNK PPU-P Pick & Place units and the SCHUNK DRL rotary lift units, automatically determines cycle times and maximum cycles, without the necessity of looking over data sheets. In addition, "Toolbox Rotation" has been expanded to include innovations such as the SCHUNK RST-D rotary indexing table and "Toolbox Translation" now includes new stroke variants of the SCHUNK CLM linear modules.



Easy!
Assemble the desired combination in seconds.

Kombibox | Toolbox

Modular Assembly Automation

New product | Follow-up product | **Series expansion**

Online immediately!

Product features

- Time-proven software – based on Excel 2003
- Intuitive controls
- No installation necessary
- Queries in six languages possible

Your advantage

- Saves time and increases planning reliability
- Avoids costly over-dimensioning
- Complete utilization of the high performance capability of the single components



Pneumatic SWS-160 Quick-Change Module. Compact Quick-change Module for loads up to 270 kg.

Especially for robots of the 200 kg class

The SCHUNK SWS-160 quick-change module is a compact, lightweight module for handling weights up to 270 kg and moment loads up to 7,170 Nm (M_x, M_y). Nine standard integrated air feed-throughs provide for a reliable energy supply to the connected pneumatic modules. In addition, the SWS-160 can be equipped for the respective application with up to four standardized modules for the pneumatic, hydraulic or electrical supply of the actuators, as well as with numerous electrical options. Hardened contact surfaces and robust long-life bushings for the air feed-throughs ensure excellent repeat accuracy and continuously high process stability.

Large selection of modular options

A patented, self-retaining locking system ensures that the quick-change head and adapter remain coupled in the event of a sudden power failure. Optionally the SCHUNK SWS-160 can also be equipped with the "ready-to-lock" system, which enables reliable locking of the robot and effector starting at a distance of 1.5 mm. The locking state can optionally be monitored by means of an integrated piston stroke control, with no effect on the overall height. For easy mounting on the robot arm the changer features hole patterns for ISO flanges with a diameter of 125 mm.



Ready to lock!
Reliable locking of the robot and effectors with a locking gap of 1.5 mm or higher.

SWS

Robot Accessories

New product | Follow-up product | **Series expansion**

Immediately available

Size	Workpiece weight	Moment load M_x, M_y	Air feed-through
160	270 kg	7170 Nm	9

Product features

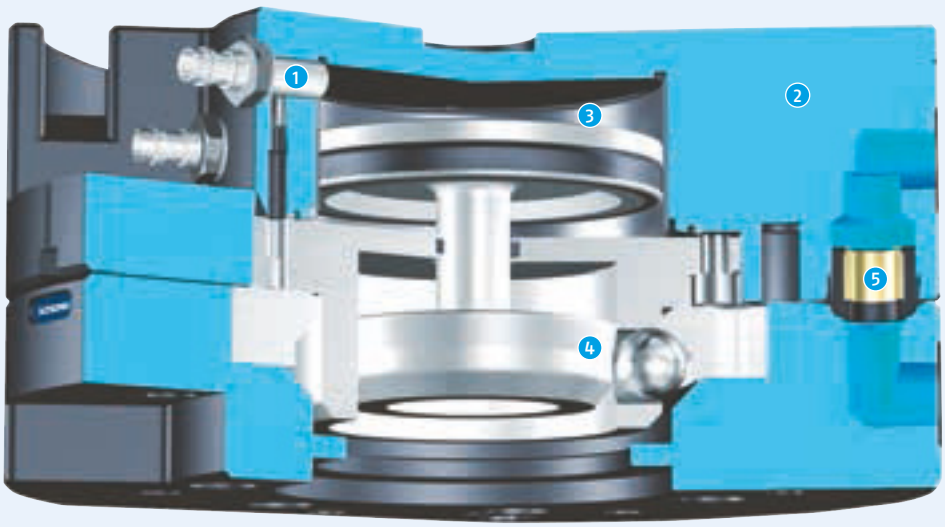
- Patented self-retaining locking system
- Integrated air feed-through
- Broad assortment of cable connectors
- Suitable storage racks for all sizes
- Optional query via integrated piston stroke control

Your advantage

- Secure connection between the quick-change head and quick-change adapter due to self-retaining locking system
- Broad assortment of electric options for universal power transmission capabilities
- Easy mounting on most robot types without additional adapter plate due to ISO flange pattern

Cross Section

1. Sensor query of the locking state
2. Housing
3. Drive
4. Locking mechanism
5. Air feed-through



AGE-Z 2 Compensation Unit. Z-compensation in confined Spaces.

More compact and stronger

The compact SCHUNK AGE-Z 2 compensation unit ensures reliable Z-compensation in a small space for the assembly, palletizing, or insertion of workpieces. Due to an optimized design and guidance with minimal play, significantly heavier payloads are possible than with traditional compensation modules. Alternatively, smaller sizes can be used. In order to match the compliance of the unit to the particular process, the user can choose from two different spring strengths for each size.

Direct mounting on the robot

For direct mounting on the robot, the SCHUNK AGE-Z 2 has a flange pattern standardized in accordance with DIN EN ISO 9409-1. The Z-deflection can be monitored by means of magnetic proximity switches. The unit can be pneumatically locked in a defined retracted or extended end position so that tools or grippers do not vibrate when the robot arm is moving.



More compact!
Compliance can be selected in two spring strengths.

AGE-Z 2

Robot Accessories

New product | **Follow-up product** | Series expansion

Immediately available

Sizes	Weight	Handling weight Vertical use	Handling weight Horizontal use	Compensation path Z
050 .. 080	0.35 .. 1.1 kg	4 kg .. 8 kg	2 kg .. 6 kg	8 mm .. 10 mm

Product features

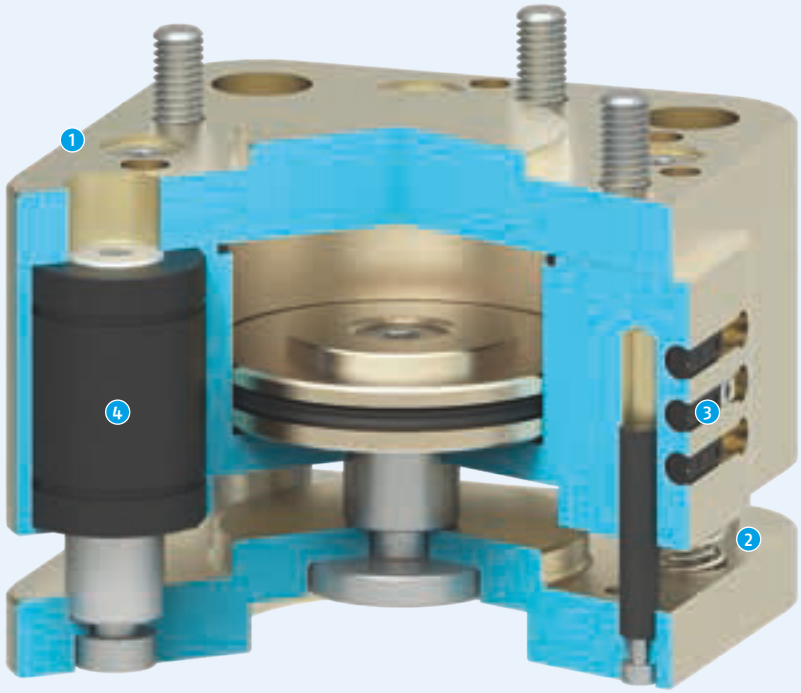
- Compact design
- Flexible use
- ISO flange pattern
- Mounting kit for inductive monitoring is available

Your advantage

- Z-deflection can be controlled by means of magnetic proximity switches
- Compliance in Z-direction can be defined by means of different spring strengths
- Significantly heavier payloads possible

Cross Section

1. Housing
2. Compression springs
3. Monitoring groove
4. Scope-free ball bearings



Servo-Electric SVH 5-Finger Gripping Hand. The first ready for series 5-Finger Hand.

Integrated control unit in the wrist

The series production version of the anthropomorphic SCHUNK 5-finger hand grips nearly as perfectly as the human hand. The electronics are completely integrated into the wrist, which allows the 5-finger hand to simulate nearly all human hand movements. Due to the moving parts with a total of nine drives, various gripping operations can be executed with high sensitivity.

Reliable holding

Elastic gripping surfaces ensure a reliable grip on objects. Due to its compact dimensions, the SCHUNK SVH is suitable for gripping and manipulation tasks, and especially for human / robot communication by means of gestures.



Integrated electronics in the wrist

Visionary!
A vision becomes reality.



Left and right gripping hand



Gripping hand



Key grip



Precision grip



Power grip

SVH

Modular and Mobile Gripping Systems

New product | Follow-up product | Series expansion

Immediately available

Size	Weight
1	1.3 kg

Product features

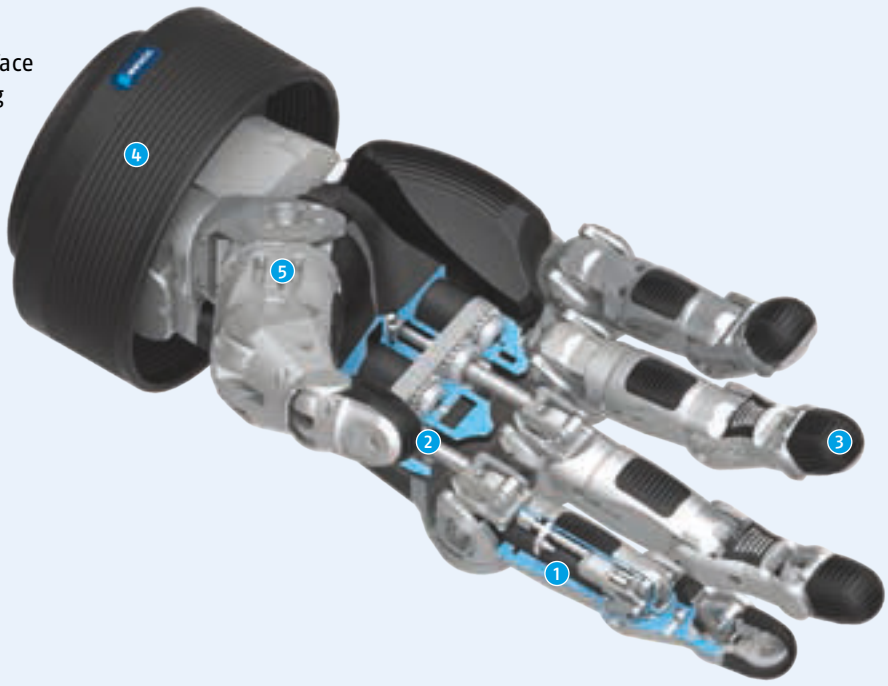
- Available in left- or right-hand versions
- Low energy consumption at 24 V DC
- Complete integration of control, regulator and power electronics in wrist

Your advantage

- Suitable for mobile fields of application
- Gripping hand key grip, precision grip, power grip
- Easy connection with market-standard industrial and lightweight robots via defined interfaces

Cross Section

1. Distal index finger drive for controlling two axes
2. Proximal index finger drive is DC motor with spindle drive
3. Slip-resistant elastic gripping surface made of rubber for secure holding
4. Integrated electronics for direct mounting on the robot arm
5. Thumb with two degrees of freedom for bending and pivoting the thumb



ECM Controller.
Modular 24/48 V Controller for SCHUNK Modules.

Fast and simple commissioning

The modular controller ECM has been developed specifically for electrically driven gripping and rotary modules with an input voltage of 24 V or 48 V. Equipped with standardized plug connections, it can be quickly and easily connected. Control can be provided via Profibus (up to 12 Mbit/s) or CAN bus (up to 1 Mbit/s). A Profinet interface will be available as an additional option. For commissioning and parameterization via PC with the SCHUNK Motion Tool, the ECM has a USB device connection. Alternatively it can also be put into operation in seconds without connecting a programming device. To do this, a USB stick can be parameterized and addressing is done manually via an easily configurable rotary encoding switch.

Everything in view and under control

Initial module movements can be realized via a DIP switch. The ECM is also equipped with an LED and 7-segment display for status display and error analysis. It is also available with four digital inputs and outputs. It is suitable for evaluating resolvers, encoders with an index, differential encoders and absolute-value transducers (SSI, EnDat), and in particular, enables the control of SCHUNK EGN and EZN grippers as well as the SCHUNK ERS rotary module.



Convenient!
Parameterization via USB stick.

ECM

Accessories

New product | **Follow-up product** | Series expansion

Immediately available

Feed line current
max. 15 A

Transmission rate
Profibus max. 12 Mbit/s
CAN bus max. 1 Mbit/s

Product features

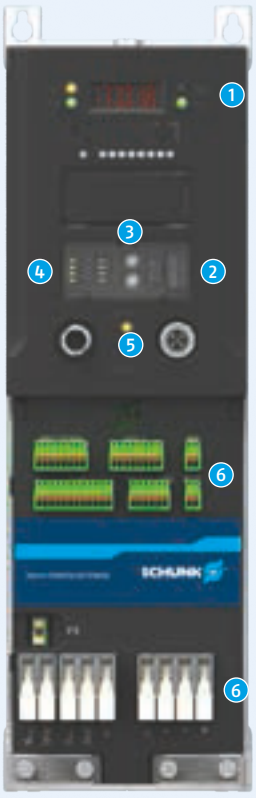
- Service interface USB host and two rotary encoding switches
- Standardized plug connections for communication and cage clamp terminals for power
- DIP switches with first test and commissioning functions
- Clear information on current controller status via 7-segment display and 4 LEDs
- Toolfree connection of cables with spring clips and plug connectors

Your advantage

- Fast and convenient manual commissioning
- Substantially simplified assembly
- Maximum interface flexibility due to Profibus, CAN bus, 4 digital I/Os and Profinet (2014)

Cross Section

1. Status display
2. Service Interfaces
3. Rotary encoding switch
4. DIP switch
5. M12 plug connection for communication
6. Cage clamp terminals and plug connector



SDV-P Pressure Maintenance Valve.
First Pressure Maintenance Valve with manual Ventilation.
Now also available with hose-free direct Connection.

With integrated quick-action ventilation for PGN-plus 100

The SCHUNK SDV-P pressure maintenance valve with integrated quick-action ventilation is now available with a hose-free direct connection for the screw connection pattern of the SCHUNK PGN-plus 100. This allows connection to all grippers of the PGN-plus 100 platform, such as PWG-plus 100, DPG-plus 100 and JGP 100. The integrated quick-action ventilation minimizes the actions to be taken and prevents wear to both the hoses and the fittings. The SDV-P offers two advantages over grippers with mechanical means for maintaining the gripping force: it has a much more compact design and ensures that the actuators remain in their position immediately in case of an emergency stop, even if the gripper is not yet fully closed.

Reliable

Without having to disconnect the grippers under pressure, the actuators in the defined limit position can easily and quickly be released via the integrated ventilation button of the SDV-P during the reset of the system. The two adjacent ventilation buttons are accessible from the front side and can be actuated easily with a pen, Allen key, etc. The pressure maintenance valves of the SDV-P series ensure a maximum pressure drop of 0.1 bar per hour (at the defined reference volume and constant temperature) and cover a pressure range of 0.5 to 10 bar. The switching time is approximately 10 ms. Existing SDV-P valves without ventilation can be replaced 1:1 with the new SDV-P valves featuring integrated quick-action ventilation.



Fast manual ventilation!
Without disassembly of the gripper.

SDV-P

Accessories

New product | Follow-up product | **Series expansion**

SDV-P 04/07: Available immediately | SDV-P 10 and SDV-P 100: Available starting February 2015

Sizes	Max. flow rate	Air connection	Max. operating pressure
04 .. 10	200 l/min .. 800 l/min	G1/8	10 bar
100	200 l/min	direct	10 bar

Product features

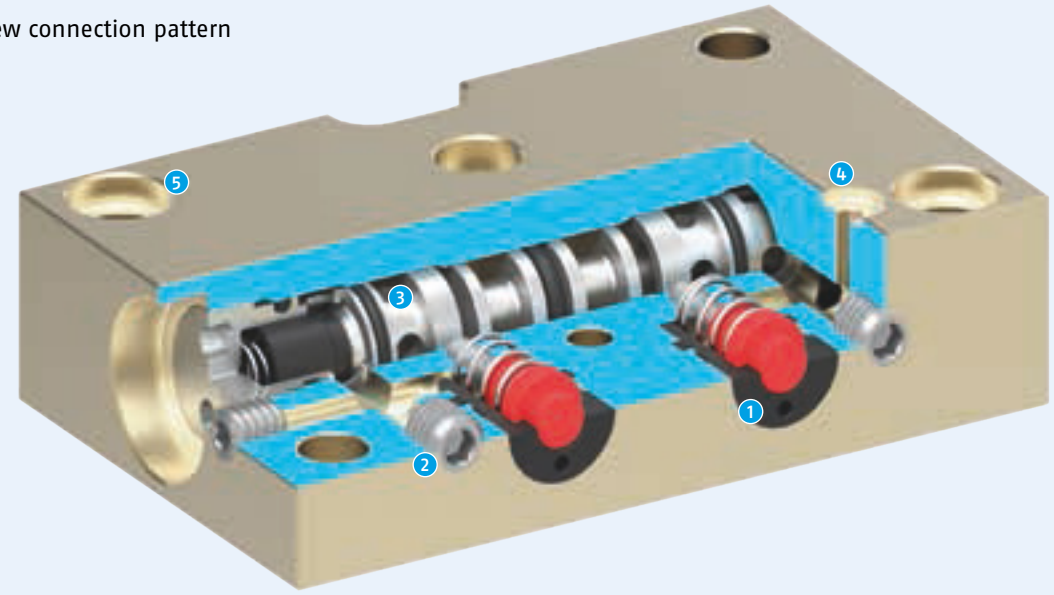
- Integrated manual ventilation
- Compact design
- Replace of existing SDV-P is possible with no modification whatsoever
- Convenient access to ventilation buttons from the front
- Suitable for PGN-plus, DPG-plus, PWG-plus and JGP

Your advantage

- No loss of clamping force in case of pressure drop
- No additional hoses necessary
- Saves time during ventilation of the handling components
- Higher process reliability, since no disconnected hoses can be switched

Cross Section

1. Fast ventilation
2. External air connection to gripper
3. Valve tappet
4. Direct air connection to gripper
5. PGN-plus screw connection pattern



MMS-A Magnetic Switch. The first and smallest, teachable analog Sensor for the C-slot.

First teachable displacement sensor for C-slot

The SCHUNK MMS-A analog magnetic switch is the first teachable displacement sensor that can be directly integrated in the grippers C-slot without interfering contours. It detects the size of the gripped parts with precision in the ongoing handling process and as an analog voltage value. Output options 0 – 5 V DC or 0 – 10 V DC are available. What previously required several magnetic switches can now be sufficiently done with the extremely compact MMS-A which has a diameter of 4 mm. The required electronics are already fully integrated. In conjunction with the SCHUNK FPS-F5 force / torque sensor system controller control, the displacement sensor becomes a simple teachable multi area sensor, which can detect up to five user-defined teachable conditions and output them as digital signals.

High repeat accuracy

The output signal is sent via a stroke measuring area of max 40 mm with a resolution of up to 0.1 mm. Using an intuitive teaching function and two LEDs, different magnetic fields can be quickly and easily linearized. In order to ensure a high degree of repeatability, the analog magnetic switch is specifically tailored to the relevant modules from SCHUNK's comprehensive standard program.



Free of interfering contours!
Integration directly into the C-slot.

Immediately available

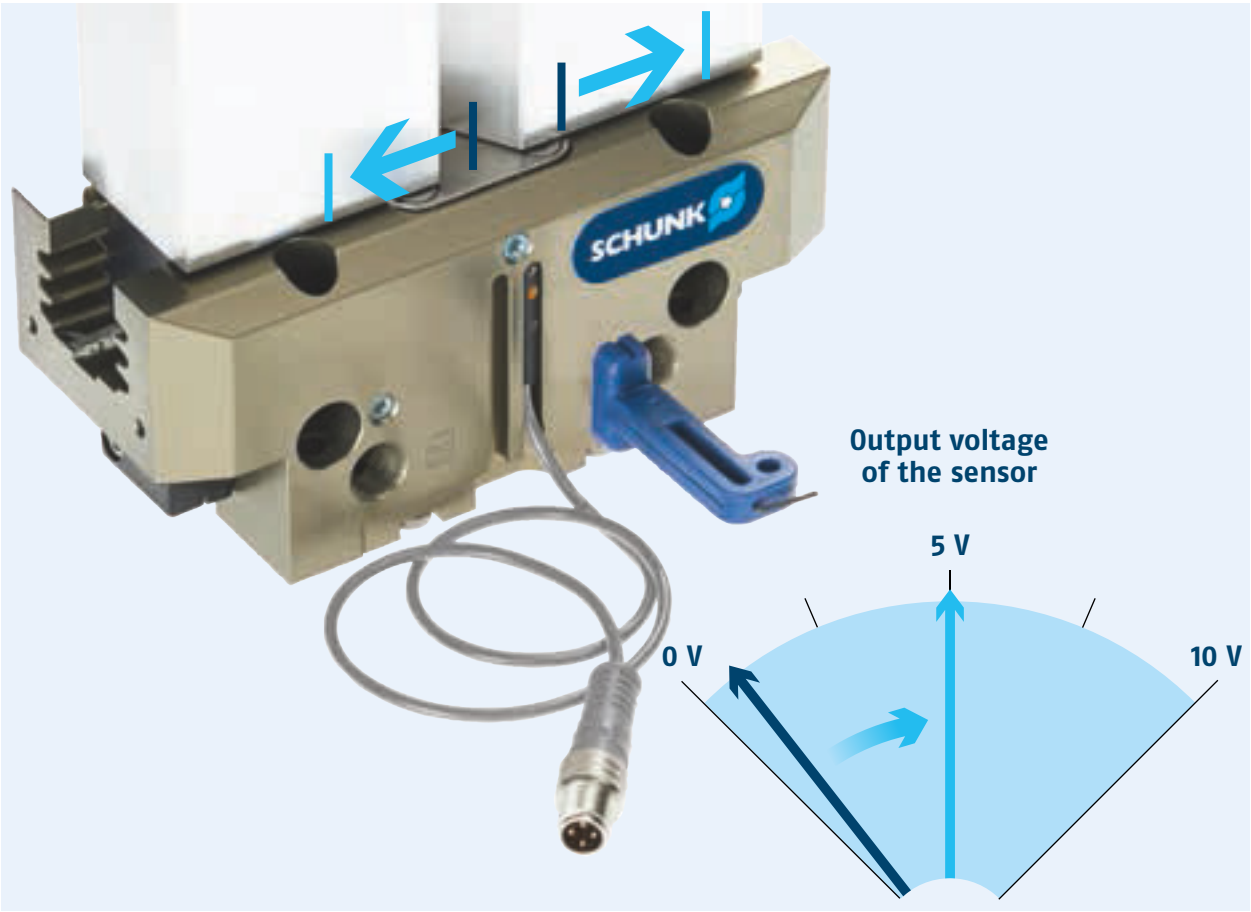
Size	Output voltage
22	0 .. 5 V / 0 .. 10 V

Product features

- Magnetic switch for C-slot
- Analog signal for the entire jaw stroke
- Simple teaching in seconds for quick commissioning
- 2 LED status indicator during teaching and operation

Your advantage

- Installation of the sensor without interfering contour
- Instead of several switches, one sensor to detect different workpieces



Superior Clamping and Gripping

It's time to use your machine's

With superior components, we find potentials in your machine, where you would never expect to find them.

**Make 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 you use of SCHUNK, the more efficient your machine is.

SCHUNK

full potential!



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

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

Jens Lehmann

SCHUNK No. 1 Products for higher Productivity ...

Discover new potential now:

www.gb.schunk.com/machine-potential

And order the SCHUNK Synergy poster by telephone +49-7133-103-2256

... in your Automated Handling System



up to 20 tons load handling

MAGNOS **Magnetic lifting technology**

... in your Lathe

... in your Lathe

60 seconds jaw change

Lathe chucks ROTA-S plus 2.0 and ROTA THW plus



300% better surface quality

TENDOTURN – innovative **hydraulic expansion toolholders,** for lathes and turning / milling centers



1,200 standard chuck jaws

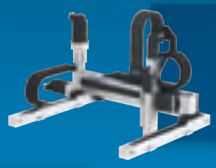
The world's largest **chuck jaw program** for every chuck type



… in your Automated Handling System



No. 1 unique
PGN-plus, the only gripper with multi-tooth guidance



more than 500 standard combinations
for **line and room gantries** from the modular system

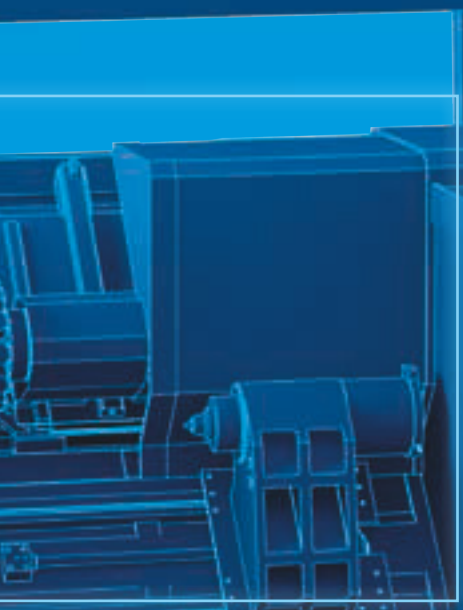
100% cycle increase
Universal rotary module SRU-plus 20-S, the new benchmark in top performance

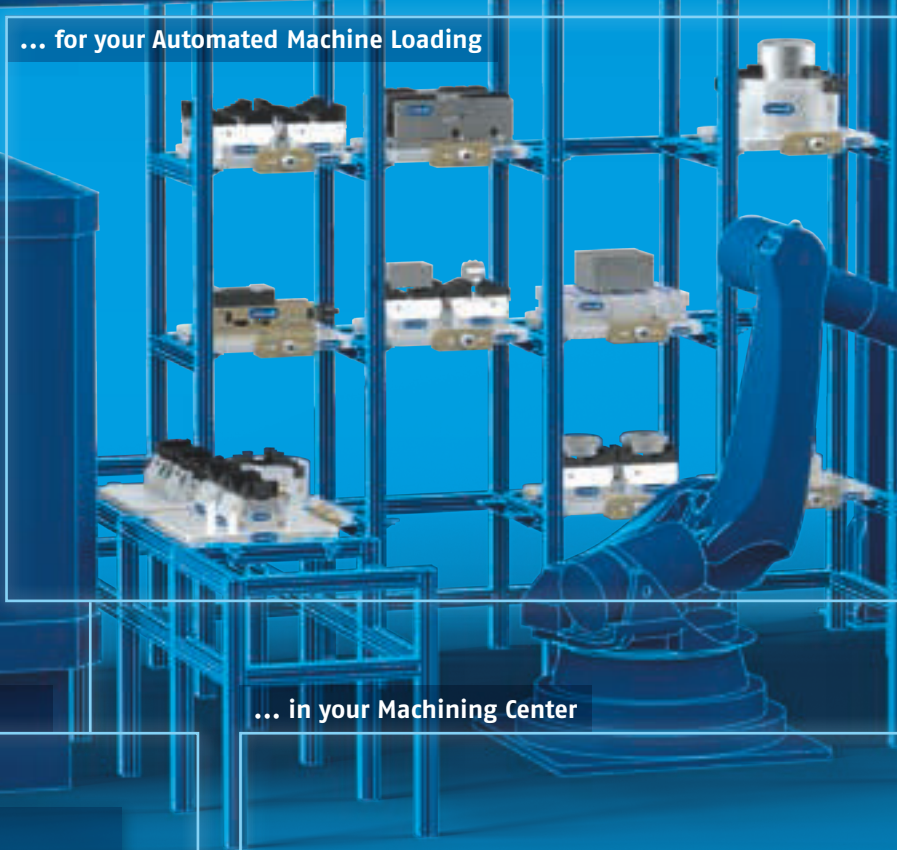


90% faster gripper change
SWS Quick-change system – fully automatic gripper change within seconds



… for your Automated Machine Loading





… for your Automated Machine Loading



300 kg load capacity
NSR Robot coupling
for pallet handling – space-saving and extremely flexible

100% control
TANDEM **KSP plus Clamping force block** with jaw monitoring



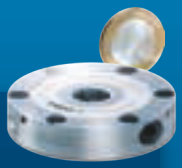


30% more productivity
Automated machine loading with **PGN-plus grippers** with **GSW Spindle interface**

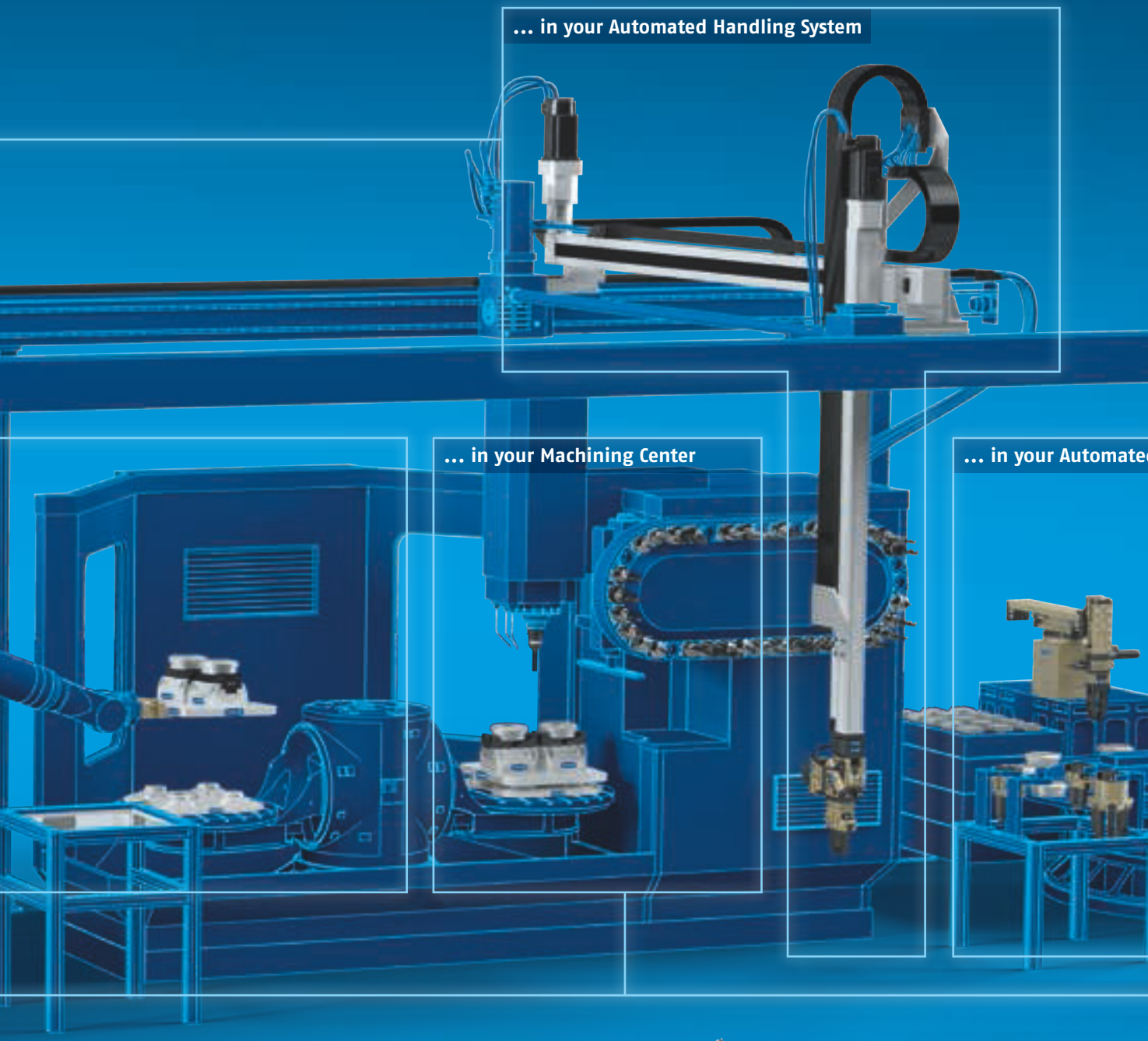
… in your Machining Center



90% less set-up costs
with **VERO-S**, due to set-up during processing time



20 mm height
VERO-S NSE *mini* – the pneumatic **quick-change pallet system** in a very flat design





75,000 customer-specific solutions
Hydraulic expansion technology for tool or workpiece clamping



0.3 mm shank diameter
TRIBOS **mini** sets a benchmark in micro machining

100% encapsulated
KONTEC **KSK Centric clamping vise**
fully functional in harsh environments



less than **3** µ run-out accuracy
TRIBOS **-SVL Super-slim tool extension**
optimized interfering contours





5 -sided workpiece machining
in one set-up – MAGNOS Magnetic clamping technology



up to **85,000** rpm
TRIBOS **-S** predestined for high-speed cutting

... in your Automated Assembly



∞ combination options
SCHUNK Modular assembly system





180% better gripping force – mass ratio
EGP – The powerful electronic **gripper for small components** with integrated electronics



25% 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

... in your Service Robotics Application

Future handling





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



less than 3 µ run-out accuracy
TRIBOS-R with unique patented **polygonal clamping technology**



100% suitable for all SCHUNK toolholders
TENDO-SVL **Tool extension** – optimized interfering contours and super-slim



up to 80 bar coolant-proof or peripheral coolant
Versatile clamping range with **GZB-S Intermediate sleeves**



more than 35 years of experience in TENDO **Hydraulic expansion technology.** TENDO, the original. With 29 interfaces, versatile, with 3 µ run-out accuracy



2,000 Nm torque with Ø 32 mm
TENDO E compact for large volume cutting, boring, reaming, and threads



0 µ permanent run-out accuracy
TENDO **zero,** perfect vibration damping, resulting in up to 50% longer service life



Your Automated Machine Loading

SCHUNK

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.



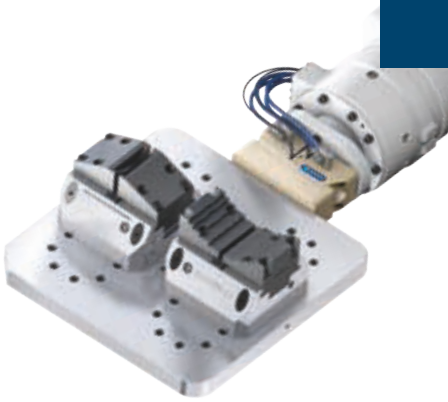
Automated loading of a milling machining center with the clamping pallet prepared on the set-up table. After the introduction of the clamping pin, the quick-change pallet module positions and clamps the pallet in seconds.

300 kg loading capacity

NSR

Robot Coupling for Pallet Handling

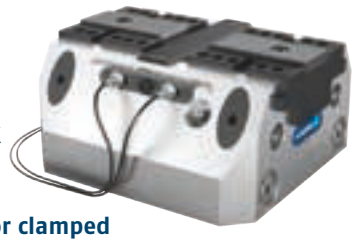




Process reliable, precise, and space-saving
Automated pallet loading redefined. The slim SCHUNK NSR lightweight coupling with minimized interfering contours works extremely close to the machine table. Low designs consisting of a module for stationary use and clamping pallet are easy to implement. This 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

100% control



TANDEM KSP plus Clamping Force Block with Jaw Monitoring

Know whether it's open or clamped
More process reliability with less investment. The compact solution for conceivably simple machine integration. Can be used versatilely both for O.D. and I.D. clamping.

75 kN holding force



VERO-S 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.

90% less set-up costs due to setting up during machining



Tombstones with VERO-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

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 tool-holder 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.

- Air actuation using machine coolant or actuation using compressed air
- Fits in many toolholders
- Low cost solution for fully automated workpiece change

6-axis compensation

Flexible Compensation Unit GSW-B-AGE



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.

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.

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



Automated raw and finished part handling with the machine spindle.

0% electricity requirement

Magnetic Gripper GSW-M



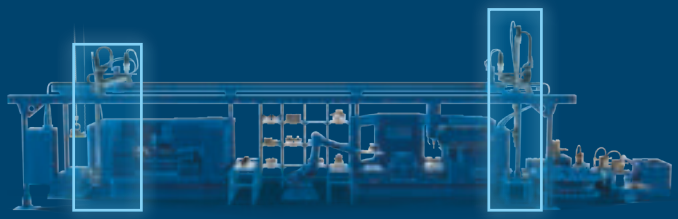
Attracting pole position
Maximum system productivity due to lean automation. Whether it's metal sheets, bearing rings or workpieces with complex contours – the SCHUNK magnetic gripper handles anything ferromagnetic without making adjustments or the need to change fingers, and efficiently based on the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



Your Automated Handling System

SCHUNK

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

SCHUNK offers the world's largest program of gripping modules, 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

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

More than 500 standard combinations

Line and Room Gantries LPP / LPE / RPE



SCHUNK 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° endlessly turning



Electric Rotary Module ERM

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



2-Finger Parallel Gripper PGN-plus

The unique gripper with multi-tooth guidance
Highly precise handling, higher payload, higher gripping forces. Various options for special application cases and perfectly graduated sizes make it an ideal solution for all areas of application.

The world's first rotary feed-through with integrated bus technology



Rotary Feed-through DDF-I

The logical product expansion of the DDF 2 with bus technology for the transmission of bus signals
Up to 26 electrical signals can be transmitted simultaneously, and 13 of them can be used to control valves. Air and vacuum reach the actuators via an air feed-through. Due to its ISO flange pattern, it can be connected to various robots without an adapter.

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.



Use of a SCHUNK SRU-plus rotary unit in handling and assembly for picking up and positioning small components.

100% cycle increase

Universal Rotary Actuator SRU-plus 20-S



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.

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.



Your Automated Assembly

SCHUNK

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.



Gentle force-adjusting gripping system with a WSG gripper used in an inline router. Small electrical printed circuit boards are milled from a carrier, removed, and are prepared for the following process.

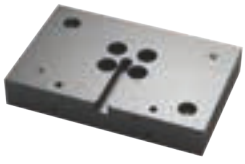
6 degrees of freedom



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



SCHUNK Adapter Plates

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

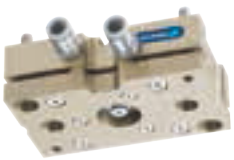
250 rpm endless turning



Electric Rotary Module ERS with DDF

Compact and extremely modular
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.

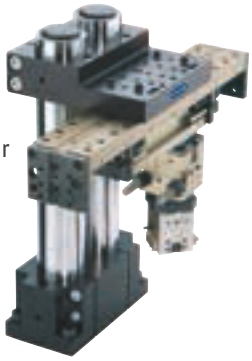
- 2 kg – 5 kg payload
- 10 µ repeat accuracy
- Plug & Work makes start-up as easy as can be



∞ 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 trend-setter for modular high-performance assembly in the SCHUNK program.



25% greater gripping force

MPG-plus Miniature Parallel Gripper

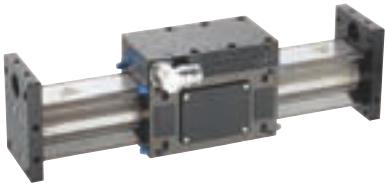
The benchmark
The most powerful pneumatic miniature gripper in the market. Used all over the world when it comes to handling small parts reliably and fast. 25% more power, up to 10% less weight. A concept proven 100,000 times.



6 sizes available

Linear module LDN

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.





Your Service Robotics Application

SCHUNK

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

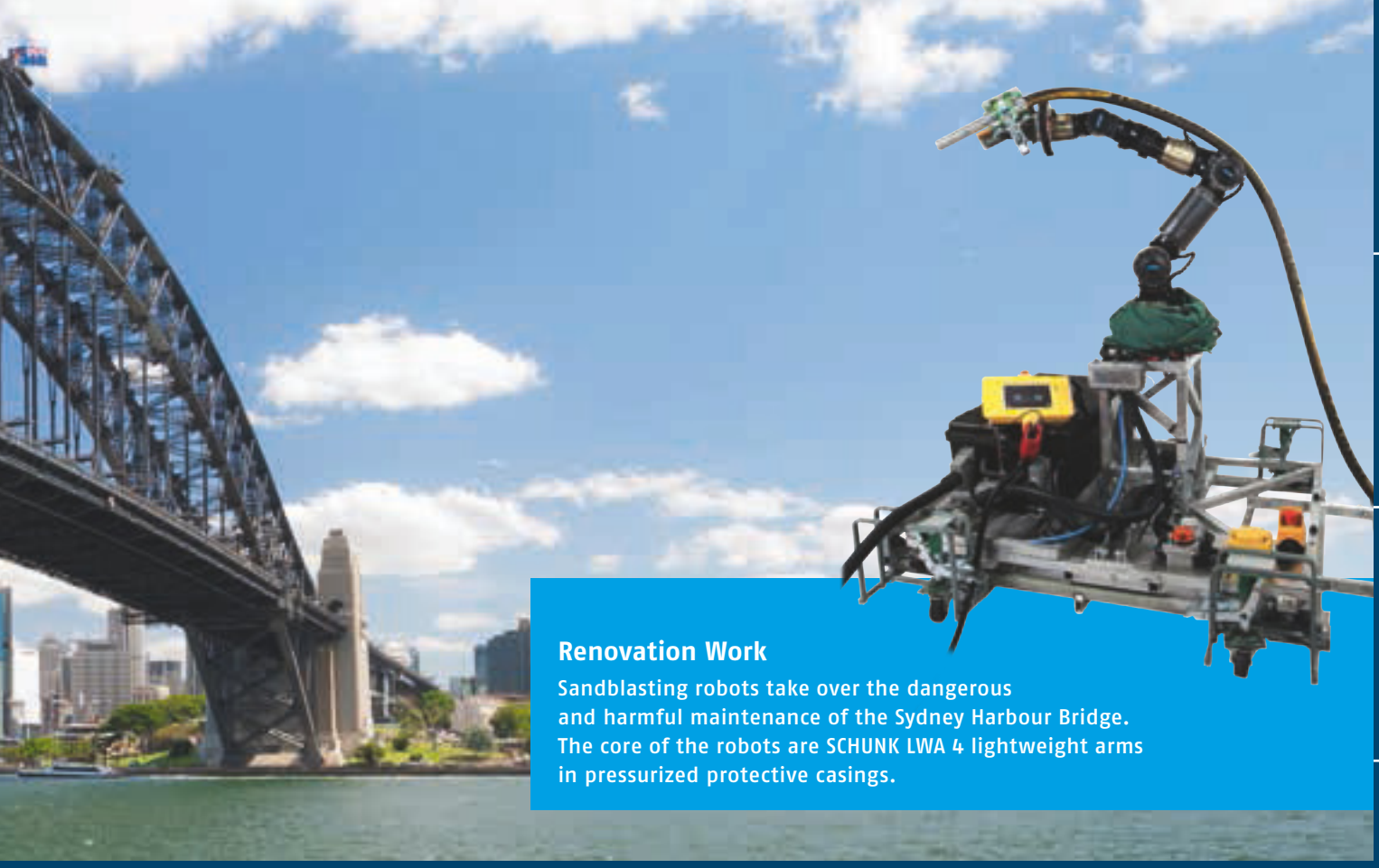


Sydney Harbour Bridge

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.





Renovation Work

Sandblasting robots take over the dangerous and harmful maintenance of the Sydney Harbour Bridge. The core of the robots are SCHUNK LWA 4 lightweight arms in pressurized protective casings.



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-plus 070 gripper, and handles sensitive cement samples.



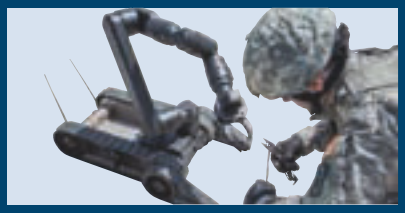
Laboratory Use

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 EOD robot developed by the Harris company makes it possible to safely remove explosive weapons. As a manipulator, SCHUNK integrated a modular lightweight arm with 6 degrees of freedom based on PRL rotary modules and PG grippers.



Research

A high-performance lightweight arm from SCHUNK, consisting of PRL modules and a SCHUNK SDH-2 gripping hand with tactile sensors. It ensures in the flagship project Care-O-Bot®3 of the Fraunhofer Institute for Production Engineering and Automation IPA for mobile handling.



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 Nr. 1 Products for higher Productivity in your Service Robotics Application.



LWA 4P for mains or battery operation

6 degrees of freedom

Powerball Lightweight Arm LWA 4P

A lightweight arm with the world's best compact performance

The SCHUNK arm has three ideally integrated Powerball modules, offering 6 degrees of freedom. Integrated intelligence makes powerful, mobile handling possible as never before, especially in terms of human-robot cooperation.

- Weight / load capacity ratio of 2:1
- Gripping radius of over 700 mm
- Excellent repeat accuracy of 60 µm
- 24 V DC supply for mobile applications
- For every mobile platform – independent of the manufacturer



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.



120 N gripping force

2-Finger Parallel Gripper WSG

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

3-Finger Industrial Hand SDH-2

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.



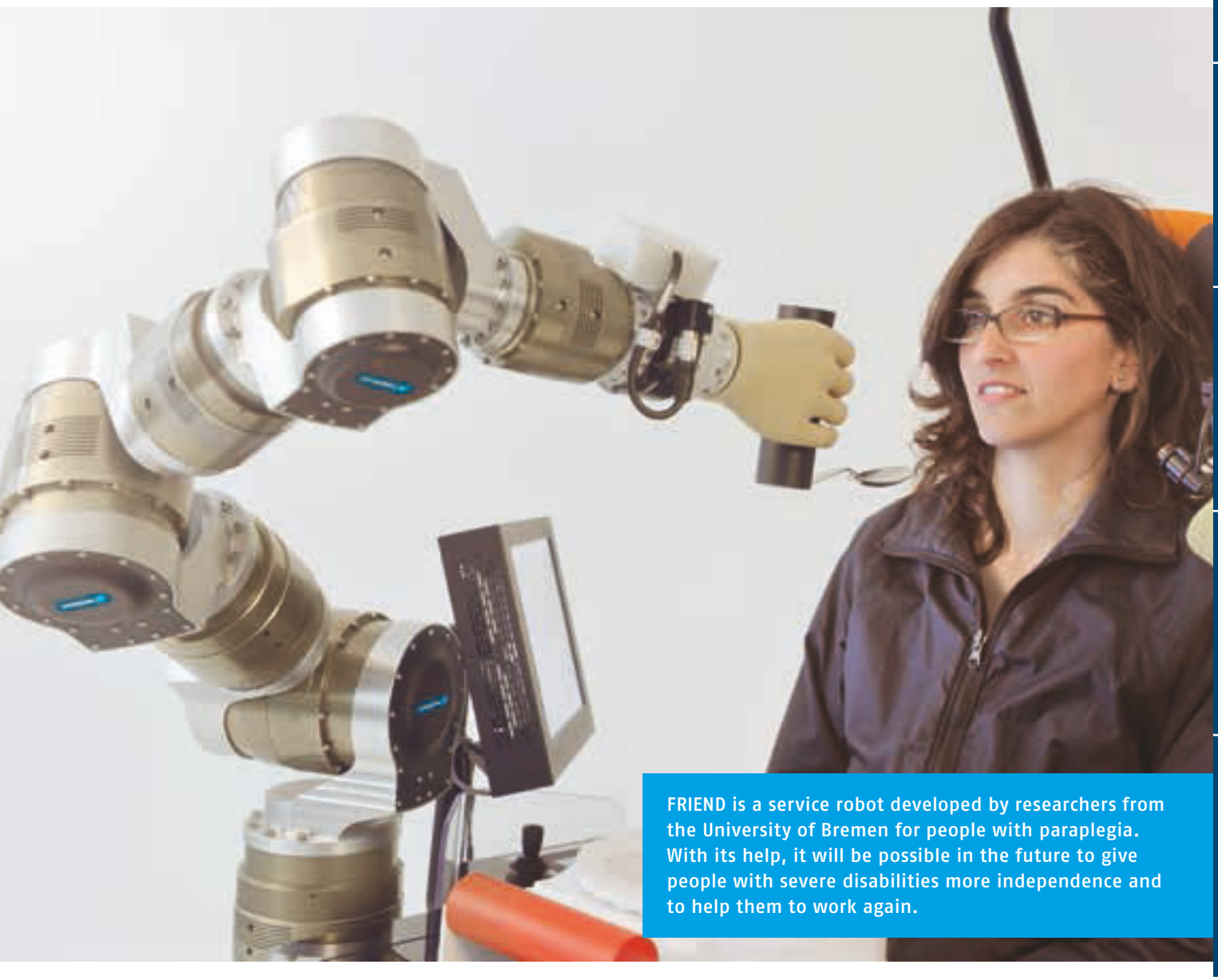
216 Nm continuous torque

Turning Unit PRL

Endless power

The highly integrated servo unit has an output of up to 216 Nm continuous torque with a weight of 3.6 kg. With connection parts freely and flexibly fitted to the individual lightweight arm, it was designed for use in industrial automation and service robotics.





FRIEND is a service robot developed by researchers from the University of Bremen for people with paraplegia. With its help, it will be possible in the future to give people with severe disabilities more independence and to help them to work again.



10 degrees of freedom

Dextrous Lightweight Arm LWA 4D

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.





Your Lathe

SCHUNK

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 special jaw and hydraulic expansion toolholder solutions. SCHUNK always offers you the appropriate product with the optimal performance features for your application.

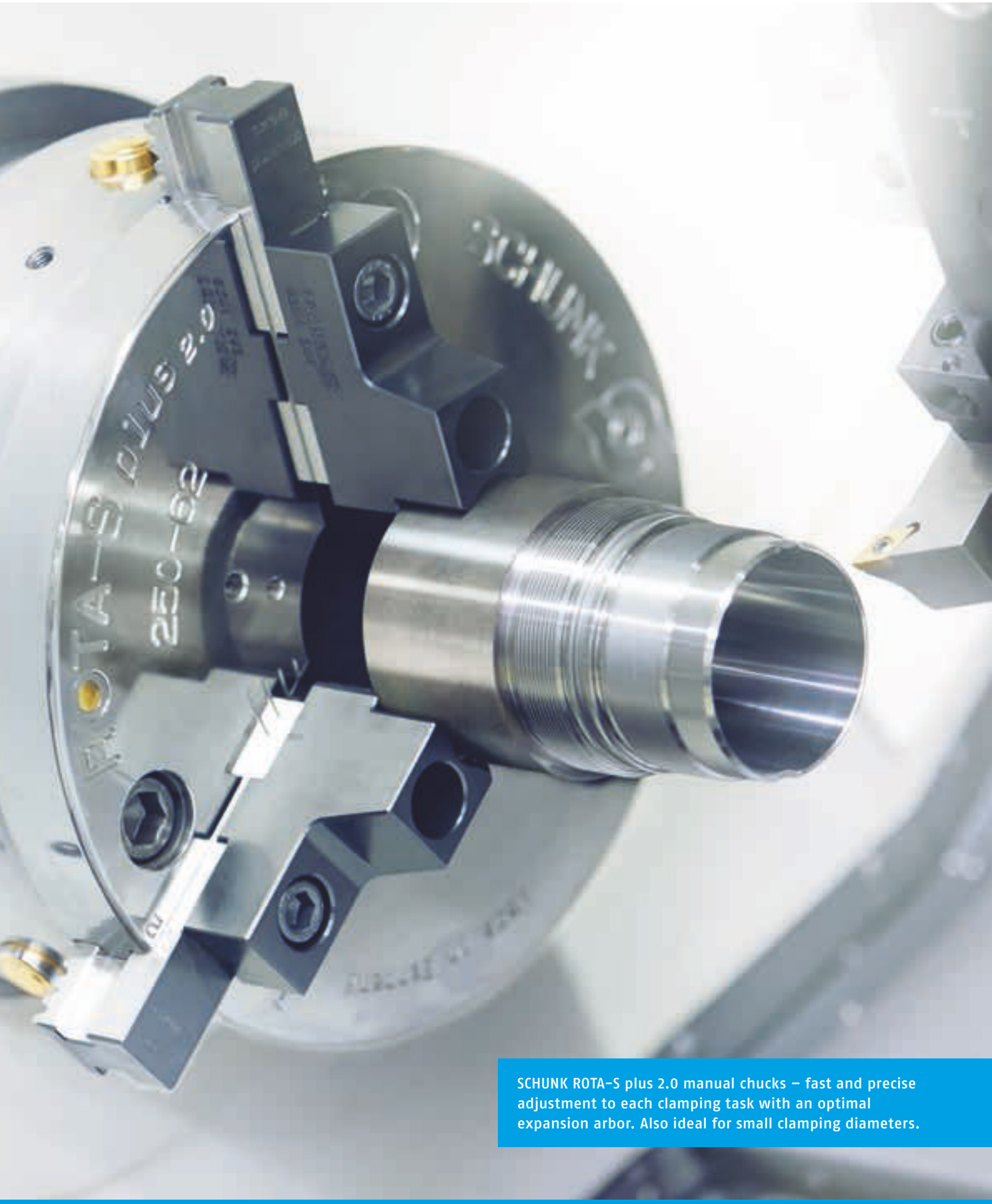
It's time to use your machine's full potential!

< 60 seconds
quick jaw change

50% larger clamping range

0.01 mm repeat accuracy

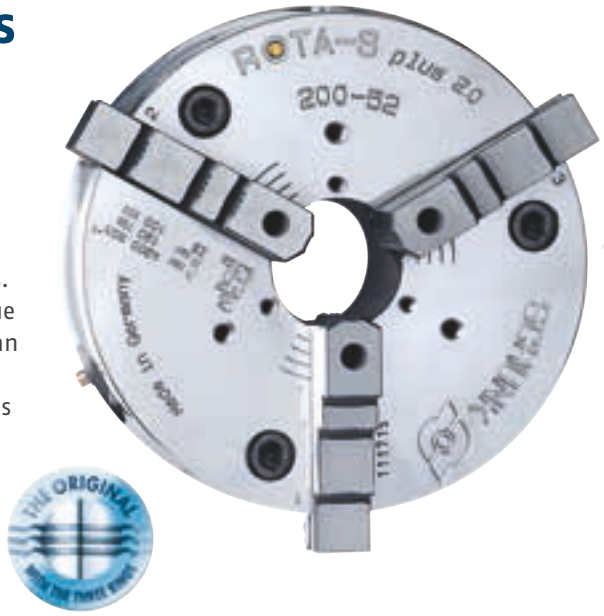
SCHUNK No. 1 Products for higher Productivity in your Lathe.



SCHUNK ROTA-S plus 2.0 manual chucks – fast and precise adjustment to each clamping task with an optimal expansion arbor. Also ideal for small clamping diameters.

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

VERO-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



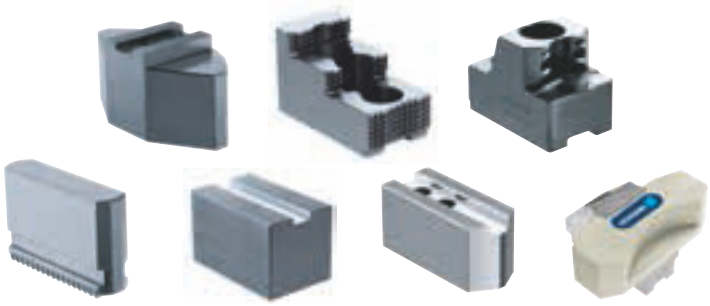
Highly precise with a long service life
A plus for any lathe in shaft machining. Excellent centering and repeat accuracy combined with maximum clamping forces. Integrated hydraulic cylinder with a large clamping range. For all around precision.

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



16,000,000 chuck jaws sold world-wide

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.

SCHUNK TENDOturn DSE on a driven toolholder with NC-drilling tool in vertical machining centers.

Up to 300% improved surface finish

T|E|N|D|O TURN
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 true run-out and repeat accuracy of < 0.003 mm. DKE lathe clamping insert for increased productivity with the equipment at hand.





Your Machining Center

SCHUNK

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 clamping technology cover a unique range of machining requirements.

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

0 interfering contour

0 µ permanent run-out accuracy

0.3 mm shank diameter

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



SCHUNK TENDO E compact toolholder, SCHUNK ROTA-S plus 2.0 manual chuck, and SCHUNK stepped top jaws – three power-houses for highly accurate and fast machining. Easy on spindles and tools while providing maximum repeat accuracy.

Up to 300% longer tool life*

TENDO® 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).

Cutting with full power!

www.de.schunk.com/wbk



100% suitable

TENDO® 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.



0 µ permanent run-out accuracy

TENDO® 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.



100% safety

TENDO® 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 weldon shanks. Micro creep movements are completely eliminated while maintaining extremely close form and position tolerances.



New!

0 Interfering contour

TENDO® 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

TRIBOS®-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 G 2.5 at 25,000 rpm or $Rev._{max}$ < 1 gmm
- Quick and easy tool changes

3 µ run-out accuracy

TRIBOS®-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

TRIBOS®-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

TRIBOS®-RM
Polygonal Clamping Technology

The small one for high-speed cutting
High radial stiffness due to small compact design and excellent run-out 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

TRIBOS®-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.





Precise interplay of ROTA-S plus 2.0 power chuck in stationary use and TRIBOS-S polygonal clamping technology for deburring on the outer edge of a smoothed workpiece made of 42CrMo4 material.

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.



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



Pocket milling with TENDO toolholder in aluminum plate, securely clamped by PLANOS vacuum clamping technology.

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 time-consuming 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.

0.02 mm clamping precision

TANDEM
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 0.02 mm ensure precise results.

More than 75,000 implemented customer-specific solutions

Customer-specific Hydraulic Expansion



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

±0.02 mm height tolerance



PLANOS
Vacuum Clamping Technology

Minimal set-up times
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.



90% less set-up costs

VERO-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 quick-change pallet modules



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



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

VERO-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 TANDEM system



Combination with
SCHUNK KONTEC system



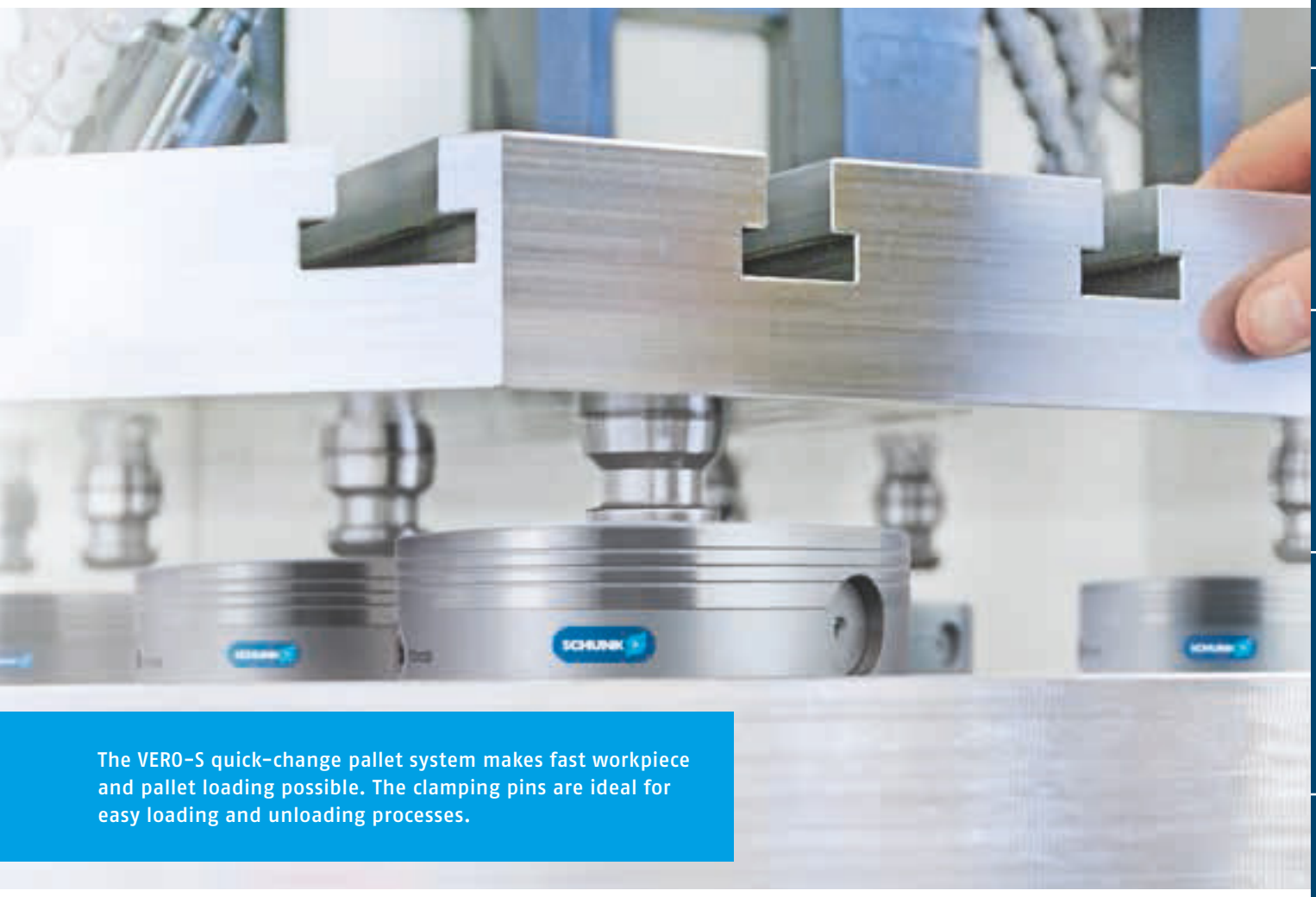
Combination with SCHUNK
MAGNOS magnetic clamping technology



Combination with
SCHUNK ROTA chuck



Combination
with SCHUNK tombstones



The VERO-S quick-change pallet system makes fast workpiece and pallet loading possible. The clamping pins are ideal for easy loading and unloading processes.

Height 20 mm

VERO-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

VERO-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.



Ländergesellschaften | *Subsidiaries*



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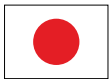
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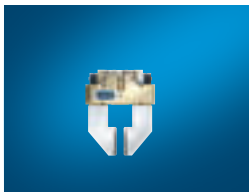
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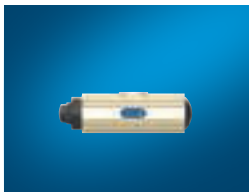
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☐ Produktübersicht
Product Overview



☐ Highlights
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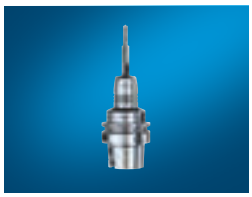


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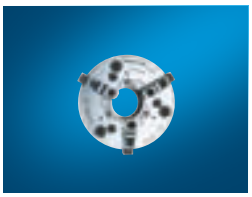
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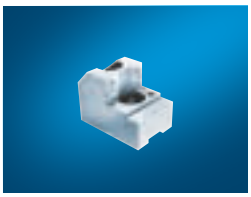
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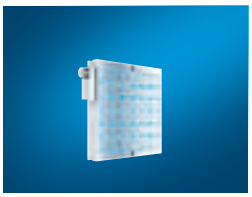
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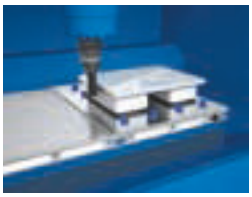
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