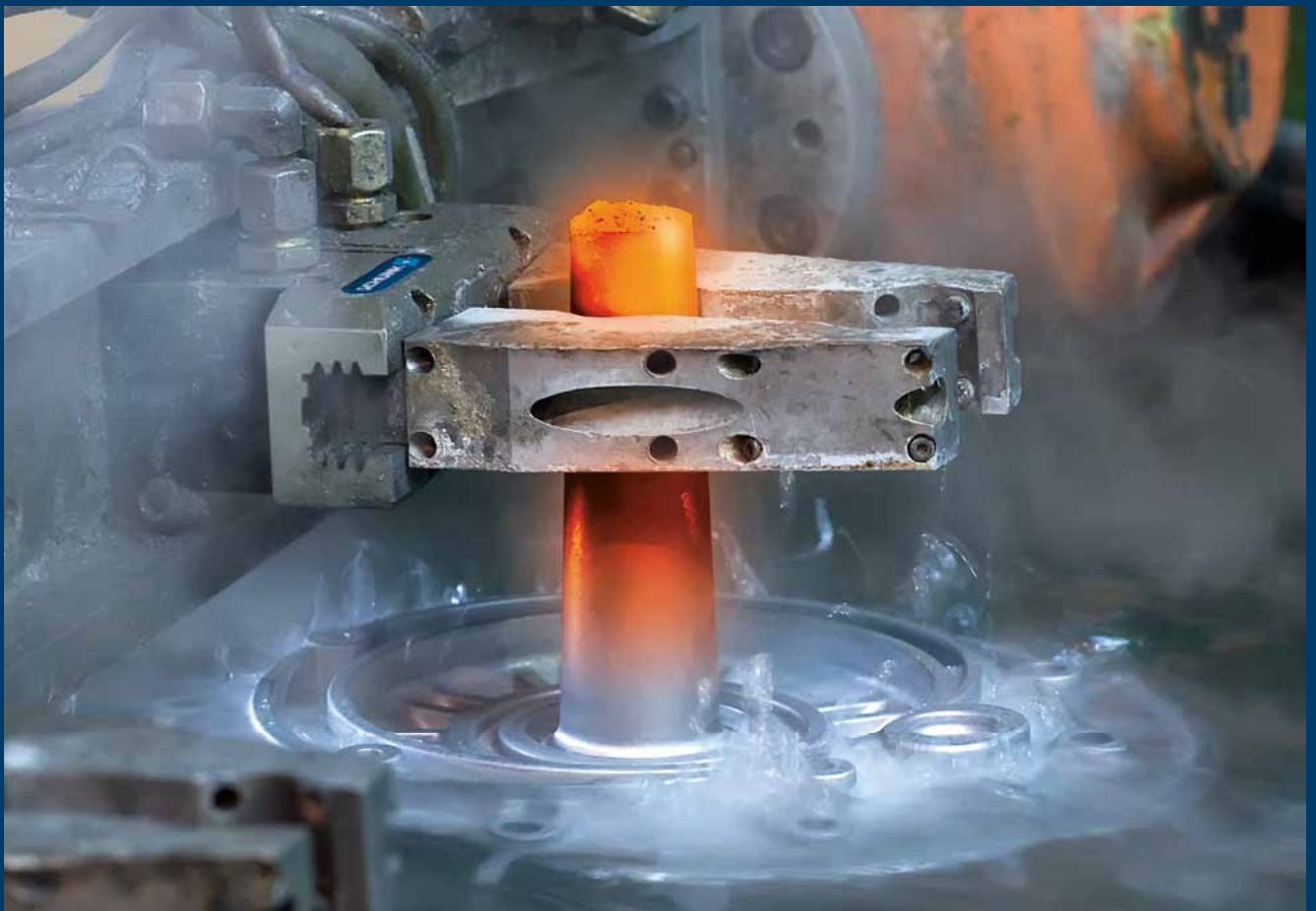


Superior Clamping and Gripping



Gripping Systems

The Closest Thing to the Part





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 communicates our global competence leadership for clamping technology and gripping systems. The top performance of SCHUNK and Jens Lehmann is characterized by dynamics, precision, and reliability.

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

J. Lehmann
 Jens Lehmann





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

Top Performance in the Team

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

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

This makes us proud and spurs 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 1800 employees of 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



PPG gripper

PowerCube Walking robot

Light Weight Arm LWA 3

Care-O-bot®

1983

AUTOMATICA 2006

AUTOMATICA 2008

Superior Clamping and Gripping

The Closest Thing Right from the Start.

Gripping systems are pivotal, forming a core issue in industrial automation and mobile robotics. We were quick to identify the importance of the front end and revolutionized automated handling by developing the first gripper suitable for industrial applications.

As a pioneer, we have always been focused on real industrial circumstances. We shape and change those circumstances. We listen and interpret needs with an eye on the future. The end result is product strategies that set new standards for market-driven innovation.

Superior Clamping and Gripping stands for our decades of experience, and our competence in being "The closest thing to the part".

Mechatronic Gripping Systems

Alternative, intelligent, adaptable

Modular Gripping Systems

From standard components through to customized systems

Mobile Gripping Systems

Technologies for handling the future



Powerball LWA 4

AUTOMATICA 2010



5-finger hand

AUTOMATICA 2012



INDUSTRIEPREIS

- 2008 Gripper with spindle interface
- 2008 SWS-I-011 industrial automation
- 2010 PPU-E Pick&Place unit



Process Innovation Award

- 2009 UNIPLACE



iF product design award

- 1999 TRIBOS toolholding system
- 2004 ROTA THW plus
- 2004 SRU
- 2005 TANDEM PZS
- 2009 ZENTRICO THL plus
- 2011 PHL
- 2012 ROTA NCL



Dr. Rudolf Eberle Preis

- 1986 Gripper and gripper change system



Enterprise Medal from the State of Baden-Württemberg

- 2006 Heinz-Dieter Schunk



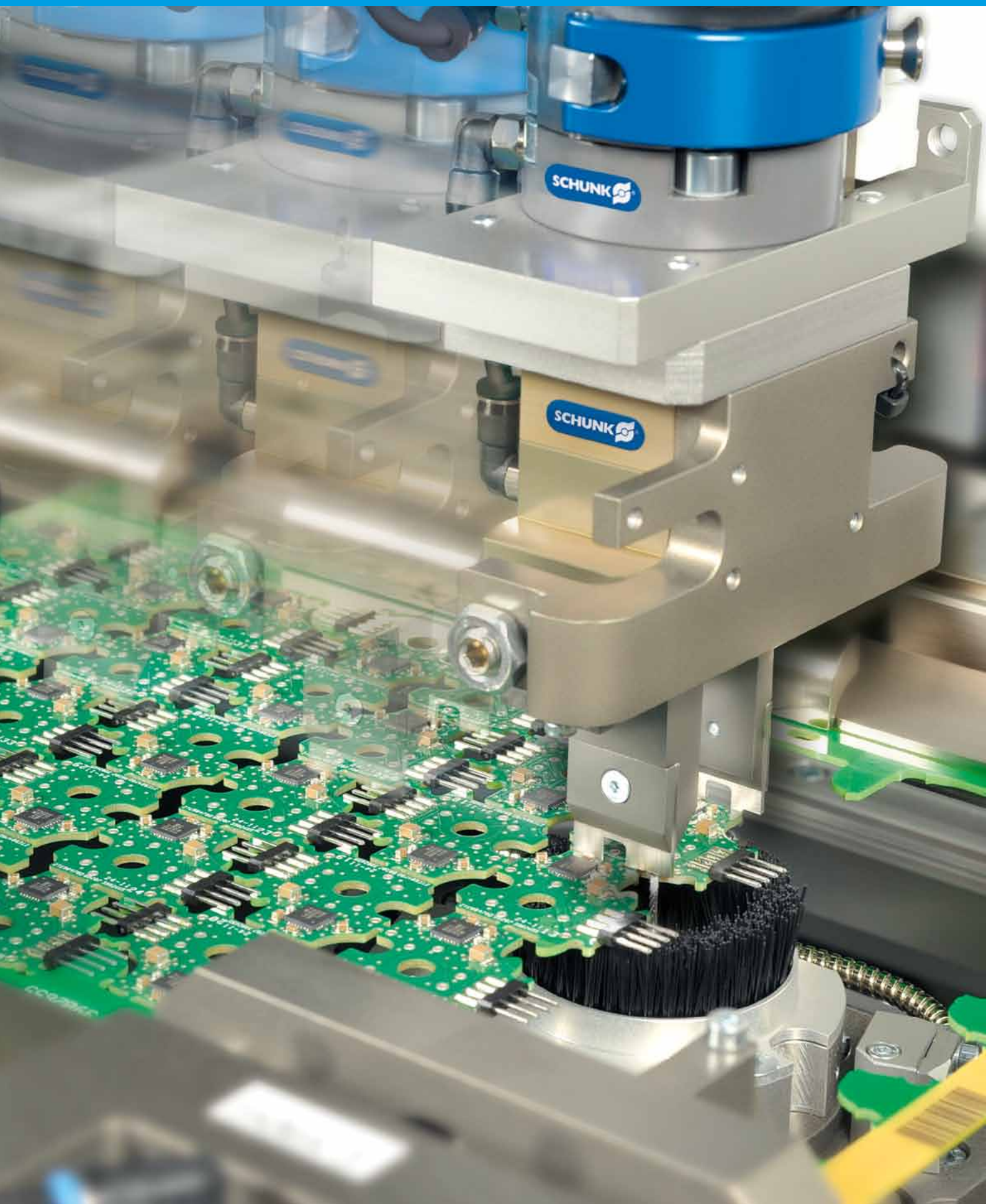
German Mechanical Engineering Prize

- 2008 Heinz-Dieter Schunk



Engelberger Robotics Award

- 2010 Heinz-Dieter Schunk



Quicker

More cycles – greater productivity.

Pacemakers from SCHUNK offer more than high speed at the limit. Thanks to their intelligent structure, our modules can be quickly combined and are soon ready for use. They drastically reduce your equipment and programming costs, as well as expenditure on everything from planning through to start-up. Your systems add value sooner and your processes get started quicker. It really is that simple.

0.58 second cycle time

3 000 000 parts a year

24 hours a day

365 days a year

If things are getting faster, we determine the cycle time.



The requirement

Handling concept for assembling components on a rotary table with cycle times of 5 seconds. Process reliability has to be maximized, downtime and maintenance work kept to a minimum.

The SCHUNK solution

Combining a servo-electric PPU-E Pick&Place unit and a PGN-plus universal gripper, including the complete set of sensors, provides the ideal solution. All the components from the SCHUNK modular system are integrated into the automated system quickly and securely. Using a single source speeds up the planning and process.



The requirement

Rapid and secure workpiece orientation on a rotary table assembly system.

The SCHUNK solution

A modular pick&place system made of CLM axes combined with a GSM-P module, including comprehensive sensor systems for gripping and swiveling optimizes the cycle time and makes the process extremely reliable.

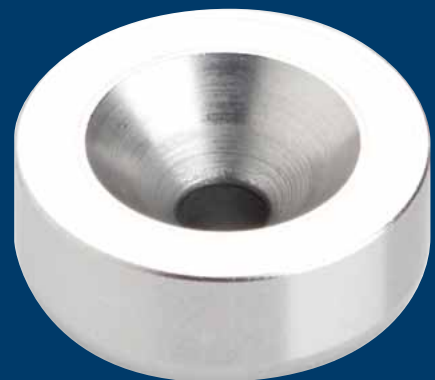


The requirement

Reliable and maintenance-free handling concept for de-stacking 3 000 000 turned parts per year.

The SCHUNK solution

Modular four-axis surface gantry with servo-electric linear axes from the LDN and LDK universal modules, as well as a PGN-plus parallel gripper. No wear with an annual performance of about 3000 kilometers. Due to direct linear drives, it is significantly more precise, faster and virtually maintenance-free.



The Speedy Solution



Pick&Place Unit PPU-E

Impressive dynamism

The ultimate in high-speed assembly work. Thanks to maximum precision and force control, the servo-electric PPU-E is the perfect pick&place unit for flexible joining and pressing-in procedures.

- Up to 110 process reliable picks per minute
- 3 kg – 5 kg payload
- 4 m/s speed
- 10 μ repeat accuracy



Sensational record holder



Pick&Place Unit PPU-P

Nimble hard worker

The PPU-P is in no danger of slowing down. With 75 picks/min at a 3 kg payload and 95 picks/min at a 1 kg payload, the pneumatically driven pick&place unit keeps up a brisk pace.



Valve Control Unit VCU

Ready for action in no time

Making it even easier to save time and air. Connect the VCU, activate it and simply use the pre-programmed sequences. Plug & work. Plug in, select and start in 10 minutes.



2-Finger Gripper for Small Components MPG-plus

The benchmark for small part handling

The MPG-plus is ready for use around the world, wherever small parts need to be handled reliably and quickly. 25% more power, up to 10% less weight. A concept tried and tested hundreds of thousands of times.



Swivel Unit SRU-mini

Powerful whirlwind

1.15 Nm torque with a weight of 690 g is really something. Swivelling in a small space – this makes for quite a performance.

The Fast Track to Efficiency



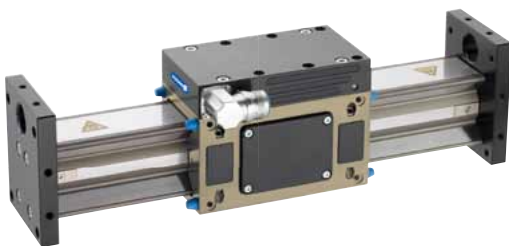
Quick-change System SWS

Front end can be changed fully automatically in seconds

Two parts, one system. The standardized quick-change system seamlessly merges the effector with robots or a gantry. It holds securely and changes in an instant.

- 0.015 mm repeat accuracy
- 690 N – 93000 N locking forces
- 8 kg – 1350 kg payload
- Modules for air, current, signals, vacuum, BUS, etc.

As fast as the wind



Universal Linear Module LDN

Achieving high-precision faster

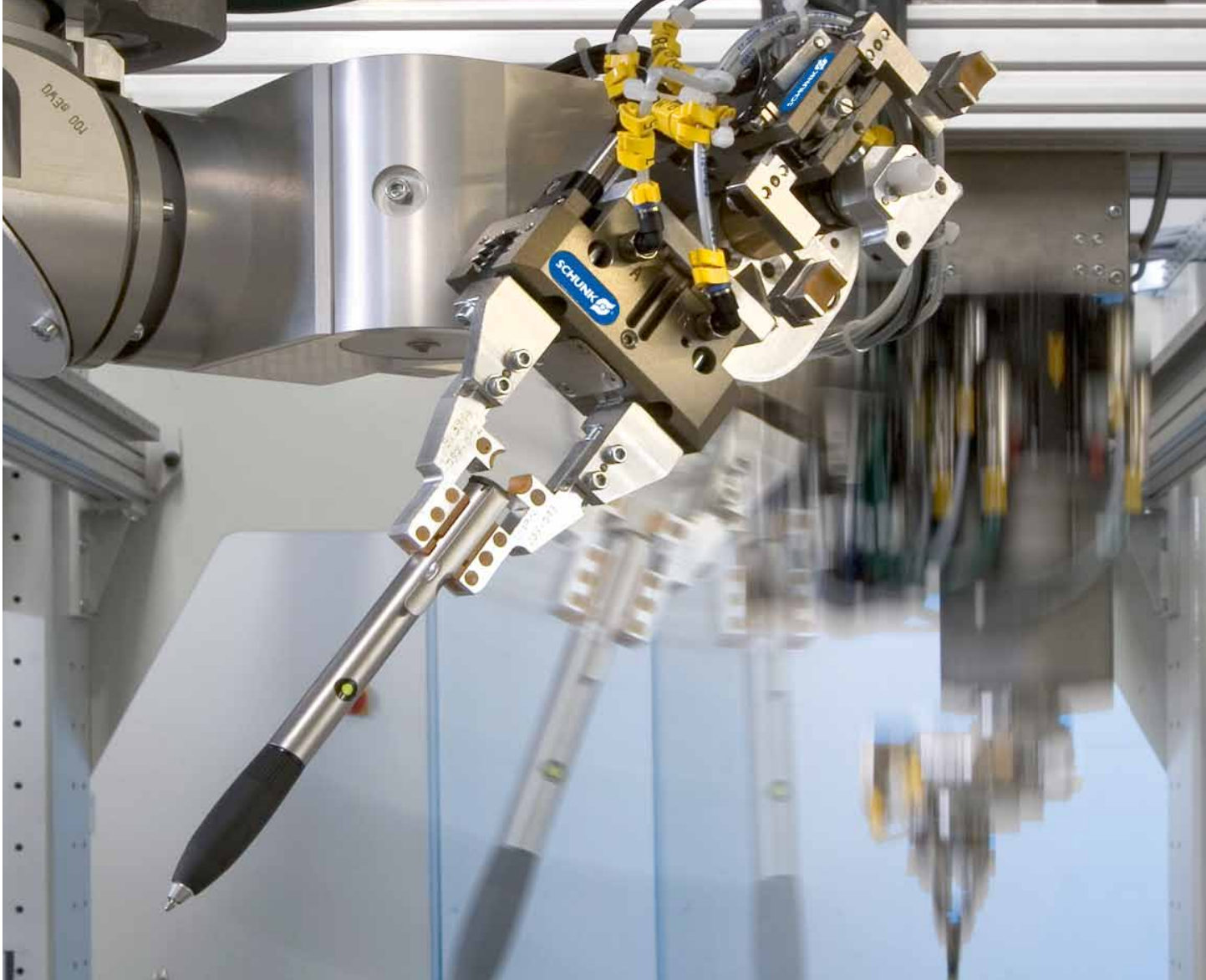
With 10 μ positioning accuracy and acceleration of up to 40 m/s², the directly driven linear axes master top speeds and precision. And all this with absolute-value transducer referenced in seconds.



Parallel Swivel Gripping Module GSM-P

Works in the smallest spaces

Unbeatable when it comes to gripping and rotating in narrow spaces. And all this with a jaw stroke of up to 10 mm and a gripping force of up to 170 N.



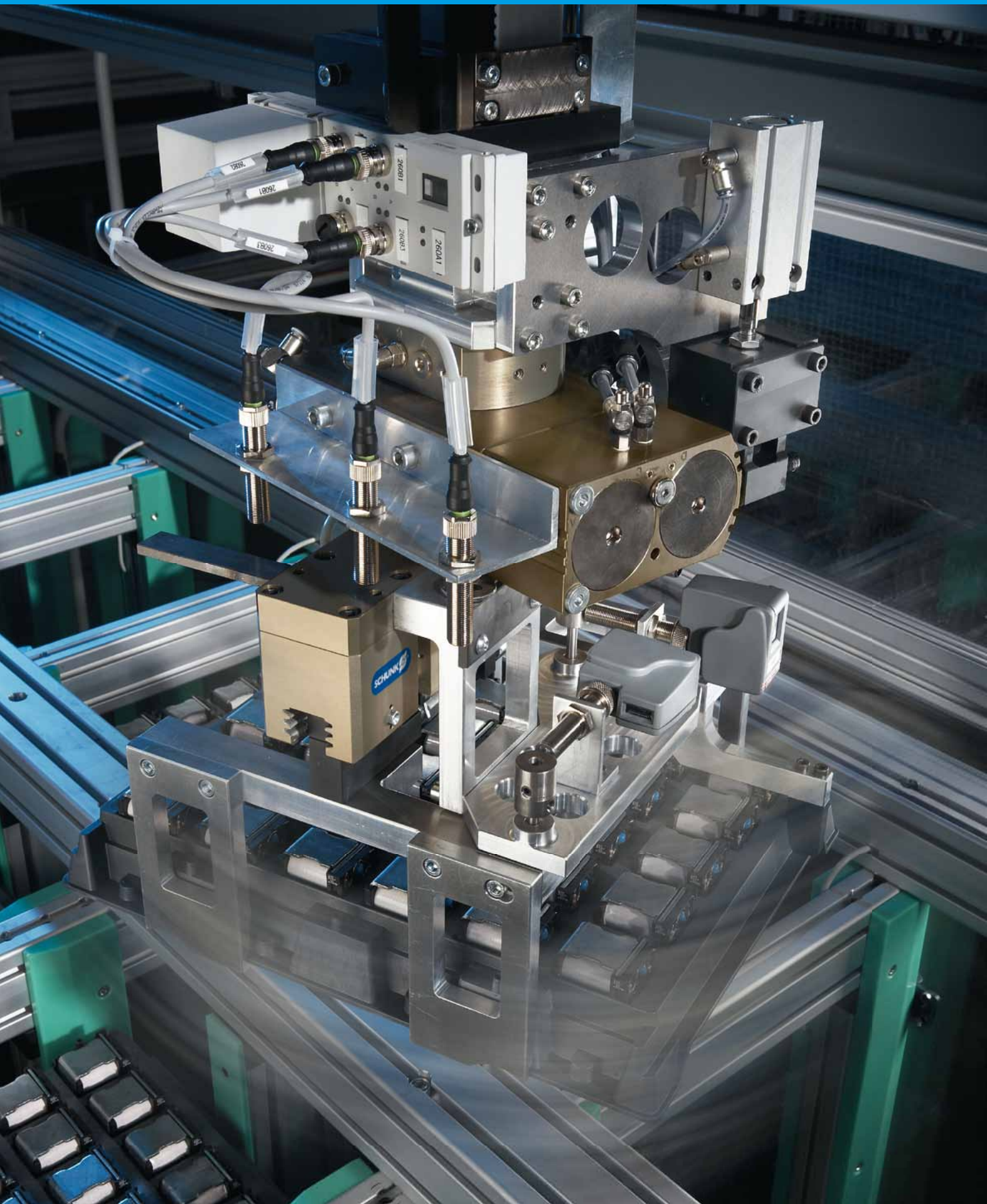
2-Finger Radial Gripper PRG

Innovative dampening optimizes the cycle time
Rapid angular gripping with integrated, maintenance-free dampening system. 180° opening angle with opening/closing times from 0.1 seconds.



Magnetic Switch MMS 22-PI

Programmed in 15 seconds
An all-purpose magnetic switch. Non-contact teaching in seconds reduces the set-up time for switching points by up to 90%. Completely inserted, with no interfering contour.



More profitable

**Invest cleverly.
Producing more cost-effectively,
in the long term.**

SCHUNK products are aimed at the total benefit of usership. Their operating costs and added benefits are crucial factors for greater economic efficiency in a running process. Greater productivity and less downtime, maximum reliability and security mean that what seems at first to be expensive is more cost-effectively over time. So it's worth taking a closer look.

100 000 pieces p. a. more

3 years longer

60 percent reduction in set-up time

80 percent more availability

If it should pay off, we have the solutions.

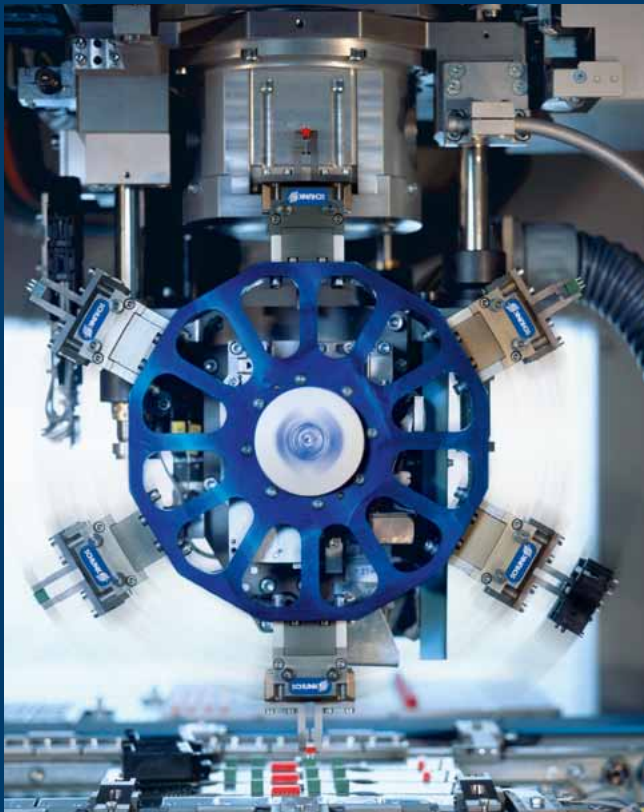


The requirement

Highly dynamic fitting of boards starting from a batch size of 1, with maximum component variance. Cycle time 1.1 s per part with strokes of up to X = 195 mm, Y = 151 mm and Z = 70 mm.

The SCHUNK solution

Odd form placement with moving CLD linear axis made of carbon, MRD-S servo-electric swivel unit and MPG-plus gripper for small components. 50% less weight thanks to CFRP axis means greater dynamic. The cycle times can be speed up and the high-performance actuators can be utilized to the full.



The requirement

Electronic fitting of varying components between 3 g and 40 g of weight.

The SCHUNK solution

Gripping system based on the PGN-plus SCHUNK flagship. The universal gripper is robust, reliable and specialized in continuous fast cycle times.



The requirement

Automated filling of syringes with partially toxic medication.

The SCHUNK solution

A system made up of PG 70 and MEG mechatronic grippers that automatically handles a variety of vials and syringe sizes.

Invest properly – Reap the rewards



2-Finger Parallel Gripper LEG

Versatile facilitator

Intralogistics, packaging, automotive. Various goods in a variety of sizes. The LEG flexibly handles situations that could previously only be performed by people.

- Modular design
- 280 mm stroke per jaw with 10 kg weight
- Servo motor drive can be customized to your wishes
- Asynchronous jaw movement possible

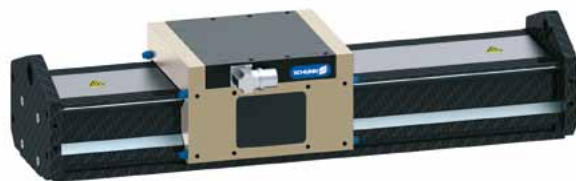
Smart savers for your processes



2-Finger Angular Gripper PWG-plus

Multi-talented powerhouse

Reliable and robust for the greatest possible availability. The first choice for anyone who needs maximum gripping forces without downtime for maintenance.



Linear Axis CLM

Endless dynamism

Made of carbon. Carbon the money-saver. Moving axes are heavy and increases cycle times. The CFK profile of the CLM reduces the weight by more than 50%, speeding up your operations.



Miniature Rotary Module ERD

High-speed, space-saving and with a powerful torque. Swiveling without much volume. The highly integrated ERD brings power and precision to the smallest of spaces. With any angle of rotation you require and an absolute-value transducer. 0.01° repeat accuracy and 1.2 Nm torque. Reliable, thanks to integrated air and electrical feed-through. This means that no rotating power lines are necessary.



6-Axis Force/Torque Sensor FTNet

Where delicate sensitivity is key. The sensitive all-rounder for applications like polishing, chamfering and difficult milling operations. 50% greater interface compatibility. 6 degrees of freedom, from 2 N to 40000 N range of measurement.

Balancing up at the bottom line



Standard Gantry RPE

Conquers space quickly

When maximum spatial flexibility is crucial, the standard configurations offer maximum performance. Fitted, ready for operation, in assembly groups that are ready for use, all the units can start adding value in next to no time.

- 10 kg and 20 kg payload
- 500 mm to 1500 mm X-stroke/Y-stroke
- 100 mm to 500 mm Z-stroke
- 5 m/s² acceleration

Counting on the basics



Standard Gantries LPP and LPE

Pre-assembled for immediate start-up

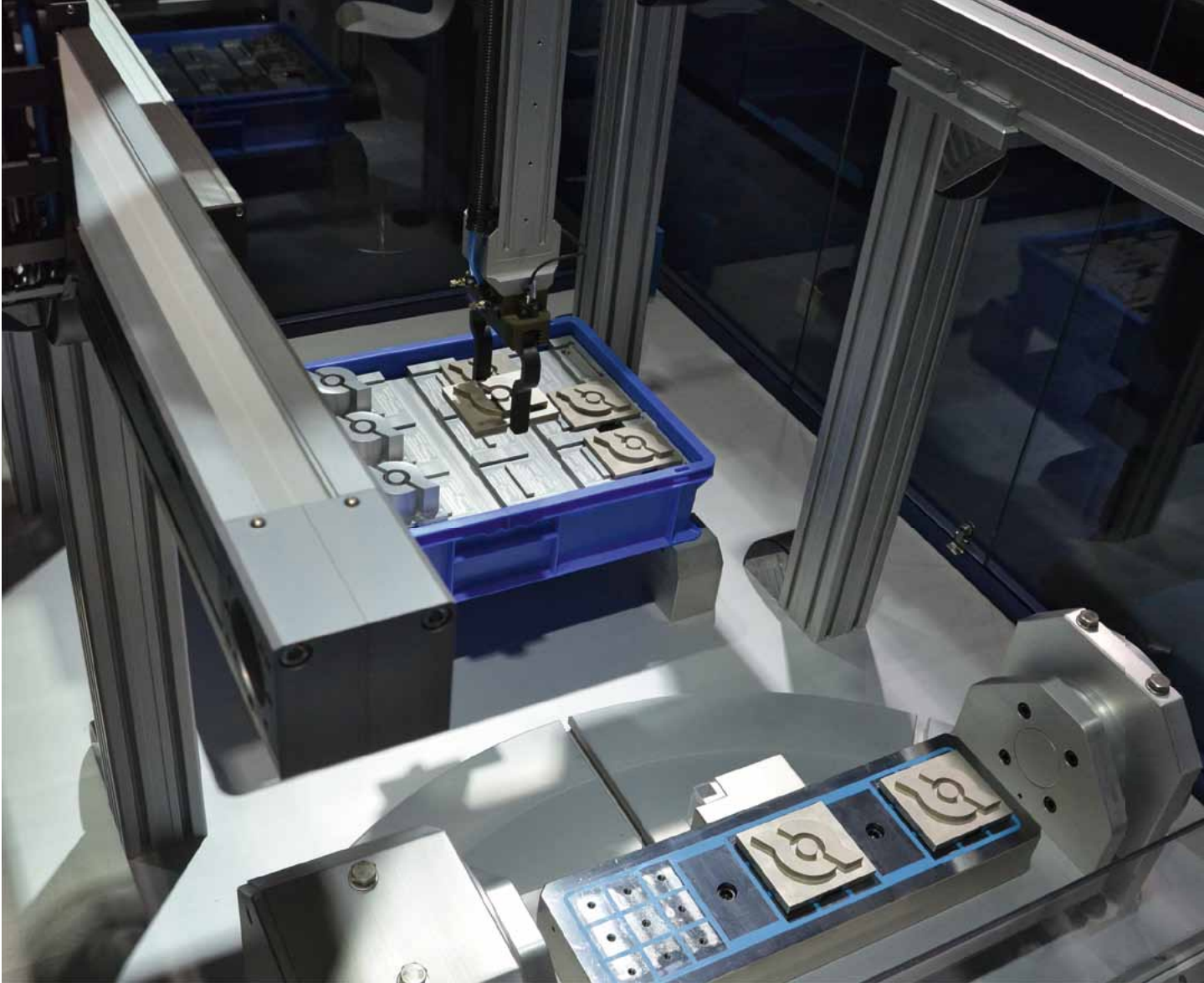
Pneumatic or electric, the standardized configurations can be combined into customized gantries, saving up to 50% in investment, project planning, assembly and installation.



Optical Distance and Presence Sensor OAS

Can save on image processing

Differentiate parts, identify positions, can pick or de-stack "on the fly." The OAS allows your PGN-plus and MPG-plus to "see" cost efficiency in high-resolution.



Linear Module LM

Long-term cost effectiveness

The reliable module for high-performance fitting systems. The robust cross roller guidance keeps guiding the axis long after other systems would have failed. Long-lasting functions save costs over the long term. Tried and tested thousands of times.



Modules GSW

Making machine tools more productive

Modules for greater opportunities. Quick and easy to fit to the machine spindle, they help your machine learn to grip, join and clean. Without any additional gantries or robot systems.



Hotter

If it is getting hot, we start to grip even harder.

Crossover solutions from SCHUNK for harsh, aggressive ambient conditions and extreme tasks redefine what is possible in handling. From large and heavy to small and fragile. Hot or cold. Dry or wet. Designed and equipped for the most difficult of conditions, they guarantee maximum process reliability and availability without restriction. No situation is too tough.

1150 degrees Celsius

1.2 tons

100 percent humidity

250 mg/m³ dust content

If it is getting harsh, we tackle the problem.



The requirement

Flexible gripping solution for handling about 40 variants of sand core.

The SCHUNK solution

Robust yet sensitive: PGN-plus universal gripper in dust-protection version with laser-formed polyamide gripper fingers with integrated dampening elements. The jaws are customer-specific in line with the sand core's specific geometry. A quick-change jaw system makes it possible to change to another product within a few seconds, without any tools.

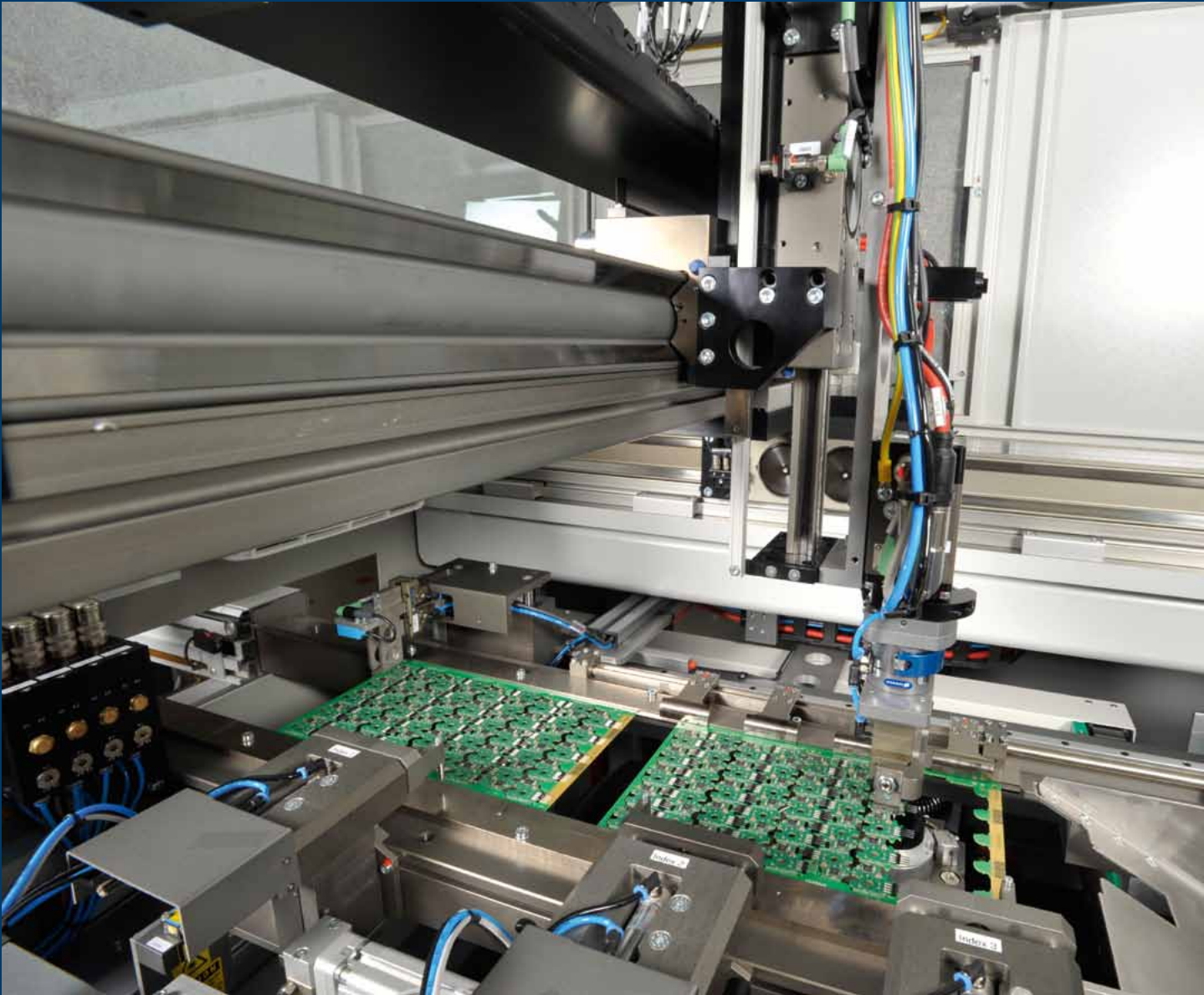


The requirement

Handling steel blanks for railway wheel tires. Workpiece weight: 800 kg.

The SCHUNK solution

SLG heavy-load gripper – the godzilla of SCHUNK grippers. The drive with its industrial motor can be adapted to the higher-level control architecture. Grippers and robots can be activated with the same set of commands.

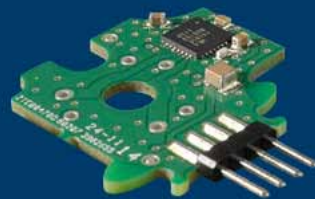


The requirement

Depaneling electronic boards at high speed and with maximum precision.

The SCHUNK solution

Linear motor-driven axis gantry made up of LDN and LDK axes. Combined with a HWS change system at the front end and a special gripper based on PGN-plus.



They never give up



Heavy-Load Gripper SLG

Almost nothing is too heavy for it

The largest industrial robot of our times makes completely new handling concepts possible. But payloads of up to 1300 kg have to be handled first. The SLG sets new standards here.

- Component weights of up to 800 kg
- Electric drive
- Also available with optional change system

Tough performers



Swivel Unit SRU-plus H

Swivel high loads securely
H for hard. The SRU-plus with hard dampening version handles double the load with the same unit interfering contour. A strong piece of equipment with all the benefits of the most powerful swivel unit on the market.



Sealed 3-finger Centric Gripper DPZ-plus

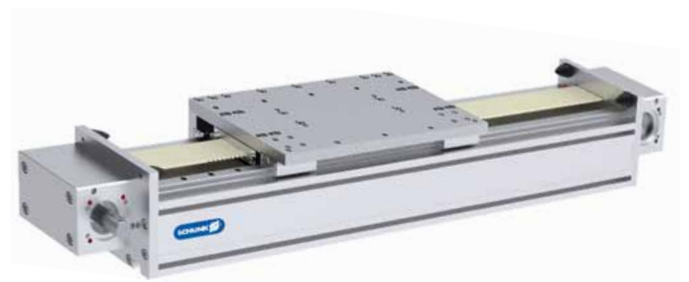
Reliable under the harshest of conditions
Impervious to dirt, water, cooling lubricant and dust. Tried and tested thousands of times in industrial conditions, the DPZ-plus specializes in harsh conditions, with IP67.



Universal Gripper with Heat Protective Sleeve PGN-plus

When things get really hot

A highly modular structure that enables the ideal version for the widest variety of requirements. A true all-rounder, PGN-plus can tackle hot iron without any trouble, thanks to its optional heat protective sleeve.



Linear Axis HSB Gamma

Super stable and self-supporting movements

The inherently rigid basic profile can bear many times its own weight. Maximum lengths of 8 m and payloads of up to 800 kg open up brand new handling horizons.

Reliable in tricky situations



Assembly Gripper ORG

The all-rounder – O-rings on shafts and in bore holes

The standardized facilitator for internal and external assembly of O-rings, ORG redefines process reliability. The O-ring always finds the groove. No matter how difficult the situation.

- Variable Z insertion
- Integrated Z-stroke of 5 mm
- O-rings from 5 mm – 150 mm Ø
- Stroke up to 21 mm

Thinking and guiding together



2-Finger Parallel Gripper PG 70

Sensitive helper

From fragile light bulbs to sensitive laboratory samples, the mechatronic PG 70 always grips as tightly as necessary and as sensitively as possible.



Tolerance Compensation Unit TCU

Intelligent yielding

Tolerances in the workpiece or process can bring machines to a standstill. The TCU finds the ideal mounting and joining position and compensates if things don't fit properly.



Collision and Overload Sensor OPR

When things get really tough

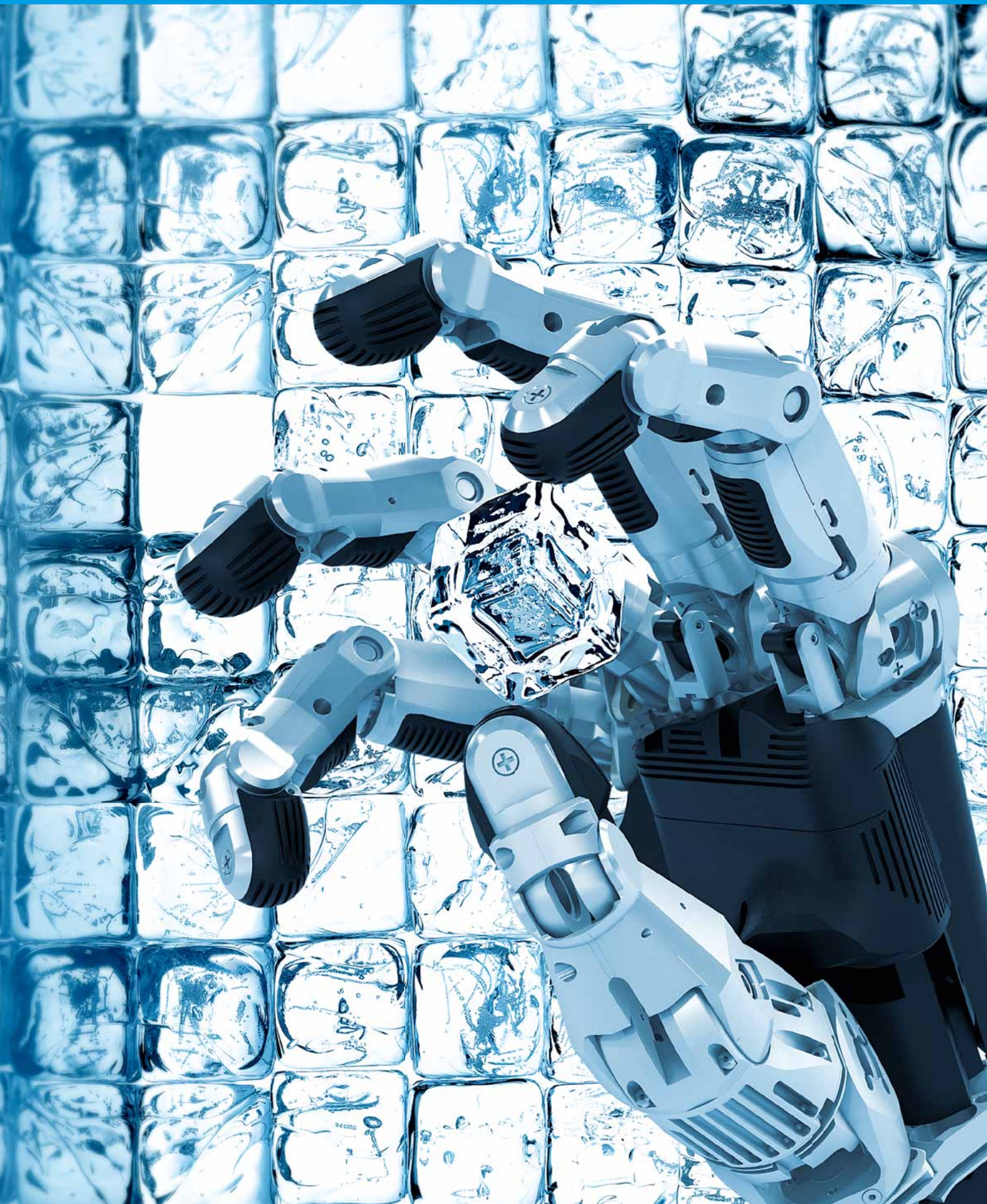
Good and effective protection for robots and handling devices, protecting them from lasting damage. The OPR yields at the right moment so that not every collision automatically means a long downtime.



Analog Position Sensor APS-M1

The essence of precision

For when there isn't enough space for quality control. The APS system turns your gripper into a measuring station with no interfering contour. With a measuring accuracy of 4 μm . And at a significantly lower total cost than non-integrated measuring solutions.



Cooler

Handling tasks of the future are everyday reality at SCHUNK.

Inspection systems, applications on mobile platforms, human/machine and human/human interactions. On the economic side of things, service robotics is becoming increasingly dynamic. We think it's cool that our mechatronic products are already setting new standards. In both professional and private spheres. SCHUNK is pushing development forward.

14 degrees of freedom

3 joint modules

5 fingers

100 percent function

Where the future is concerned, we are the pioneer.



The requirement

All over the world, old military ordnance endangers the lives of people and animals. Remote-controlled EODs make it possible to safely remove explosive weapons without risking life and limb. The manipulators used here have to be robust, highly flexible and also very sensitive.

The SCHUNK solution

A modular light-weight arm based on PRL rotary modules with a total of 6 degrees of freedom.



The requirement

Fraunhofer IPA is a pioneer in service robotics. The Care-O-bot® flagship project needed a light and agile manipulator with a gripping hand to form the basis for researching future care applications.

The SCHUNK solution

A high-performance light-weight arm based on PRL modules with light cast connections and an SDH-2 gripping hand with tactile sensors. The design is predestined for mobile use and fulfills all the requirements in the minimum of space.

HoLLiE

HoLLiE is a mobile, two-armed service robot developed in FZI House of Living Labs (HoLL) in Karlsruhe, Germany. Thanks to the two Powerball LWA 4 light-weight arms, HoLLiE features impressive mobility and flexibility.





The requirement

Concrete needs very precise properties, depending on the specification. The challenge here was to equip a fully automated laboratory with a highly flexible handling device.

The SCHUNK solution

A 5-axis light-weight arm made up of PRL modules, equipped with a PG 70 mechatronic gripper handles the concrete samples fully automatically. The robot is mounted on a mobile, battery-operated carrier system, and thus moves to the various stations. This solution provides for an extremely economical and modularly expandable quality control. Special feature: Human and robot share the working area in the laboratory.

Mobilizing and Shaping Technology

Powerball LWA 4

The light-weight arm with the world's best compact performance

Performance at its most beautiful. The arm has three highlyintegrated Powerball modules, offering 6 degrees of freedom. Integrated intelligence makes powerful, mobile handling possible as never before. The light-weight arm functions without a control cabinet. The pan-tilt unit's compact design permits especially dexterous manipulation in the tightest of spaces. Furthermore, the light-weight arm is designed to enable 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



Competing with the future



Light Weight Arm LWA 3

Tried and tested thousands of times

From mine detectors to the latest in rehabilitation systems. This light-weight arm has set standards and is used in service robots throughout the world. It can be perfectly combined with our sensitive gripping systems.

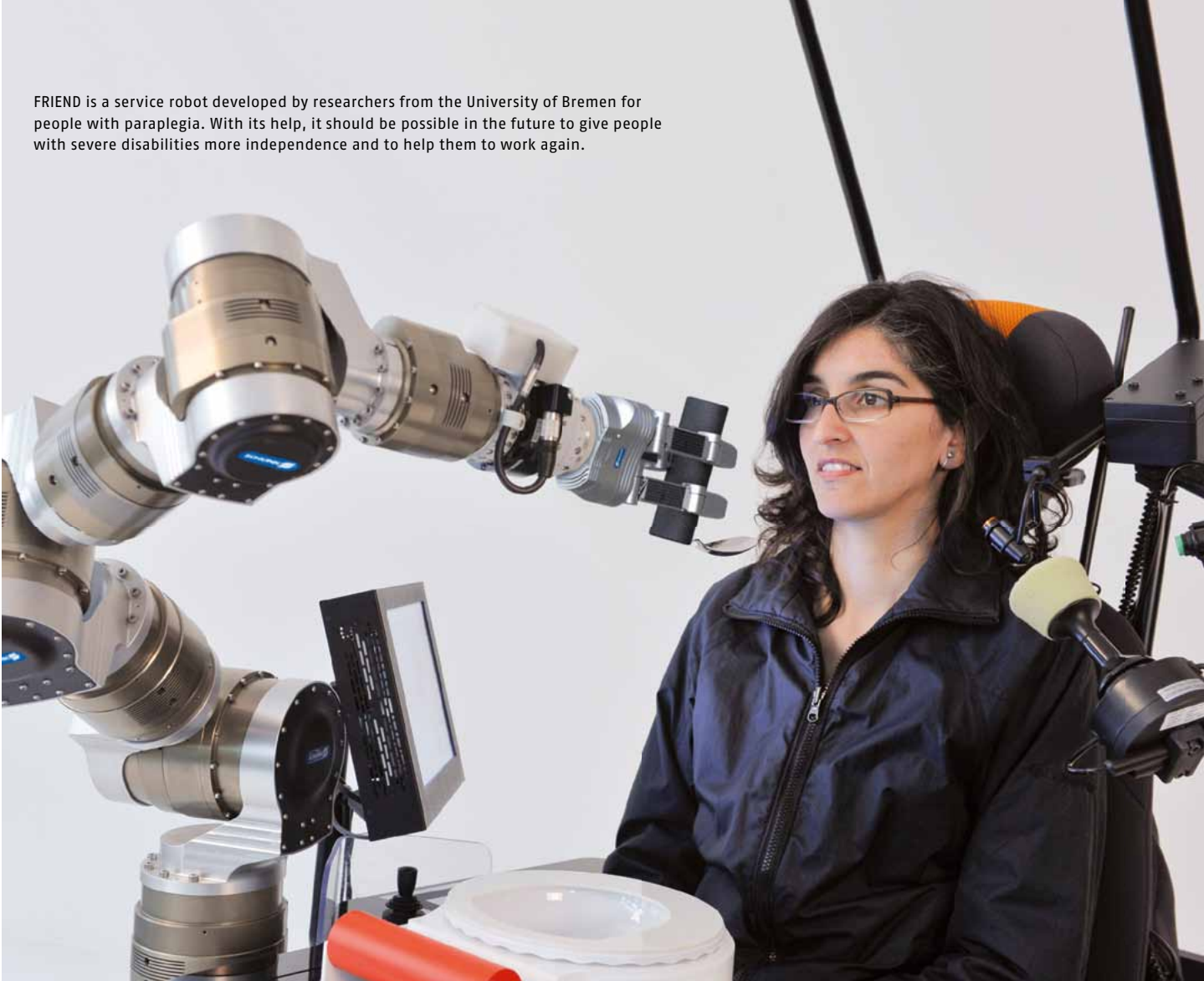


3-Finger Industrial Hand SDH-2

Closely based on bigger models

The 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 forcefit gripping with integrated tactile sensors make it a sensitive helper.

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



Intelligent facilitator



Rotary Module PRL

Endless power

The highly integrated rotary module 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 light-weight arm, it is designed for use in industrial automation and service robotics.



Powerball ERB

Well-rounded and intelligent

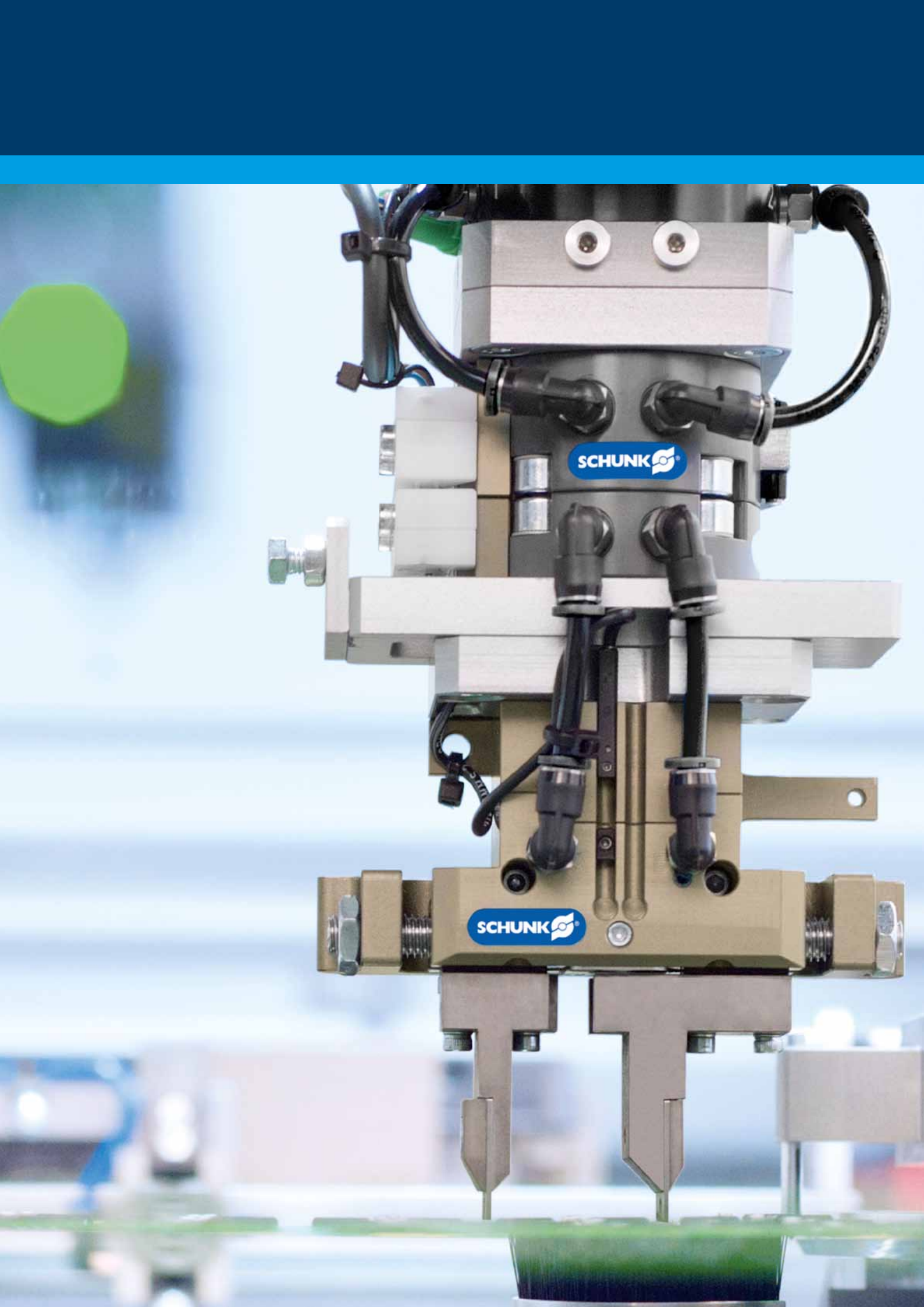
The unique rotary module with swiveling/tilting function combines high torque and precision in the smallest of spaces. With up to 34 Nm and a weight of 3 kg, the ERB sets benchmarks in mechatronic integration.



2-Finger Parallel Gripper WSG

Configured in 2 minutes

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



More Personal

Individuality means tailored cost-efficiency.

When the largest standardized modular gripping systems reach their limits, SCHUNK comes up with individual solutions. When it comes to customized tasks, the full range of our experience, customer orientation and development expertise come into their own. From standard components through to customized systems.

More than **1 000 000**
gripping modules

2 000 000 toolholders

∞ combination possibilities

We are the experts for special solutions.



The requirement

Gentle and safe handling of wafers with a diameter of 300 mm.

The SCHUNK solution

The solution is based on three LGP standard parallel grippers in cleanroom class 1 with a rapid prototyping connection structure and capacitive sensors for presence monitoring.



The requirement

Process-optimization measures focusing on efficient and flexible final assembly of peripheral intravenous catheters. Set-up times also had to be minimized – with up to 78 product variants.

The SCHUNK solution

A planned gripping unit consisting of a single servo-electric 2-finger parallel gripper. It also integrates mechanical connections and enhancements optimized to the workpiece, such as specially designed top jaws that reliably mount the catheters in the specified tolerance range. The pre-installed SCHUNK software makes it possible to operate the grippers in positioning and power modes.

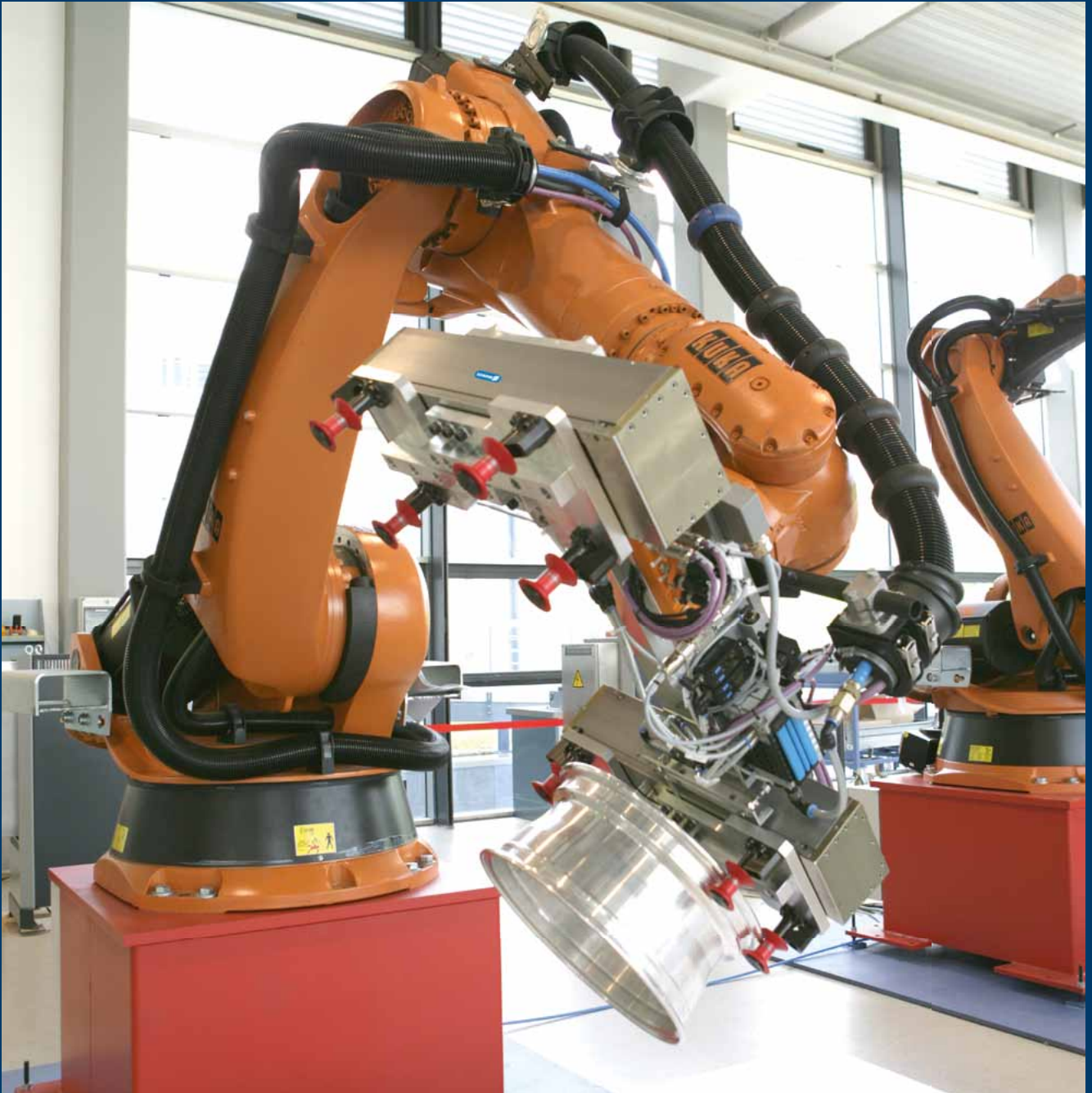


The requirement

Gripper units for taking up cheese wheels and for inserting them in packaging. Minimum set-up times are required. The units should handle a quantity of five tons per hour.

The SCHUNK solution

A quadruple gripping system with customized, modified sealed DWG angular grippers. Swivel units exactly position the cheese wheels. A quick-change system developed by SCHUNK ensures set-up-time-optimized cleaning of the entire unit.



The requirement

Transferring aluminum rims in the paint shop from a roller conveyor to a spindle conveyor. It needs to be possible to adjust the rims' gauge for bore holes. The placing height on the spindle conveyor is subject to large tolerances. Clamping marks are not permissible.

The SCHUNK solution

Customized double gripping unit with pneumatic adjustment of one gripper. The gripper is designed with pneumatic cylinders as the drive, recirculating ball-bearing guides with clamping and rack and pinion synchronization. The cylinder's stroke is calibrated to the workpiece spectrum. The top jaws have rotary bearings and are designed in plastic.

For customized applications, we offer our industry knowledge.



The requirement

Pick up of red-hot cast components which are then placed into cooling tanks.

The SCHUNK solution

For high temperature applications, the parallel grippers are equipped with stainless steel fingers. They provide for minimum heat conduction. In order to avoid penetration of dirt, the air purge connections are integrated. Air cooling from the outside avoids overheating of the gripper unit.



The requirement

Handling of aluminum-coated chocolate paper rolls weighing 50 kg.

The SCHUNK solution

Assembly groups for adaption to a palletizing robot consisting of a linear module, 3-jaw universal gripper, and corresponding pneumatic components. For being able to remove the paper rolls, the linear unit clamps the roll with its toothed top jaws in the center hole.

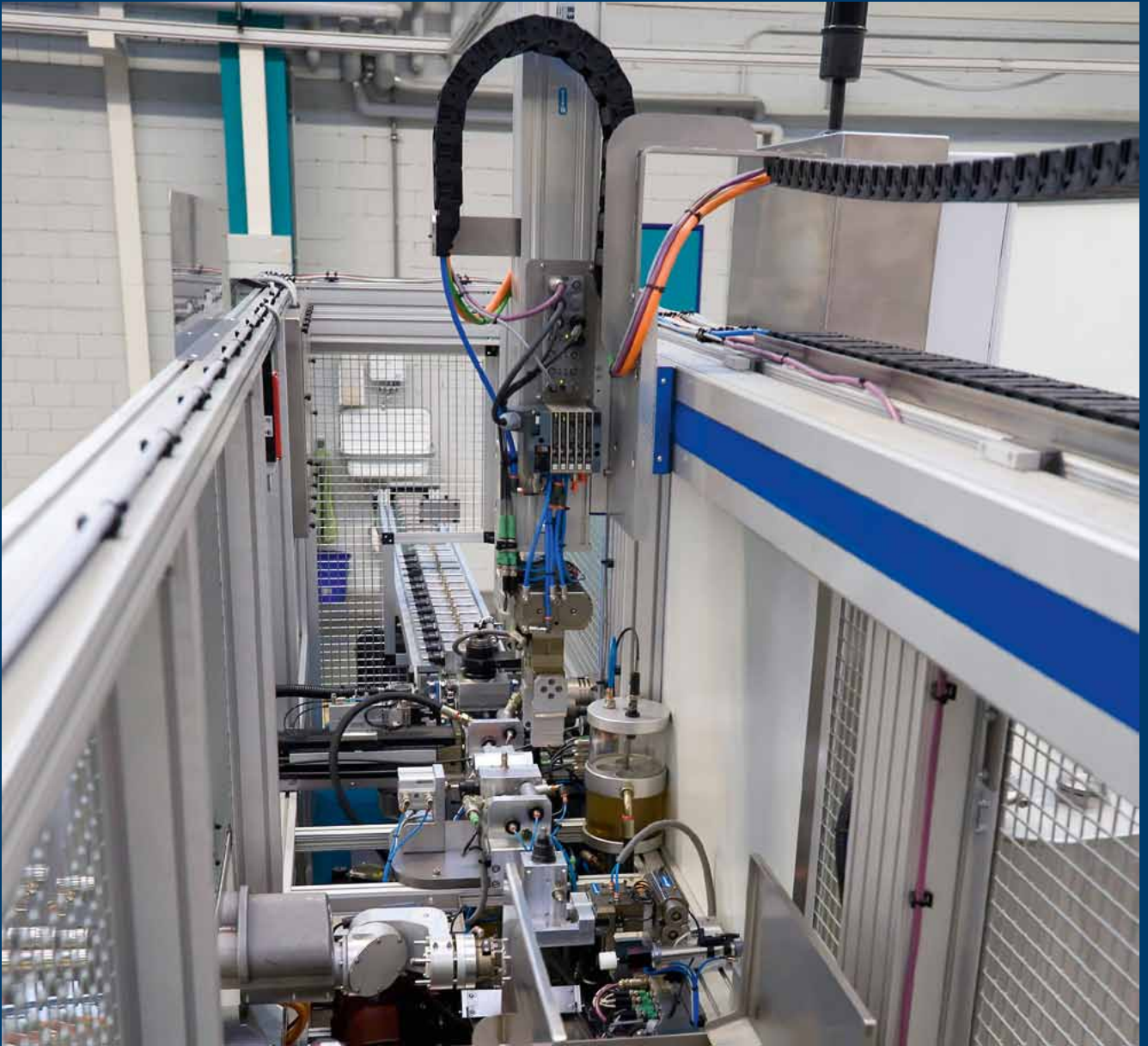


The requirement

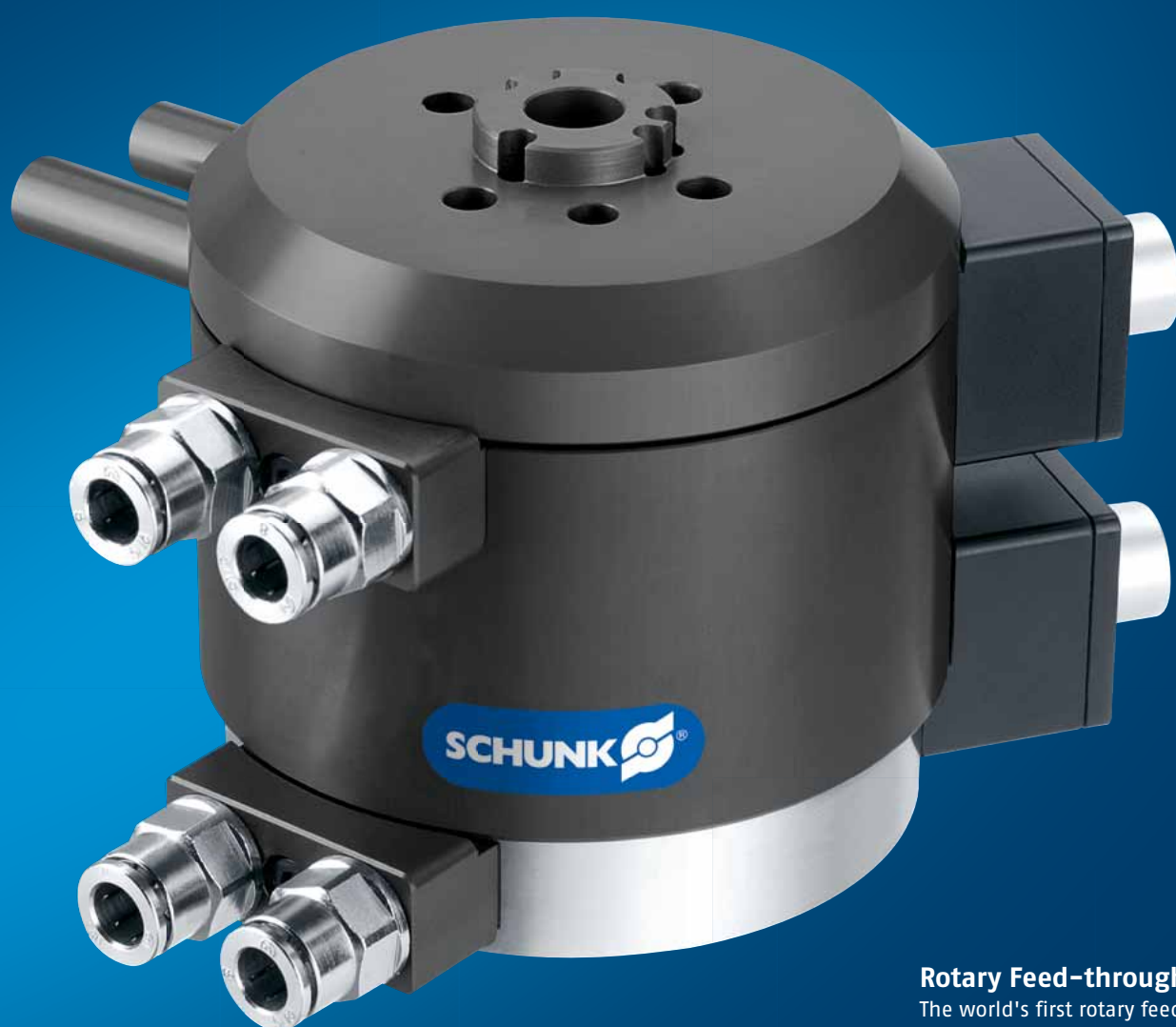
Handling of salami sausages positioned at random. They are transported from the feeding belt to the packaging station.

The SCHUNK solution

The specifically developed unit is equipped with three high-speed stroke-gripping units. It picks up three sausages from the belt, which are positioned at random, and individually puts them into the thermoforming sheets.



**Tens of thousands customer-specific SCHUNK solutions
in various industries worldwide.**



Rotary Feed-through DDF-I
The world's first rotary feed-through
with integrated bus technology.

Newer

Always one benchmark ahead.

Whenever a pioneering spirit meets a love of technology, SCHUNK innovations are on the agenda. As a competence leader, we know where to find the potential for efficient solutions, how to exploit them and how to standardize them. Each year, the results are convincing: benchmark products, innovations and assembly enhancements that set standards in our customer's added value chains, around the world.

2012 AUTOMATICA:

More than **25** new benchmarks
in more than **70** sizes



Long-stroke gripper EGA

The most flexible
mechatronic standard
long-stroke gripper
on the market.

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EGP

Gripping Modules

Electric Small Components Gripper EGP: The perfect alternative to pneumatics

Extremely simple digital actuation

Easy handling, light and flexible – the electrically actuated EGP gripper for small components concentrates on the essential. It scores with a high compact performance for dynamic processes, and for handling of sensitive components, the gripping force can be manually adjusted in four stages. Thereby the EGP is easily controlled via digital inputs, and the conversion of the customer's system from pneumatic to electric gripping modules is done without the loss of gripping force.

Ideal for fast small parts handling

The EGP is the electric counterpart to the time-tested pneumatic MPG-plus gripper for small components. Even the sensor system of the MPG-plus can be transferred to the EGP. Its powerful cross roller guide ensures that the EGP achieves a high efficiency, and makes it to a dynamic and energy efficient product for challenging Pick&Place applications.



High efficiency!

For challenging Pick&Place applications.

Size 40 is immediately available – size 25 available in August 2012



Sizes
25 .. 40



Weight
0.32 kg



Gripping force
max. 140 N



Stroke per finger
3 mm .. 6 mm



Workpiece weight
max. 0.7 kg

Product features

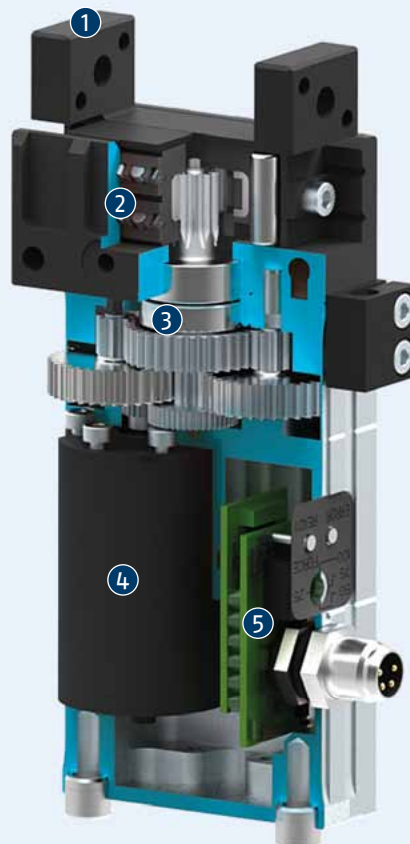
- High compact performance
- Extremely simple digital actuation
- Gripping force is adjustable in four stages for adaptation to the workpiece
- Space-saving integrated electronics
- Wear-free servo motor

Your advantage

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

Function cross section

- 1 Base jaw
- 2 Cross roller guide
- 3 Gears
- 4 Drive
- 5 Control electronics



EGA

Gripping Modules

Long-stroke Gripper EGA: Adaptable, robust, compact

Integration in robots and gantries

With capability of adaptation for all standard servo motors, the electric long-stroke gripper EGA is the most flexible standard long-stroke gripper on the market. Due to the easy integration of the system's control unit, all the features with respect to programs, safety, and fieldbuses can be transferred from the current system onto the module, and offers the advantage of a direct interpolation of the other application axes. In other words easy control as an additional axis with the identical command set is ensured.

Time-tested technology

The robust EGA long-stroke gripper is based on the proven PHL, which is extremely flat and has a compact design with minimal interfering contours. The guide carriages of its base jaws are bearing mounted, which minimizes friction, and optimally distributes the force. For robot or gantry applications, the motor can be mounted either parallel or at right angles to the direction of motion. In view to dynamics and energy-efficiency the whole system profits from the weight-optimized design of the gripper.



Universal!

All standard industrial servo motors can be used.

Size 40 is immediately available – Sizes 25 and 63 are available as of October 2012.



Sizes
25 .. 63



Gripping force
650 N .. 4000 N



Stroke per finger
30 mm .. 160 mm



Workpiece weight
3.25 kg .. 20 kg

Product features

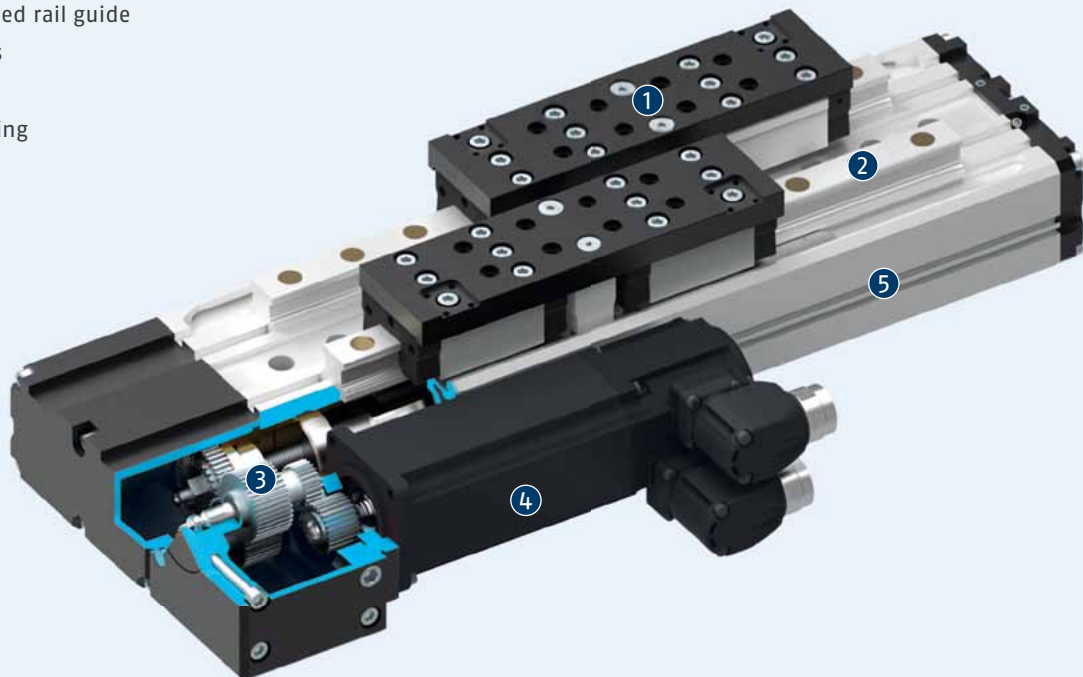
- Easy integration into existing control or feedback control electronics
- Flange-mounted servo motor
- Two versions with different motor positions for robot and gantry applications

Your advantage

- Higher dynamics and energy efficiency due to weight-optimized design
- Use of fieldbus and safety technology, as well as existing control and programming know-how

Function cross section

- 1 Base jaw
- 2 Profiled rail guide
- 3 Gears
- 4 Drive
- 5 Housing



EGM

Gripping Modules

Magnetic Gripper EGM: Maximum holding force in minimum space

Electricity instead of air

The EGM magnetic gripper is the powerhouse for flexible handling of ferromagnetic workpieces without interfering contours. In contrast to most of the magnetic grippers which are available on the market, the permanent magnets of the EGM are not pneumatically actuated, but with electricity in no time at all. Therefore the 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 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, optimum adaption to the individual applications is ensured.



Energy efficient!

Electric actuation via electric pulse in no time at all.

Immediately available



Sizes

32Q, 50Q, 30L



Weight

2 kg .. 18 kg



Max. weight of workpiece

8 kg .. 147 kg



Maximum magnetic surface

110 mm x 260 mm

Product features

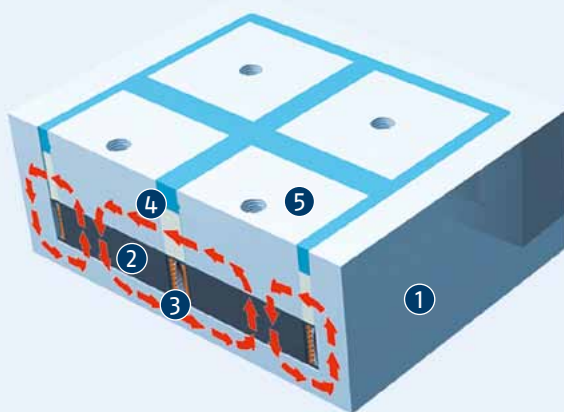
- Electro permanent magnet technology
- Simple digital actuation
- Magnetic pole geometries for flat and round workpieces
- 3 pole sizes – optionally with two to eight poles
- High holding forces in minimum space

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

Function cross section

- 1 Base body
- 2 AlNiCo magnets (pole-reversible)
- 3 Electromagnetic coil
- 4 Neodymium permanent magnets (not pole-reversible)
- 5 Magnetic poles made of steel



In deactivated state



Activated state

MPG-plus

Gripping Modules

2-Finger Small Component Gripper MPG-plus: The most powerful gripper in its class

Efficiency in minimum installation space

The combination of oval piston drive and anti-friction guidance boosts the efficiency of the MPG-plus enormously, making it the most powerful 2-finger small component gripper on the market. The high force and torque response enable longer gripper fingers and higher gripping forces without increasing the size.

Up to 25% higher gripping force

Compared with the previous MPG the gripping force for size 40 is increased 25% from 110 to 140 N. The maximum permissible finger length is then 50 mm instead of 40. In other words: instead of size 50, you only need size 40 in the future.



MM AWARD
zur **FAUTOMATICA** 2010

Highest compact performance!

Smaller size – higher gripping force.

MPG-plus

Gripping Modules

New Product

Successor
product

New Sizes

Sizes 25 – 40 are immediately available – Sizes 50/64 will be available from August 2012



Sizes
25 .. 64



Weight
0.05 kg .. 0.6 kg



Gripping force
38 N .. 250 N



Stroke per finger
3 mm .. 10 mm



Workpiece weight
0.2 kg .. 1.25 kg

Product features

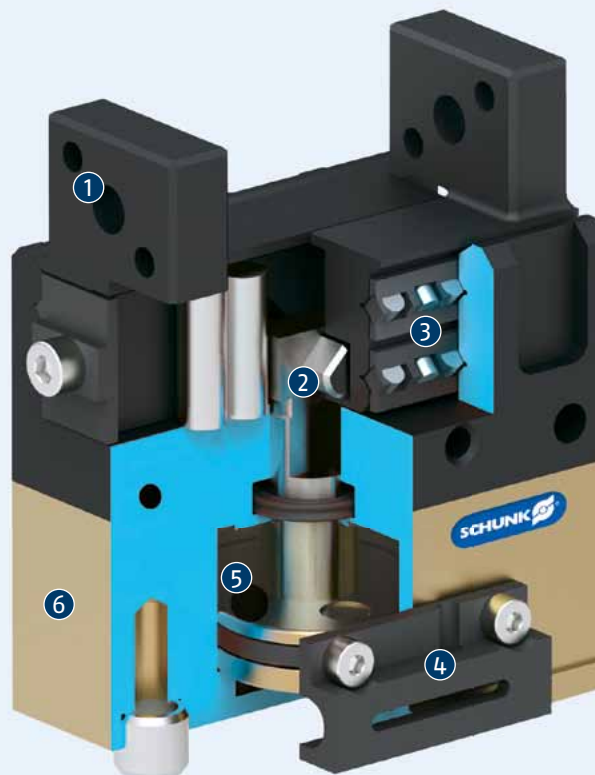
- Enormous efficiency – for 25% more gripping force
- 30% higher load rating enables 50% longer gripper fingers
- 10% weight reduction – for a gripper with higher dynamics

Your advantage

- More compact system designs due to higher gripping forces in a smaller space
- More flexible system designs due to longer finger length in a smaller space
- Reliable processes due to dependable magnetic switch monitoring
- Increased system productivity due to reduced wear-related downtimes

Function cross section

- 1 Base jaw
- 2 Wedge-hook design
- 3 Cross roller guide
- 4 Sensor system
- 5 Oval piston drive
- 6 Housing



PWG-plus

Gripping Modules

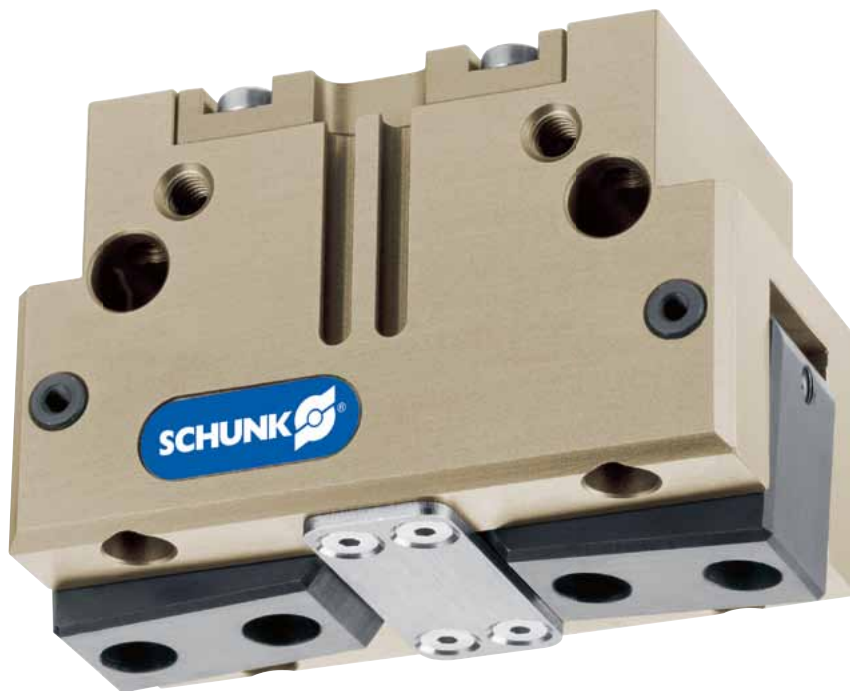
2-Finger Angular Gripper PWG-plus: Powerful for every need

Compact powerhouse

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

Modular design options

Both on the finger and bottom side it is equipped with a connecting pattern identical to that of the PGN-plus universal gripper, which allows direct combination with compensation units, attachment valves or quick-change jaw systems.



Maximum gripping forces!
Due to double piston version.

PWG-plus

Gripping Modules

New Product

Successor
product

New Sizes

Sizes 50, 80 and 160 are immediately available – Sizes 64, 100 and 125 are available from August 2012



Sizes
50 .. 160



Weight
0.25 kg .. 4.2 kg



Gripping torque
3.5 Nm .. 143 Nm



Opening angle per finger
min. 3°



Workpiece weight
0.5 kg .. 7.3 kg

Product features

- Variable top jaws
- One-piece, robust and high-strength aluminum housing
- Front face connecting threads and centering possibilities for creating workpiece support

Your advantage

- Maximum transfer of force and low wear due to robust dog bone drive
- High power density due to oval pistons
- Flexible design of workpiece supports due to threaded connection and centering options

Function cross section

- 1 Base jaw
- 2 Housing
- 3 Drive
- 4 Lever gear
- 5 Centering and mounting options



PHL

Gripping Modules

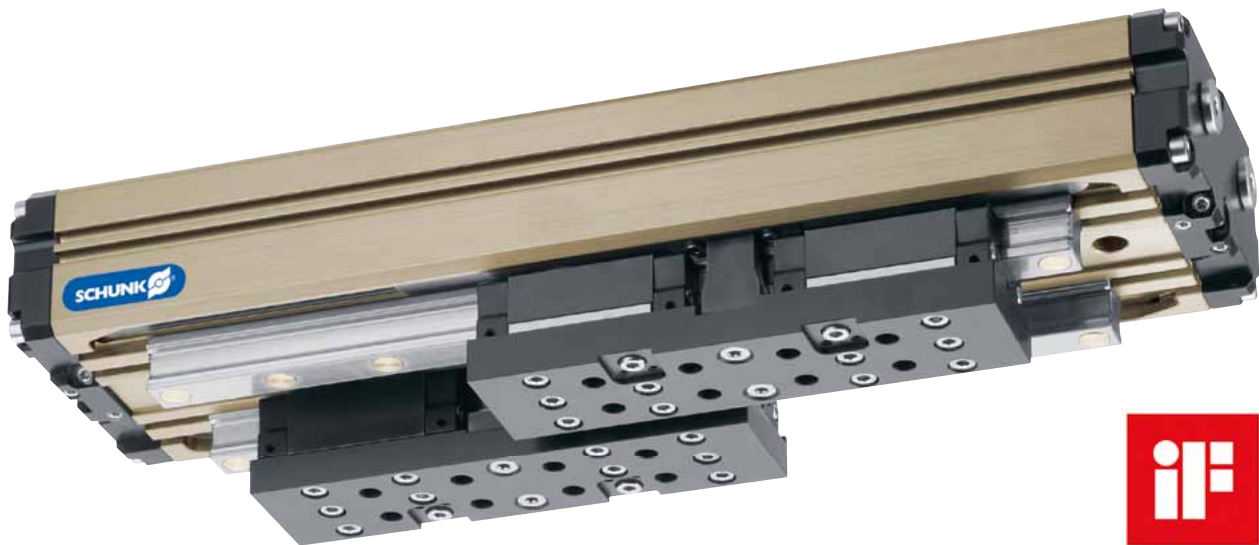
2-Finger Long-Stroke Gripper PHL: The new gripper generation

Choice of two guidance variants

The PHL is the first long-stroke gripper with the choice between multi-tooth guidance or profile rail guidance, which significantly increases the efficiency of the module. With powerful sliding multi-tooth guidance, the PHL is especially suitable for harsh environments. Profile rail guidance with roller bearings boosts the efficiency by about 25 percent.

Less air consumption

The new gripper generation significantly exceeds the performance of conventional long-stroke grippers with T-nuts or round guides. In the future, many applications will therefore be able to use smaller, less expensive and – due to the decreased air consumption – more efficient sizes. Alternatively, longer fingers can be used while maintaining approximately the same gripping force.



Diversity of variants!

More freedom in the process design.

Sizes 24 and 40 are immediately available – Sizes 32 and 63 are available from August 2012



Sizes
25 .. 63



Weight
1.5 kg .. 21 kg



Gripping force
390 N .. 3250 N



Stroke per finger
30 mm .. 160 mm



Workpiece weight
2.0 kg .. 16.6 kg

Product features

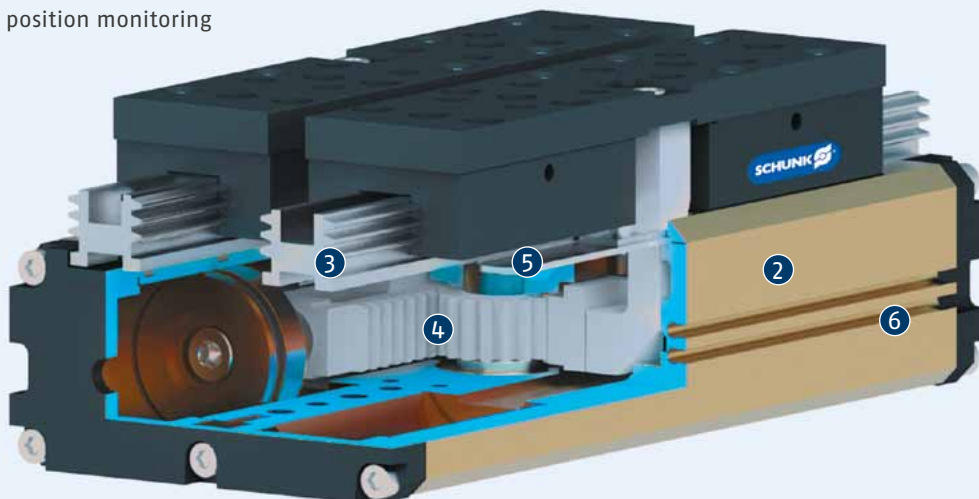
- Modular concept in 90 standardized variants
- Profile rail guidance boosts efficiency by about 25%
- Optionally available as a special sealed Viton version and as a high-temperature version for hot environments with temperatures up to 130 °C

Your advantage

- Lower system costs due to higher efficiency
- More compact system designs due to higher gripping forces in a smaller space
- More flexible system designs due to longer finger length in a smaller space

Function cross section

- 1 Base jaws for adaptation
- 2 Housing, weight-reduced
- 3 Multi-tooth guidance
- 4 Kinematics, rack-and-pinion principle
- 5 Protection against dirt and dust
- 6 Sensor for position monitoring



DPG-plus

Gripping Modules

Sealed 2-Finger Parallel Grippers DPG-plus: Specialists for harsh environments

Perfect protection against dirt

The sealed 2-finger parallel gripper DPG-plus is an expert for the handling of rough or dirty workpieces. It is ideal for loading and unloading wet cells, grinders or lathes and milling machines. Also ideal for use in painting plants, in powder processing or underwater.

Highly profitable

The drive with a powerful oval piston and the multi-tooth guidance guarantee the user precise and fail-safe handling. This ensures high machine availability and therefore high profitability in production and assembly.



Plug-in and Play!

Identical bolt patterns guarantee flexible interchangeable with PGN-plus.

DPG-plus

Gripping Modules

New Product

Successor
product

New Sizes

Immediately available



Sizes

40 .. 380



Weight

0.25 kg .. 41 kg



Gripping force

110 N .. 9270 N



Stroke per finger

2 mm .. 45 mm



Workpiece weight

0.6 kg .. 46.4 kg

Product features

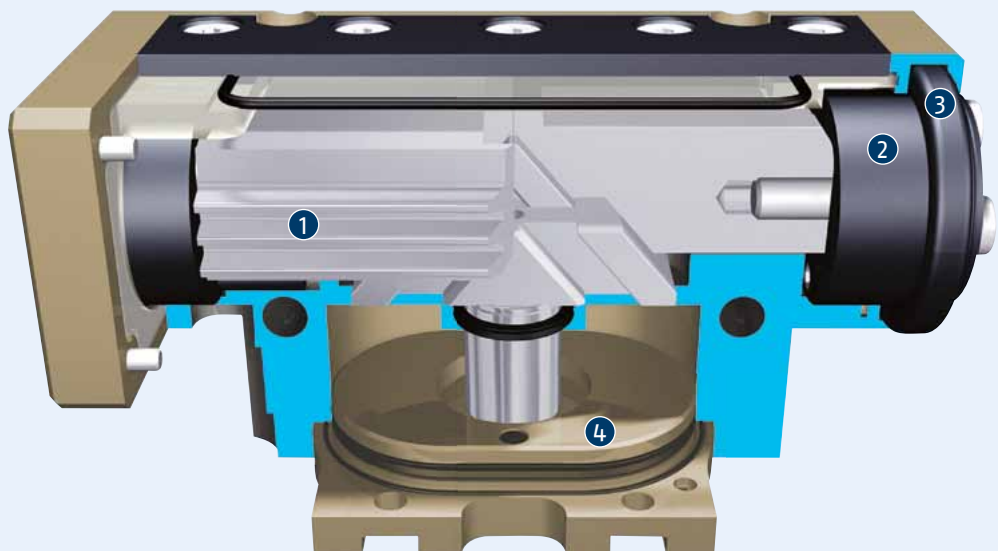
- Robust multi-tooth guidance inside
- High torque response
- Maximum gripping forces due to oval pistons
- Powerful, compact dimensions

Your advantage

- More efficient handling of heavy workpieces in dirty environments
- More compact system designs due to higher gripping forces in a smaller space
- More flexible system designs due to longer finger length in a smaller space

Function cross section

- 1 Inner base jaw (multi-tooth guidance)
- 2 Outer base jaw (round)
- 3 Lip seal
- 4 Oval piston with rod and wedge hook



PZH-plus

Gripping Modules

3-Finger Long-Stroke Gripper PZH-plus: Long stroke and plenty of power

More efficiency in alternating gripping operations

The long stroke of the innovative PZH-plus, with its toothed belt drive, eliminates the need for top jaws or changing of grippers. Therefore, it is suitable for I.D. and O.D. gripping of workpieces with a weight of up to 19.3 kg – ideal for loading machining centers or for handling rims, unmachined cast parts or other serial parts.

Saves space and lowers energy consumption

The multi-tooth guidance and the housing made of high-strength aluminum provide for especially high power density. Compared with similar large and heavy grippers, the PZH-plus has approximately twice the gripping force. Smaller sizes are therefore sufficient to achieve a particular stroke and a particular force.



High compact performance!

Long stroke and high gripping force,
with low dead weight.

PZH-plus

Gripping Modules

New Product

Successor
product

New Sizes

Immediately available



Sizes
20 .. 30



Weight
1.6 kg .. 3.9 kg



Gripping force
250 N .. 900 N



Stroke per finger
20 mm ... 30 mm



Workpiece weight
1.3 kg .. 4.6 kg

Product features

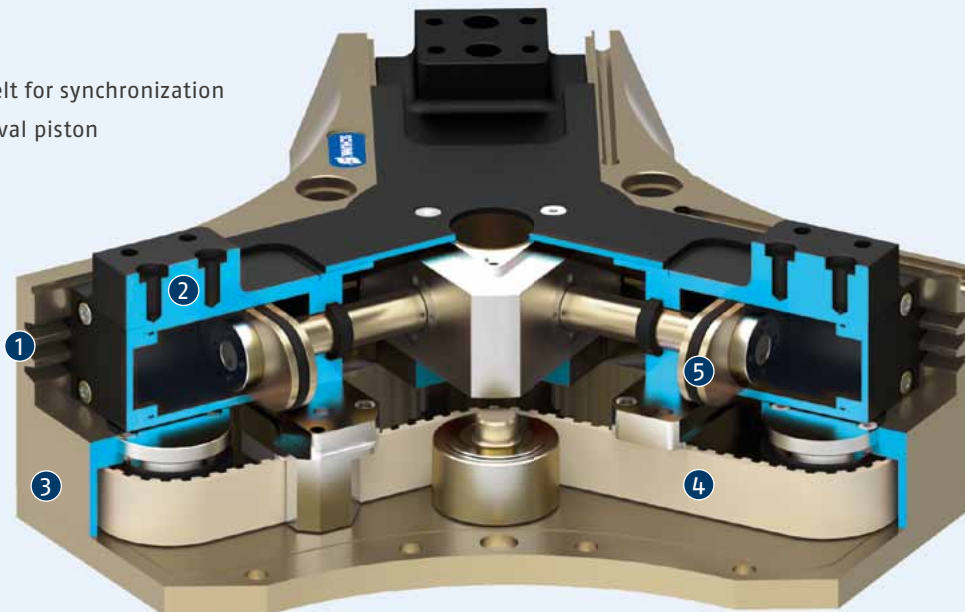
- Quick-change jaw system boosts efficiency and flexibility
- Large center bore for mounting a camera, supply of material or gripping of extra long workpieces
- Choice of monitoring via magnetic field sensors or inductive sensors

Your advantage

- Maximum process flexibility due to longer gripper stroke
- Compact system designs due to higher gripping force in a small space
- Significant energy savings due to movement of smaller mass
- Cost efficiency as a result of investment in smaller sizes

Function cross section

- 1 Multi-tooth guidance
- 2 Base jaws
- 3 Housing
- 4 Toothed belt for synchronization
- 5 Drive via oval piston



WSG

Gripping Modules

2-Finger Parallel Gripper WSG: Sensitive handling – configured in 2 minutes

Extremely simple configuration – flexible actuation

The WSG is a sensitive gripper that communicates by means of Profibus DP, CAN or Ethernet TCP/IP. It also features an integrated web server for configuration and diagnosis. This makes programming, commissioning, remote maintenance and updating especially easy. The gripper is equipped with an internal micro SD card for storing programs and documents.

Extremely sensitive gripping

The electronics integrated in the gripper jaws enable the WSG 50 to measure forces occurring in the gripping process directly by means of sensors. This sensitivity makes it ideal for handling sensitive samples in labs, pharmaceutical companies, research facilities and even for use in measuring and testing technology.



Without gripper change!

Sensitive and highest-precision gripping of different products

Immediately available



Sizes
50



Weight
1.6 kg



Gripping force
bis 120 N



Stroke per finger
105 mm



Workpiece weight
0.4 kg

Product features

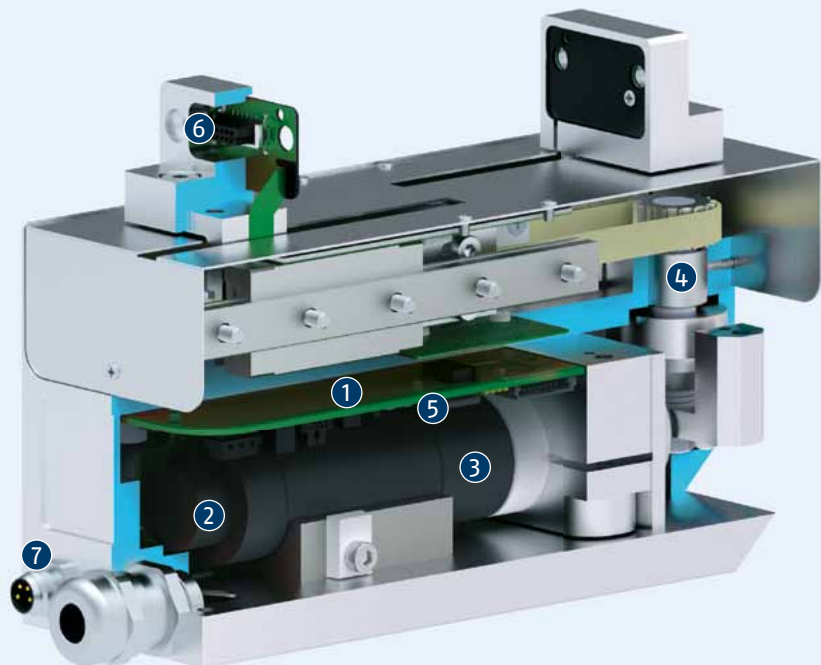
- Integrated web server, sensitive sensors and control via Profibus DP, CAN and Ethernet TCP/IP
- Standardized electric interfaces in the base jaws for direct integration of sensors in the gripper fingers
- Integrated scripting language for extended functions

Your advantage

- More freedom in the process design due to integrated sensitive sensors
- Flexible control via Profibus DP, CAN and Ethernet TCP/IP
- Easy configuration and diagnosis via integrated web server
- Maximum flexibility for integration in higher level systems

Cutaway functional diagram

- 1 Electronic controller
- 2 Encoder
- 3 Drive, DC servo motor
- 4 Toothed belt drive
- 5 Micro SD card
- 6 Electronic sensor
- 7 Electrical connection



SRU-plus 20-S

Rotary Modules

Rotary Actuator SRU-plus 20-S: New standard in high-speed assembly

Speed squared

The SRU-plus 20-S is SCHUNK's new high-speed addition to the SRU-plus series of attractively priced universal rotary units. Compared with other available rotary units of the same size, the high-speed module can increase the number of cycles by up to 100%. With lightweight parts, the module enables rotation times starting at 0.3 s and up to 3700 cycles per hour. Alternatively, a load of up to three times or more than that of standard rotary units of the same size is possible.

High-speed version with high-performance damping

The secret of such high performance combined with process stability is a patented shock absorbing system that combines an elastomer with an oil-damped shock absorber. Arranged in a stack, the high-performance damping enables significantly shorter cycle times and a higher number of cycles, or the rotation of much higher mass inertias or loads.



Plus 100%!

Minimum cycle times at maximum frequency.

SRU-plus 20-S

Rotary Modules

New Product

Successor
product

New Sizes

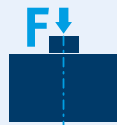
Immediately available



Sizes
20



Weight
2.1 kg



Axial force
800 N



Torque
3.0 Nm

Product features

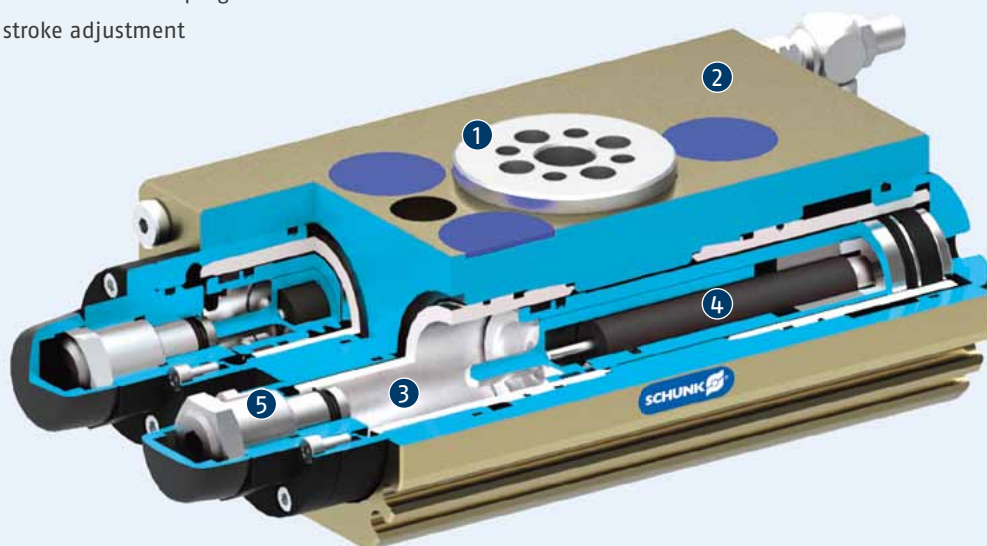
- Time-tested hydraulic high-performance shock absorbers in combination with elastomer
- Higher compact performance with respect to loading, cycle time and cycles per hour
- Protection class IP67

Your advantage

- More compact system designs due to higher loads in a smaller space
- Higher system productivity due to reduced cycle times and increased cycles per hour
- Reliable turning processes due to internal high-performance damping

Function cross section

- 1 Drive flange
- 2 Housing
- 3 Sleeve technology
- 4 Shock absorber with elastomer damping
- 5 Shock absorber – stroke adjustment



RST-P with DDF

Rotary Modules

Ring Indexing Table RST-P 87 with DDF: Endless turning with all actuators

Extremely flexible

As an accessory for the compact ring indexing table RST-P 87 SCHUNK now offers a pneumatic rotary feed-through that allows endless rotation of grippers or other pneumatic actuators. A total of three air feed-throughs supply the pneumatic modules for a reliable and stable process.

Compact pneumatic ring indexing table

The compact and rigid ring indexing table is designed for left, right or alternating cycles; the cycle type can be changed by the pneumatic actuator. This makes it possible to stop the machining process, cycle back a few steps and repeat faulty machining steps, for example.



More flexible!

Rotary feed-through can be retrofitted.

RST-P with DDF

Rotary Modules

New Product

Successor
product

New Sizes

RST-P immediately available – DDF is available from July 2012



Sizes
87



Pitch
4 .. 12



Air feed-through
3 x



Mass moment of inertia
0.08 kgm²



Repeat accuracy
0.06 °

Product features

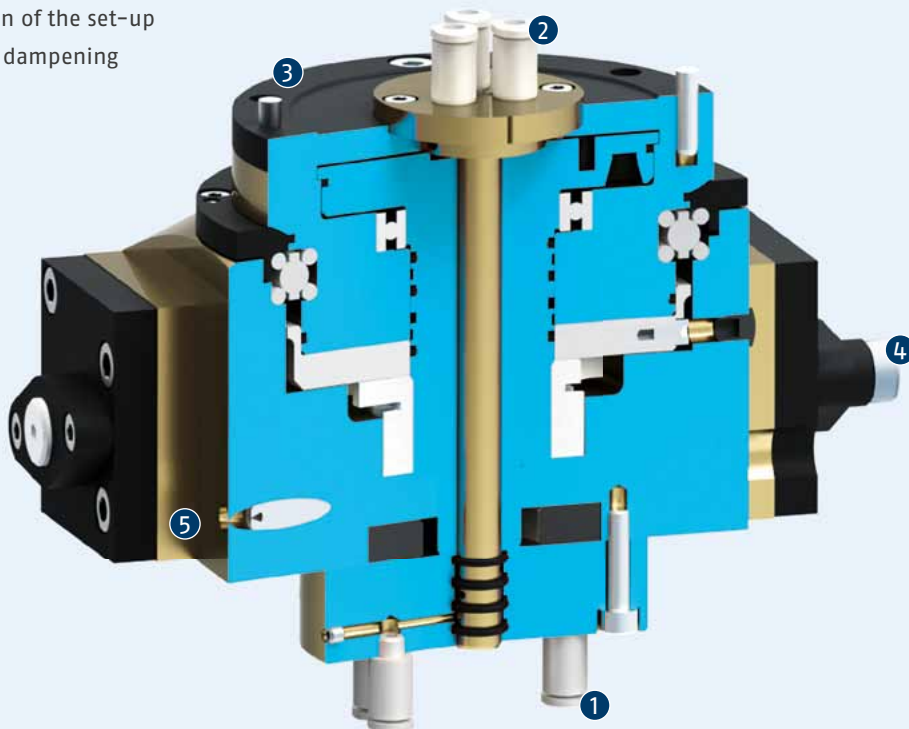
- Rotary feed-through can easily be retrofitted
- Right, left and alternating operation is possible via the actuator
- Spacers are available for converting between 4-, 6- and 12-cycle operation

Your advantage

- Fast adaptation due to conversion with spacers
- Stable and reliable supply of rotating pneumatic modules

Function cross section

- 1 Static air connection
- 2 Dynamic air connection
- 3 Air connection of the set-up
- 4 End position dampening
- 5 Housing



ERS with DDF

Rotary Modules

Rotary Module ERS with DDF: Compact and extremely flexible

New benchmark for rotary modules

The electric ERS rotary module has a new option, a pneumatic and electric rotary feed-through. The unit is driven by a torque motor with hollow shaft, and combined with the DDF unit.

It is the most compact electrical rotary module with integrated pneumatic and electric feed-through. By combining electrical turning with pneumatic and electric feed-through, several handling components can be endlessly turned in the same direction without causing a cable salad of the energy cables.

Pneumatic and electric feed-throughs

To allow maximum flexibility in the control and regulation strategy, it can be operated either with the Schunk Motion Controller MCS12 (48 V D) or a Bosch or Siemens standard controller (560 V DC). The standard DDF module features 8 signal feed-throughs and a pneumatic air duct. In order to distribute the air to various actuators, micro valves can be switched via the electrical feed-throughs.



Unique!

Combination of pneumatic and electric feed-throughs.

ERS with DDF

Rotary Modules

New Product

Successor
product

New Sizes

Available from July 2012



Sizes

170 .. 210



Nominal torques

5 Nm .. 10 Nm



Repeat accuracy

0.01°



Air feed-through

1 x



Electrical feed-throughs

8 x

Product features

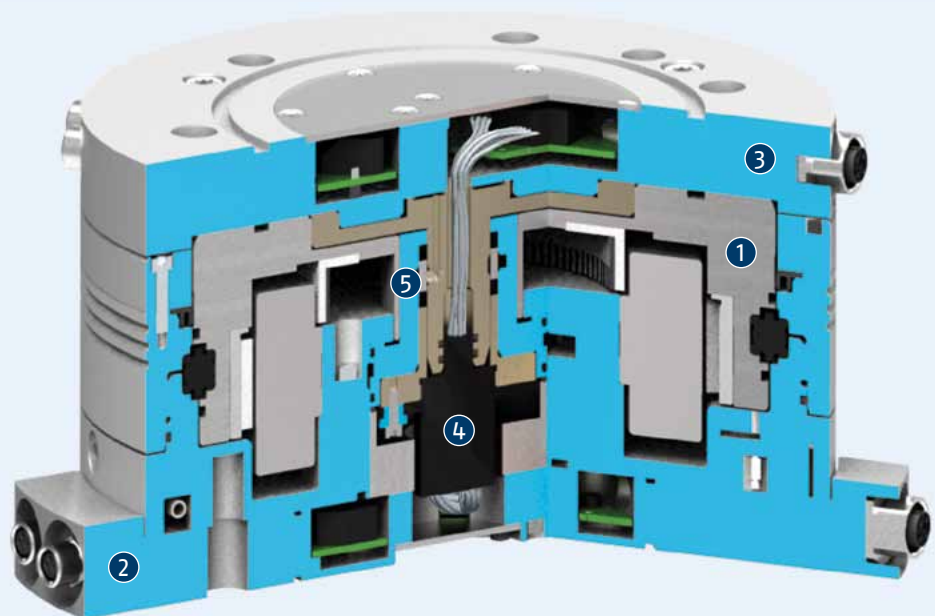
- Extremely flat design
- Dynamic, stable and torsionally rigid
- Pneumatic and electric feed-throughs
- Endless rotating up to 250 rpm⁻¹
- On option with holding brake
- Standard encoder interface

Your advantage

- Highly flexible processes due to variable intermediate positions
- Compact system designs due to a low overall height
- Easy system integration
- High acceleration and short cycle times due to high torque

Function cross section

- ① ERS
- ② Base plate connection side
- ③ Connection flange tool-sided
- ④ Electric feed-through
- ⑤ Pneumatic feed-through



ERM

Rotary Modules

Rotary Module ERM: Extremely adaptable

Seamless implementation

The electrically operated rotary module ERM can be equipped with all standard industrial servo motors and therefore offers maximum flexibility with respect to the control and regulation strategy. Equipped with the right motor, the characteristics of the system controller with respect to programming, safety or field buses can be directly transferred to the module.

Precision force

The ease of adaptability makes it comparably easy to compensate between different regional standards from Europe, the USA and Asia. In addition, a 90° swiveling drive allows optimal adaptation of the rotary module's interfering contour to the conditions of gantries or robots. Also ideal as a rotary indexing table, positioning device, for rotating, turning and reorientation of workpieces.



High-precision force!

Precise positioning of large loads.

Available from September 2012



Sizes

100 .. 160



Weight

13 kg



Torque

20 Nm .. 110 Nm



Air feed-through

4 .. 8



Speed

40 rpm .. 100 rpm

Product features

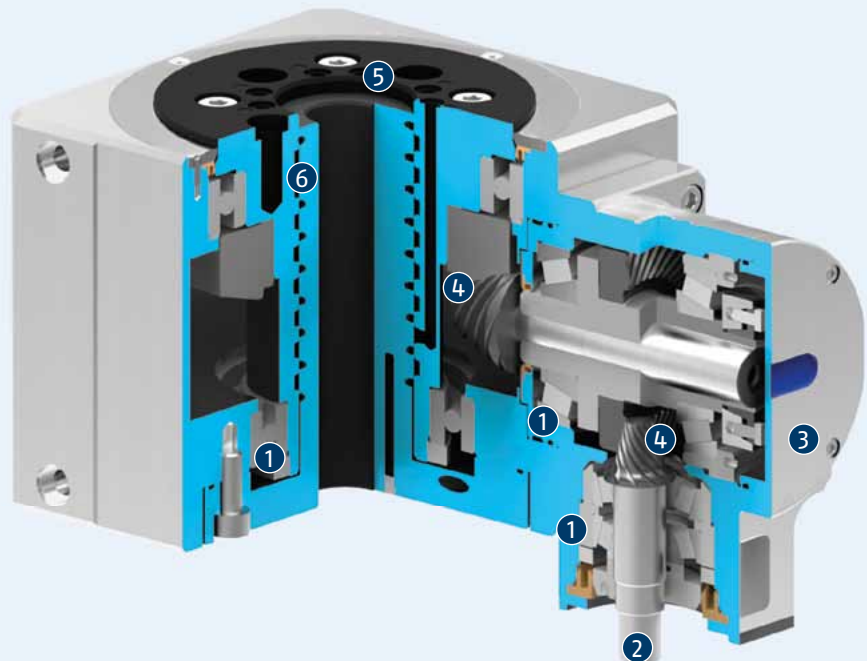
- Swiveling adaptive drive
- Endless rotating
- Protection type IP65
- Air feed-throughs and center bore for media feed-through
- All standard industrial servo drives can be connected

Your advantage

- Compact system designs due to standard center bore
- Flexible process design due to variable intermediate positions

Function cross section

- 1 Bearings
- 2 Drive shaft
- 3 Reduction transmission
- 4 Double bevel gear stage
- 5 Drive flange
- 6 Integrated air feed-through with connection bores



LDx

Linear Modules

Linear Modules LDx:

The next generation of high-speed modules

For high-precision, high-speed applications

The new LDx series from SCHUNK sets a new benchmark: Compared with the previous modules, powerful servo motors achieve a 15% higher rated force in a module of the same size. In the future it will therefore be possible to use smaller modules to achieve the same performance. Alternatively, higher masses can be moved in vertical applications.

Compact and cost-effective

The basic modules are the three universal linear modules LDN, LDM and LDT, the short-stroke modules LDK and LDH and the flat linear module LDF. The absolute encoder eliminates the need for time-consuming programming of reference runs, as well as the reference runs themselves.



Large portfolio!

Unique diversity of modules and variants for every application.

Immediately available



Sizes
50 .. 600



Maximum stroke
3800 mm



Driving force
750 N



Repeat accuracy
0.01 mm



Maximum speed
4 m/s

Product features

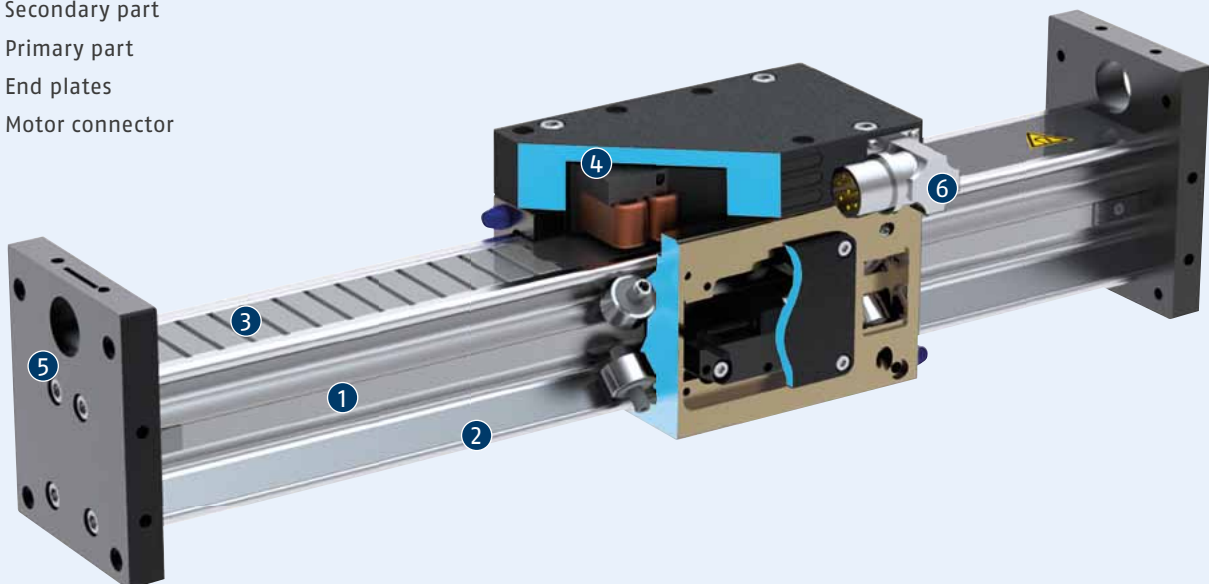
- Optionally with absolute encoders for a repeat accuracy of 0.01 mm per axis
- 15% higher rated force
- Can be used horizontally and vertically
- Choice of static profile and moving slide or static slide and moving profile

Your advantage

- Shortest cycle times due to high dynamics
- Long life, since there are hardly any wear parts
- Reduced costs due to elimination of limit and reference sensors
- Absolute encoder reduces commissioning time and increases process reliability

Function cross section

- 1 Aluminum profile
- 2 Steel guide rail
- 3 Secondary part
- 4 Primary part
- 5 End plates
- 6 Motor connector



CLM

Linear Modules

Compact Linear Modules CLM: Longer strokes in high-speed assembly

Precision specialists

The pneumatically actuated compact linear modules of the CLM series have been used successfully for years in the high-speed assembly of small parts. To expand the range of applications, SCHUNK now has added standardized modules with an effective stroke of 100, 125 and 150 mm for the sizes CLM 50 and CLM 100.

Universal utilization

The compact design and optimized length of the CLM modules make them ideal for use in confined spaces. The generous dimensions of the slide construction ensure high rigidity and only minimal inherent vibrations even when used in dynamic applications. The universal modules can be used as handling modules, slides or linear units.



High precision!

Broad spectrum of applications in small part assembly.

Immediately available



Sizes
8 .. 200



Maximum stroke
150 mm



Driving force
482 N



Repeat accuracy
 ± 0.01 mm



Weight
0.07 kg .. 5.32 kg

Product features

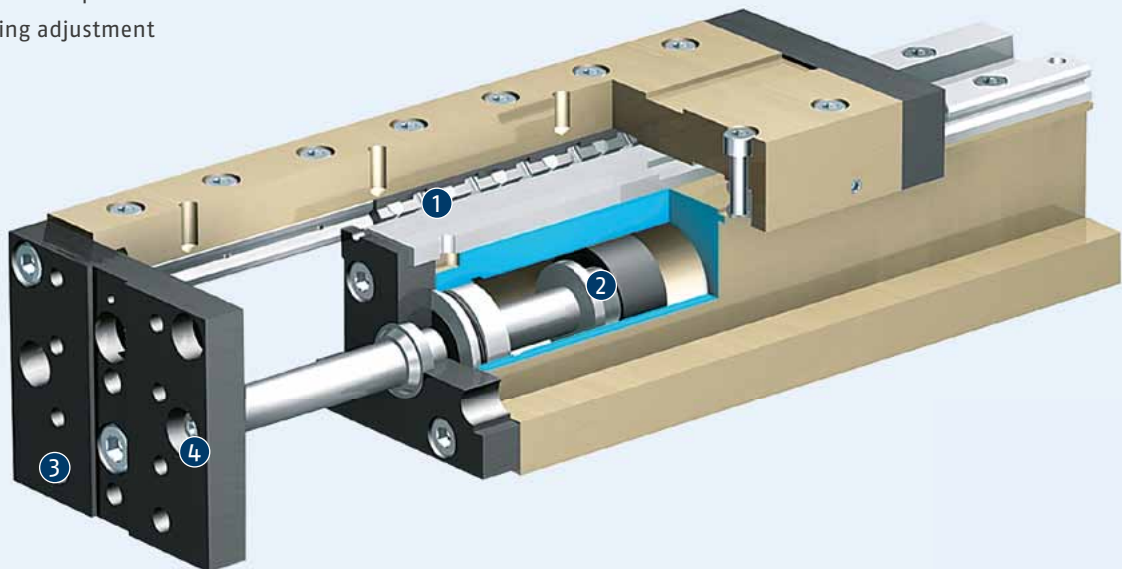
- End position accuracy of ± 0.01 mm in all installation positions due to hardened, backlash-free pre-tensioned junction roller guides
- Shock absorbers, stop screws and proximity switches integrated in the projection surface

Your advantage

- Larger strokes can be achieved with the same size – More flexibility in applications
- Rigid and precise guidance for high dynamics and high precision

Function cross section

- 1 Junction roller guide
- 2 Drive
- 3 Modular hole pattern
- 4 Damping adjustment



DDF-I

Robot Accessories

Rotary Feed-through DDF-I: The world's first rotary feed-through with integrated bus technology

Especially process-stable actuation

The pneumatic/electric feed-through DDF-I is the world's first rotary feed-through with integrated bus technology. It can be used for connecting mechatronics gripper modules, valves or sensors located downstream from a rotary axis for especially stable control of processes. Up to 26 electric signals are transmitted simultaneously, 13 of which are for the actuation of valves. Air and vacuum are supplied to the actuators through a fluid feed-through.

360° endless

The large center bore of the DDF-I allows the feed-through of cables, liquids, workpieces or the use of a camera. Endless rotary movements are also possible with the module. Thanks to the ISO flange pattern it can be connected to many different robots without the use of an adapter.



Unique!

Integrated bus technology for process-reliable applications.

DDF-I

Robot Accessories

New Product

Successor
product

New Sizes

Available from August 2012



Sizes
040 .. 063



Speed
max. 120 rpm



Air feed-through
2 x



Electrical feed-through
26 x

Product features

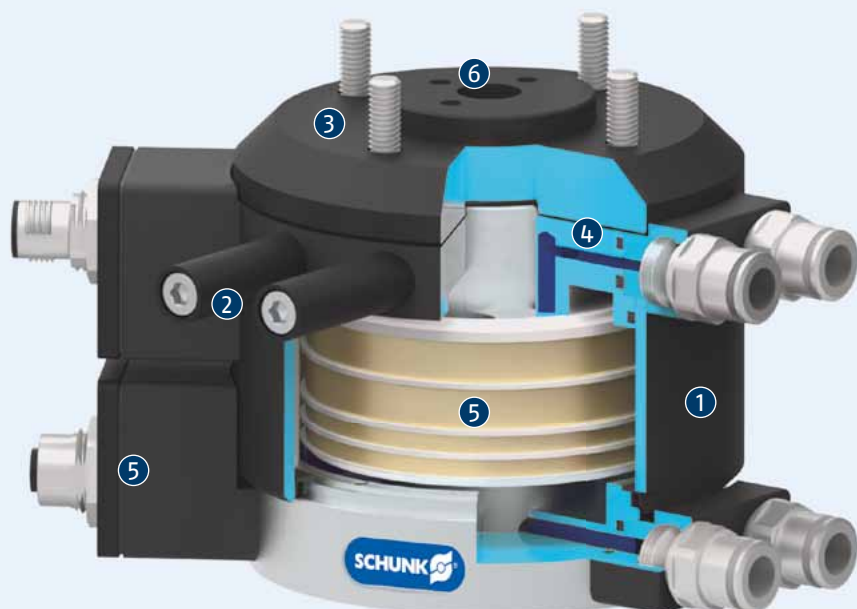
- With integrated air feed-through
- With integrated electric feed-through
- ISO flange pattern
- Sealing air connection

Your advantage

- Modularity to other SCHUNK products with SWK bolt pattern
- For all robot applications with 360° endless rotary movement

Function cross section

- ① Housing
- ② Torque support
- ③ ISO bolt pattern
- ④ Pneumatic feed-through
- ⑤ Electric feed-through
- ⑥ Center bore



OPS-063-M

Robot Accessories

Collision and Overload Protection OPS-063-M Fast-responding collision protection

Fast and lightweight

With a response time of just 1 ms the anti-collision and overload protection OPS-063-M sets a new standard for robot applications. Fast and lightweight, the housing is made of hard anodized, high-strength aluminum alloy, weighing only 290 g and is designed especially for use on small robots. Instead of internal proximity switches, the OPS-063-M uses external exchangeable magnetic switches for monitoring.

Easy operation

After a collision the unit only has to be returned to starting position; disassembly is not necessary. This simplifies operation, minimizes susceptibility to malfunctions and reduces spare parts inventories. The triggering force and torque can be set by means of the operating pressure. Standardized adapter plates make integration of the module in the system fast and easy.



Quick as lightning!

Response time: 1 ms.

OPS-063-M

Robot Accessories

New Product

Successor
product

New Sizes

Available from July 2012



Sizes
063



Triggering force F_z
100 N .. 650 N



Triggering torque M_x
1 Nm .. 4.5 Nm



Triggering torque M_y
1 Nm .. 4.5 Nm



Triggering torque M_z
1 Nm .. 13 Nm

Product features

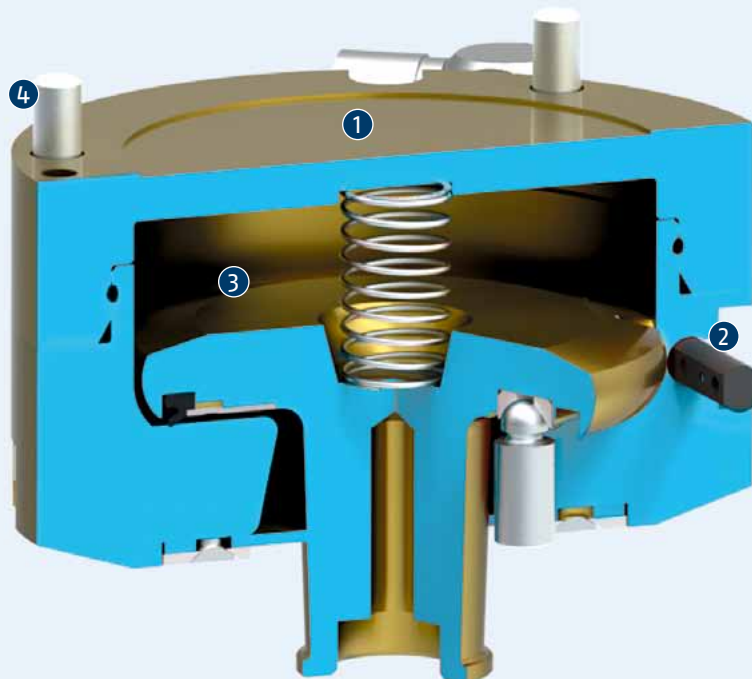
- With integrated electronics
- Monitoring by magnetic switches
- Triggering force and torque can be set by means of the operating pressure

Your advantage

- Fast response time due to magnetic switches

Function cross section

- 1 Housing
- 2 Sensor system
- 3 Drive
- 4 Centering and mounting option



DRL

Modular Assembly Automation

Rotary Lift Unit DRL: High-speed assembly with integrated rotary motion

Highly dynamic

The pneumatic rotary lift unit DRL 025 SC is SCHUNK's latest addition to its fast products for modular high-speed assembly. In the assembly of electronics, medical technology and consumer goods, the rotary unit enables highly dynamic yet smooth Pick&Place operations with rotation angles of either 90° or 180°.

High system productivity

With a minimal load and a rotation angle of 180° it is possible to achieve up to 90 cycles per minute. To boost productivity and process stability even more, the effector can be stopped by means of the flexible controller directly over the respective target position and switched to stand-by position until the feed-through or placing unit is ready.



Speedy!

Up to 90 cycles per minute.

Available from July 2012



Sizes
25



Max. rotation angle
180°



Vertical stroke
40 mm



Lifting force
320 N



Torque
3.7 Nm

Product features

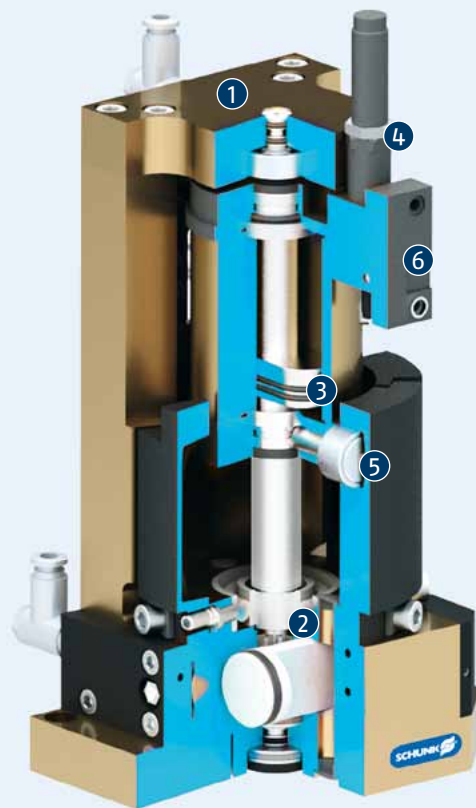
- Transfer and turning in one step
- Rotation angle adjustable by $\pm 2^\circ$ per side
- Vertical end position adjustable by 10 mm per side
- Pick and place heights can be different
- Two stand-by positions can be achieved by actuation

Your advantage

- Significantly higher productivity due to higher cycle rates
- Higher process reliability due to highly flexible actuation
- Fewer shock absorbers than with comparable pneumatic solutions

Function cross section

- 1 Housing
- 2 Rotary drive
- 3 Vertical drive
- 4 Shock absorber/end position adjustment
- 5 Cam roller/disk
- 6 Mounting attachment



PPU-P

Modular Assembly Automation

Pick&Place Unit PPU-P 30: Time-optimized pace maker

Minimum cycle times

The PPU-P 30 is designed for payloads of up to 3 kg and is pre-destined to share in the success of the smaller PPU-P 10. In their respective sizes, both are the fastest pneumatic units on the market worldwide. With a full payload, the PPU-P 30 achieves up to 75, and the PPU-P 10 even 95 cycles per minute. That makes them twice as fast as existing conventional Pick&Place solutions.

Clever solution

The strokes can be adapted horizontally 18 mm per side and vertically 15 mm per side. Also, the end positions can be adjusted separately from each other, vertically. This makes compensation of height differences between the pickup and placing position fast and easy, with no intermediate stop.



Fast as lightning!

Up to 90 process-reliable picks/minute –
very robust, flexible cam control.

PPU-P

Modular Assembly Automation

New Product

Successor
product

New Sizes

Size 10 immediately available – Size 30 is available from July 2012



Sizes
10 .. 30



Max. horizontal stroke
210 mm



Max. vertical stroke
60 mm



Repeat accuracy
 ± 0.01 mm



Max. payload
3 kg

Product features

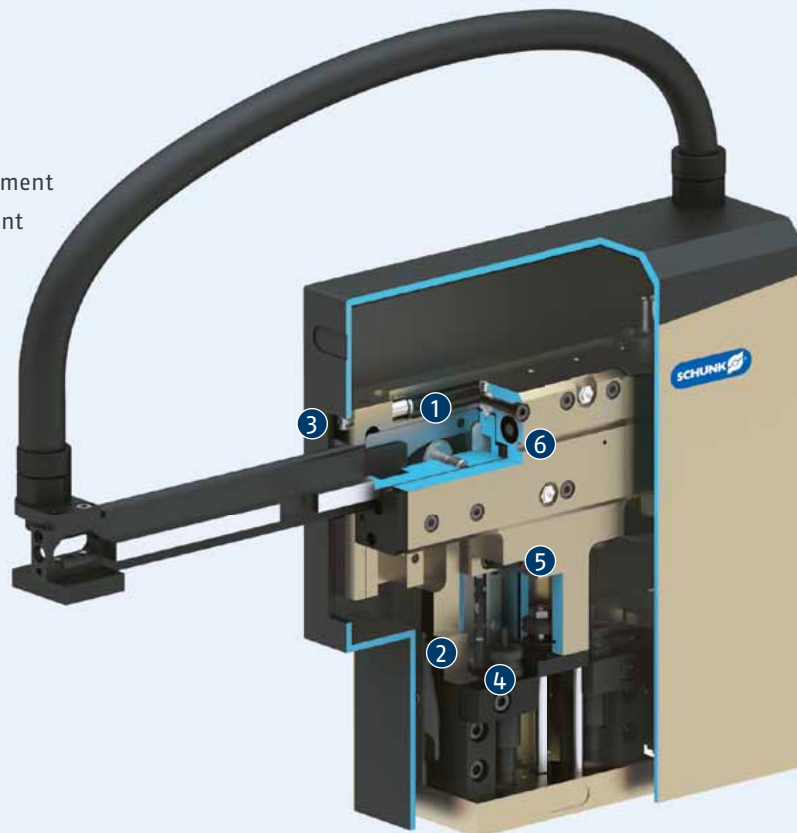
- Positively driven by a cam roller – up to 50% shorter cycles compared with conventional Pick&Place units
- Adaptation of the stroke by up to 18 mm horizontally and 20 mm vertically per side – fast compensation of built-up tolerances
- Compatibility with the SCHUNK modular system
- Proven cam control without a susceptible transmission of motion. No wear.

Your advantage

- Higher system productivity due to up to 30% shorter cycle times
- Extremely easy commissioning due to Plug & Play functionality
- Full compatibility with modules for modular assembly automation
- Consistently reliable system operation

Function cross section

- 1 Cam roller
- 2 Junction roller guide
- 3 Horizontal end position adjustment
- 4 Vertical end position adjustment
- 5 Vertical drive cylinder
- 6 Horizontal drive cylinder



PPU-E

Modular Assembly Automation

Pick&Place Unit PPU-E 50:

The record holder now also for higher loads

Speedy cycle times

PPU-E 50 – series expansion of the linear direct driven PPU-E, the fastest Pick&Place unit on the market. For a complete cycle with 280 mm horizontal stroke and 150 mm vertical stroke the PPU-E 50 needs only 0.92 s with additional mass of 2 kg and a gripping time of 2 x 60 ms. For highly dynamic movement of masses up to 5 kg.

High speed and precision

Two integrated position measuring systems monitor the vertical and horizontal movement and guarantee high repeat accuracy. Intelligent controllers can control the cantilever arm and the actuators without a higher level control unit. The necessary software is already integrated.



Winner in its category



Sensational!

Maximum acceleration 100 m/s²,
maximum speed 4 m/s.

PPU-E

Modular Assembly Automation

New Product

Successor
product

New Sizes

Immediately available



Sizes

30 .. 50



Maximum work level

280 mm x 150 mm



Repeat accuracy

0.01 mm



Speed

4 m/s



Maximum payload

5 kg

Product features

- All in one – Plug & Work
- All connections on the back panel – for optimal accessibility
- No moving motor cables eliminate possibility of broken cables
- Individual axes are independently programmable
- Interpolation of axes possible

Your advantage

- Higher system productivity due to minimal cycle times
- Reliable processes due to excellent repeat accuracy
- Minimized energy costs due to consistently lightweight design
- Higher system availability due to elimination of moving motor cables
- The unit offers all the advantages of a direct drive – without any susceptible transmission of motion. No wear.

Function cross section

- 1 Rail guidance
- 2 Motor for vertical axis
- 3 Motor for horizontal axis
- 4 Distributor box
- 5 Micro valves
- 6 Motor connector



LPP/LPE/RPE

Modular Assembly Automation

Line and Room Gantries LPP/LPE/RPE: Standard gantries from the modular system

Ready to mount, price optimized, more quickly available

With the modular system for linear and room gantries, users and system integrators can reduce their configuration, installation and commissioning costs for gantries by up to 50%. Instead of configuring each axis system separately for assembly and handling stations, you can simply choose the suitable gantry solution from the extensive standard product line. All mechanical connecting elements and energy feed-throughs are already pre-mounted in the ready-to-install assemblies.

Pneumatic and electric drive

The modular system includes both pneumatic and electric solutions. The pneumatic 2-axis gantries and electric 2- and 3-axis gantries cover the most frequent requirements.



Ready to install!

More than 500 ready-to-install combinations available.

LPE

LPP/LPE/RPE

Modular Assembly Automation

New Product

Successor
product

New Sizes

Immediately available



Sizes
50 .. 200



Horizontal strokes
max. 1500 mm



Vertical stroke
500 mm



Maximum payload
20 kg

Product features

- Pneumatic and electric drives
- Standard product line with more than 500 possible combinations
- Available with BoschRexroth drives or optionally without drives

Your advantage

- Up to 30% lower configuration and engineering due to ready-to-install standard solutions
- Minimal assembly and immediate commissioning due to pre-mounted units
- Up to 20% lower investment costs due to standardized design



RPE

MMS 22-PI (-HD)

Accessories

Magnetic Switch MMS 22-PI (-HD): One magnetic switch for everything

Fast assembly and adjustment

The MMS 22-PI series lets you program up to two switching points, depending on the sensor variant. As opposed to tedious mechanical setting of the switching points, programming of the sensors is easy.

Setup times reduced by up to 90%

Compared with conventional magnetic switches, users save up to 90% on setup time. To increase process stability, it is also possible to program the switch-off points of the sensors. The hysteresis is configurable. In addition to the basic versions the programmable C-groove sensors are also available as HD variants for heavy-duty applications.



Speed!

Programming takes only 15 seconds.

MMS 22-PI (-HD)

Accessories

New Product

Successor
product

New Sizes

Immediately available



Sizes
22

Product features

- Contactless programming via magnet teaching tool
- Decentral programming via plug teaching tool
- Integrated electronics

Your advantage

- Programming of sensor takes only 15 seconds
- One universal sensor reduces inventory
- Reliable processes and position monitoring due to configurable hysteresis
- More compact system designs due to minimal interfering contour on actuator

Function cross section

- 1 Actuator
- 2 C-groove sensor MMS 22-PI2
- 3 Teach tool, contactless
- 4 Teach tool, cable connected



ABR/SBR

Accessories

Quick-change Fingers ABR-BSWS / SBR-BSWS: Exchange of fingers within seconds

The set-up time killer

SCHUNK now introduces a new type of finger blank with a quick-change system already integrated as a standard feature. Compared with conventional jaw changing the new system reduces setup times by up to 90%.

Available in aluminum and steel

The fingers can be adapted over their entire length to the respective workpiece, without having to worry about jaw changing and the corresponding screw connections. The finger blanks featuring an integrated quick-change system are available in aluminum (ABR-BSWS) or steel (SBR-BSWS).



Fast and individual!

Maximum freedom in the design
of the finger contour.

Sizes 50, 100 and 160 are available from July 2012 – Sizes 64, 80, 125 and 200 are available from September 2012



Sizes

50 .. 200

Product features

- Finger blanks with integrated quick-change jaw system
- Finger changing with repeat accuracy due to easily accessible, form-fit locking mechanism

Your advantage

- Increased system flexibility due to easy and reliable quick-change jaw system
- Boost in productivity due to fast conversion to a new parts spectrum
- More diversity in options for design of top jaws

Function cross section

- 1 Locking mechanism
- 2 Adapter pin BSWS-A
- 3 ABR-/SBR-PGZN-plus
- 4 Spring-loaded thrust piece



OAS

Accessories

Optical Distance and Presence Sensor OAS: Grippers can see

Quickly integrated

The new OAS quickly transform the PGN-plus universal gripper and MPG-plus gripper for handling of small components into seeing grippers, and complex vision systems are no more required. The optical system can be directly integrated into the gripper center. Here, it continuously supplies the control unit with information of how far away the component is located, or where a gripped component is located between the gripper fingers. Moreover, the sensor measures the distance of the gripper to the component. This is done while the process is running without any loss of time.

Reliably recognizing

By using the OAS, PGN-plus and MPG-plus can differentiate components, its position, and can be spontaneously taken from the moving conveying belt, can be de-stacked or wrongly gripped parts are detected. All in all the reliability during the whole gripping process is increasing.



Multi-purpose!

Suitable for many gripping and automation modules.

Immediately available



Sizes

OAS-MPG-plus 25-64

OAS-PGN-plus 40-125

Product features:

- Works with an infrared light of a wavelength of 850 nm
- Suitable for environment temperatures between $-10\text{ }^{\circ}\text{C}$ and $+55\text{ }^{\circ}\text{C}$
- Complies with protection class IP65
- Multi-purpose. Can be also used for other grippers and automation modules

Your advantages:

- Reduces investment costs due to the use of favorable sensor technology
- Increases the system's productivity since 100% good parts are achieved
- Shorter set-up times due to fast integration

Principle of function



MV 10

Accessories

Micro Valve MV 10: Efficiency booster for small part handling

Specially designed for small actuators

With the micro valve MV 10 you can easily boost the productivity and energy efficiency of Pick&Place applications for small parts. This efficiency booster is so small, with a maximum interfering contour of only 9 mm, that it can be integrated directly in grippers or other pneumatic actuators. Instead of refilling the long supply lines between the valve island and the gripper for each pressure change, the compressed air consumption with the MV 10 is reduced to the volume of the piston chamber in the actuator. This makes it possible to save up to 90 percent on the compressed air. The response behavior is also improved, which reduces the cycle time.

Optimal flow rates

With an outer diameter of 9 mm and a nominal diameter of 1 mm, the micro valve enables a flow rate of up to 30 l/min, which is substantially higher than any comparable solution on the market. It can be plugged or screwed into the actuator.



Lasts forever!

More than 400 million switching cycles.

MV 10

Accessories

New Product

Successor
product

New Sizes

Available from August 2012



Sizes
10

Product features

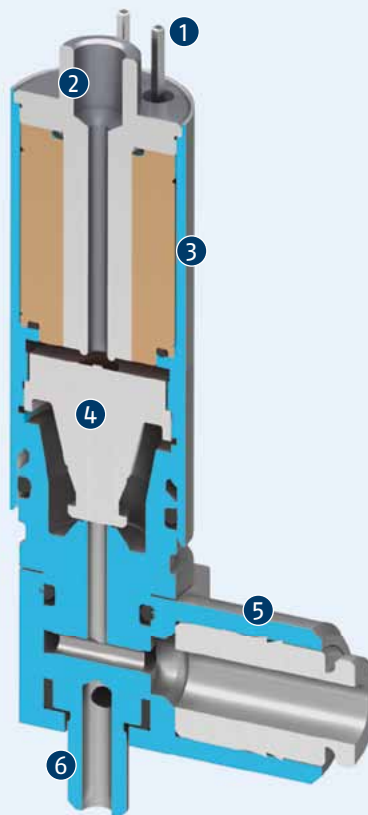
- High flow rate in a compact design
- Flow rate and switching time are configurable to customer requirements
- Variable mounting concepts: plug-in or screw-in
- Switching time < 3 ms

Your advantage

- Suitable for non-aggressive gases and liquids, thanks to complete media separation
- Fast movement of grippers due to short switching times
- Direct mounting on actuator saves air and reduces cycle times

Function cross section

- ① Electrical connection
- ② Pneumatic connection R
- ③ Valve body
- ④ Valve piston
- ⑤ Pneumatic connection P
- ⑥ Pneumatic connection A





J. Lehmann

Jens Lehmann, a German goalkeeper legend,
Brand ambassador for SCHUNK since 2012

No. 1

Superior Clamping and Gripping

852 minutes without a goal
against him in the Champions League

681 minutes without a goal
against him on the national team

2 intercepted penalties in the 2006
World Cup

1 headed goal as a goalie

0 defeats
English Soccer Champion

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