



1945 – 2015

70
Years

Superior Clamping and Gripping



Clamping Technology Highlights

In Focus: Automated
Machine Loading



Superior Clamping and Gripping

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

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

J. Lehmann
 Jens Lehmann





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

Top Performance in the Team

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

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

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

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

Our customers profit from the expert knowledge, the experience, and the team spirit of more than 2,300 employees in our innovative family-owned company.

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

Heinz-Dieter Schunk

Henrik A. Schunk

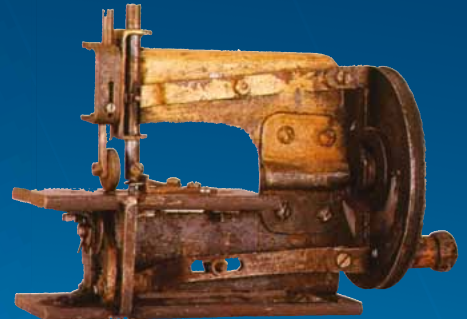
Kristina I. Schunk

70 Years of SCHUNK – From a workshop to a global player

1945 Foundation



Friedrich Schunk
Company founder



The lampshade perforating machine –
an innovative development by
Friedrich Schunk

1945 – Early years 1970



1945 The first workforce



Precision parts production
for the Porsche 356



SCHUNK becomes the
first standard chuck jaw
provider in Germany



1964 Heinz-Dieter Schunk
joins the company

1971 – Setting the course 1990

PPG – First
pneumatic
SCHUNK gripper



Stationary
Workholding
Program



TENDO Hydraulic
expansion toolholders



1991 – “Taking off” 2000

PGN-plus
First grippers
with SCHUNK
multi-tooth
guidance



TRIBOS
Polygonal Clamping
Technology



Workholding
Technology
product area



1992 Morrisville plant, NC USA

2001 – Growth 2005

SDH – First SCHUNK
3-finger gripping hand



Linear Modules
product area



TRIBOS-Mini
Polygonal clamping
technology for micro
machining



1945 – 2015

70 Years



With Pioneering Spirit and Perfection we are setting Benchmarks worldwide

The challenges that our innovative family-owned company has overcome over 70 years of working with clamping technology and gripping systems are reflected in our top-quality products and technical innovations. They stand as milestones which document our development from a small garage business into a global player with more than 2,300 employees.

They are the result of ambition, courage and the work of many highly motivated contributors with team spirit and incredible dedication to the company. We owe our success to the confidence and trust placed in us by our customers. Their appreciation spurs us on every day to do our best. And this goes for the future as well.

2006 –
New horizons 2008

Integrated PRL
gripping arm
module in the
Care-O-Bot®



2008 First Expert Days
of Service Robotics

JGP
SCHUNK
Compact class



Magnetic
clamping
technology
product area



2009 –
Expansion 2011

TENDO E compact –
the universal hydraulic
expansion toolholder



2009 New building of the
Hausen gripping
systems plant

EGP
The most powerful
electronic small
component gripper
with integrated
electronics



Launch of
VERO-S
quick-change
pallet system

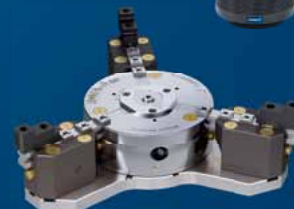


2012 –
Superior Clamping
and Gripping 2015

PGN-plus-P,
Generation
Permanent
The unique
gripper with
multi-tooth
guidance and
permanent lubrication



SVH
First mass
production
5-finger hand
with 9 motors



Manual chuck
ROTA-S flex

TENDO Aviation hydraulic
expansion toolholder



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
2015 EGS

Junior Chamber Prize
2005 Junior Chamber Prize
2008 Junior Chamber Prize

Technology Award "Tech-Stars"
2006 3-Finger Dextrous Gripper Hand



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

A & D Best Product Award
2007 System GEMOTEC



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



MM Award 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

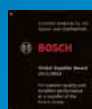


Process Innovation Award
2009 UNIPLACE

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



red dot award
2013 Powerball Lightweight Arm LWA 4P



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



MM Innovation Award – Milestones of industrial History
2015 SCHUNK GmbH & Co. KG

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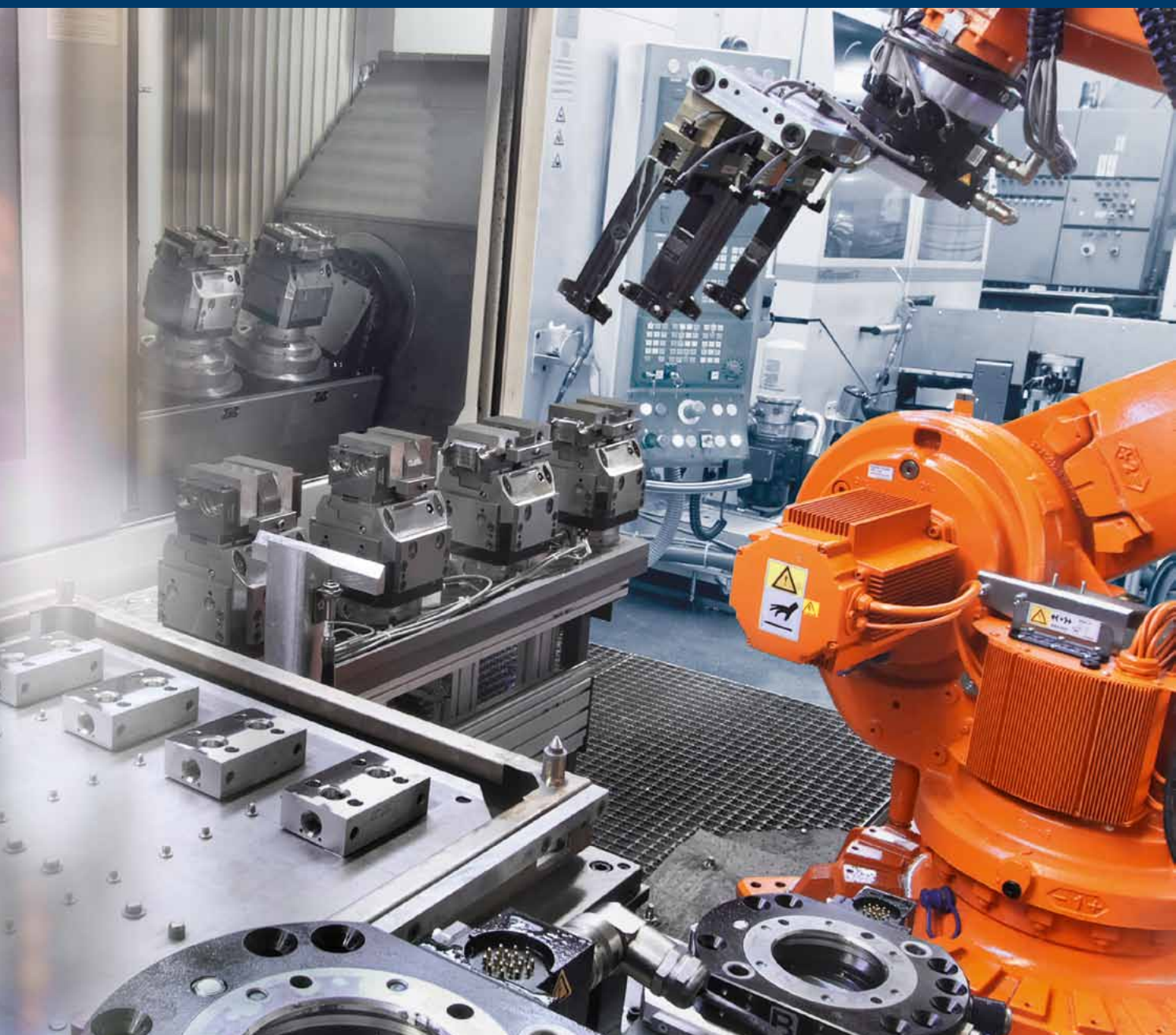
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Clamping Technology and Gripping Systems for automated Machine Tools

SCHUNK Synergy with standard and customized components

Automated loading and unloading is increasingly becoming the standard, even with smaller batches and individual pieces. The goal is to reduce downtime due to set-up and enable 24/7 production with minimal staff.

The well thought-out interplay of innovative clamping technology and gripping systems from SCHUNK provides the highest measure of precision and simultaneously guarantees reliable processes.



Application Examples

Automated loading

Powerful VERO-S quick-change clamping modules enable automated workholding change over. They are the key products for over 500 variations of workpiece clamping in SCHUNK's stationary workholding program. Loading takes place with a robot with the SCHUNK SWS quick-change system and a PGN-plus pneumatic 2-fold gripper unit.



Machining:

The TANDEM plus clamping force blocks are individually clamped in a VERO-S module on the rotary satellites. Inductive jaw monitoring with the TANDEM plus assures more process reliability with a 100% control.



Workpiece handling

Robot-guided loading and unloading of heavy and large workpieces in a machining center with a SCHUNK PGN-plus 2-finger parallel gripper, the only gripper with patented multi-tooth guidance.



SCHUNK Clamping Technology for robot-guided Loading and Unloading



The NSR Robot Coupling and the VERO-S Quick-change Clamping System for automated Loading and set-up in parallel to the primary Production Time

Discover the perfect interplay between the SCHUNK NSR robot coupling and the SCHUNK VERO-S quick-change clamping system as the efficient basis for your robot-guided machine loading and unloading.

With the slim design of the NSR robot coupling, pallet loading extremely close to the machine table is made possible. Low clamping station and clamping pallet assemblies can be realized and a maximum utilization of the machining area can be achieved.

With VERO-S, workpieces and clamping devices can be precisely fixed, positioned, and fully automatically clamped within a few seconds. The actual set-up process takes place in parallel to the primary production time outside the machine.

Use the combination of NSR robot coupling and VERO-S quick-change clamping system together with the comprehensive stationary clamping device assortment from SCHUNK. Quick and efficient set-up – even at a batch size of 1.

The basis of your robot-guided loading and unloading



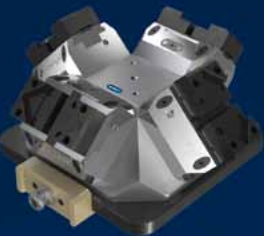
NSR
Robot coupling



VERO-S
Quick-change clamping system

Use the largest Modular System with more than 500 varia

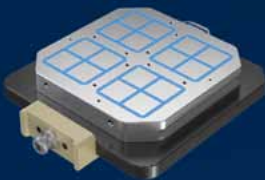
Examples from the limitless efficiency potential for your workpiece clamping:



TANDEM clamping force blocks
Whether hydraulic, pneumatic or manual – always a compact solution.



KONTEC manual clamping systems
Safe and fast. High clamping forces, easy operation. Optimal for pre-machined and finished part clamping.



MAGNOS magnetic clamping technology
The versatile magnetic clamping system with optimal workpiece accessibility for 3, 4, and 5-axis machining.



ROTA chuck
Universal with comprehensive accessories. For the clamping of round and customized workpieces.

Multifunctional.
Gripping and palletizing



NSR robot coupling
with attached PGN-plus 2-finger parallel gripper.



tions of Workpiece Clamping



KONTEC MTC multi clamping vise
Compact for optimal utilization of the machining area. Highly versatile for pre-machined and finished part clamping.



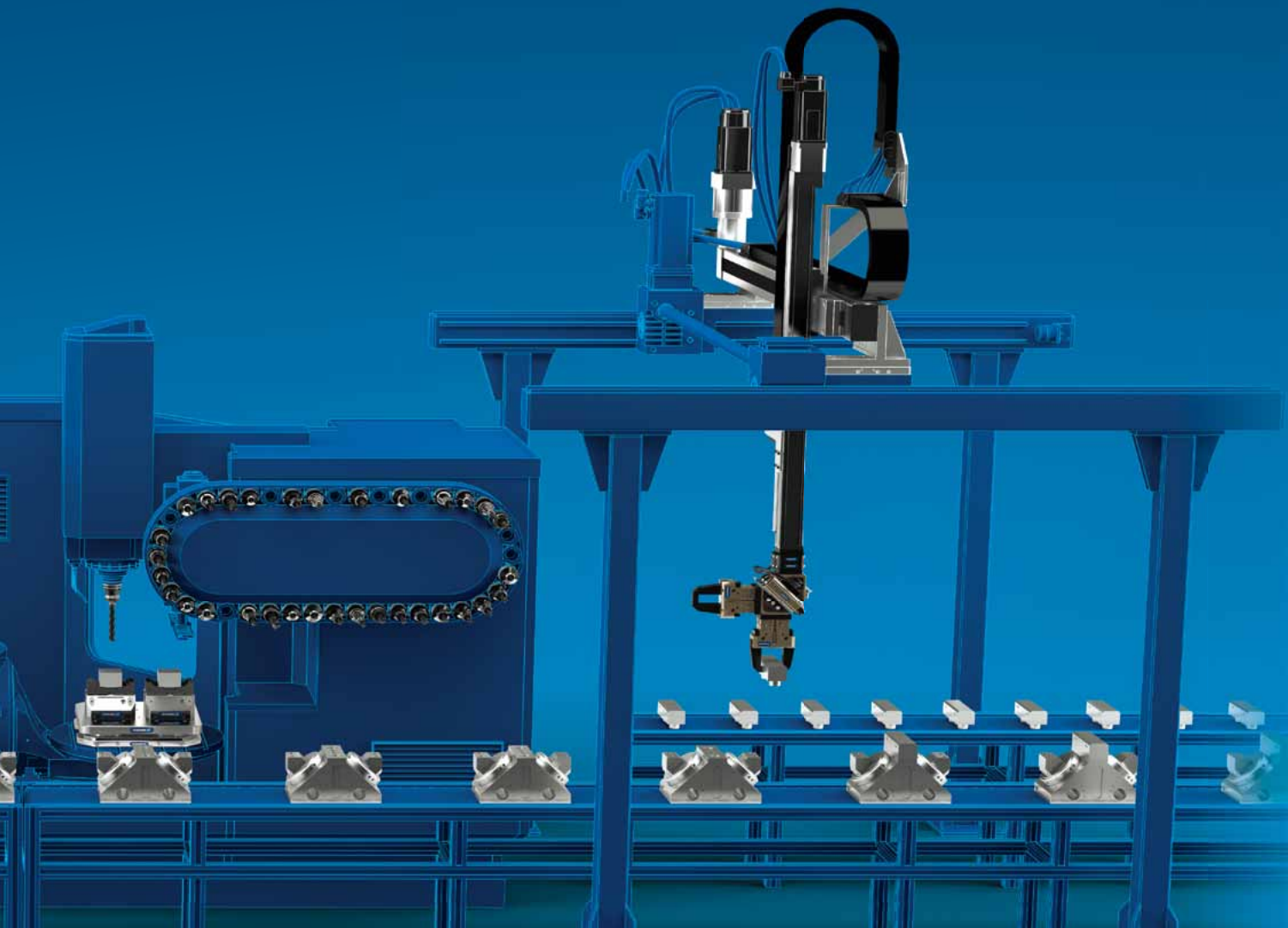
Tombstone, 4-sided
Compact tombstone with KONTEC KSG quick release vise. Maximum flexibility with horizontal 4-axis machining.



VERO-S double angle tombstone
Tombstone with VERO-S quick-change pallet system for quick replacement of clamping devices and workpieces on horizontal machining centers.



VERO-S double angle tombstone
Quick-change pallet system and KONTEC KSM2 multi clamping vise for maximum workpiece density in the machine room.



SCHUNK Gripping Systems

End-of-Arm Competence for process-reliable Handling



Modular Gripping Systems for every Removal and Loading Process

The comprehensive assortment of robust and long-lasting SCHUNK grippers is distinguished by high product quality, precision, and versatile monitoring capabilities. In combination with the uniquely comprehensive SCHUNK robot accessories, you have an immense range of handling possibilities for loading and unloading in an automated process.

The assortment of modules for mechanical, sensor, and power connection ensures an optimal, process-reliable interplay between robot arm, end-of-arm effector, and clamping device. With the linear module performance range, SCHUNK also opens up new perspectives for cost- and benefit-optimized automation solutions.

SCHUNK Gripping Systems



SCHUNK Grippers



Rotary Modules



Linear Modules



Robot Accessories

From the Component to the customized Solution

A competent Partner for every Requirement

Whatever specific requirements you have for clamping technology – SCHUNK always offers you the optimal solution. With the development and optimization of top-quality products, technologies, and solutions, we characterize efficiency improvement on the machine table and in the machining area.

Whether tool or workpiece clamping, both or a customized solution – you benefit from a comprehensive product range, the highest solution competence and profound industry know-how. From one source.

Standard components



Toolholder



Stationary clamping technology



Lathe chucks



Chuck jaws

Customized toolholders



TRIBOS PSS polygon clamping system

For the micro technology industry, for use in special machinery, for rivet hole drilling and for use with multi-spindle drill heads.



Customized stationary clamping technology



Customized hydraulic expansion clamping technology

Hydro expansion mandrel with axial direct introduction, expansion toolholder with axial pullback, expansion arbor for tooth grinding.



Customized lathe chuck technology



ROTA NCM

Hybrid chucks, centring chucks in combination with magnetic clamping technology for deformation-free clamping.

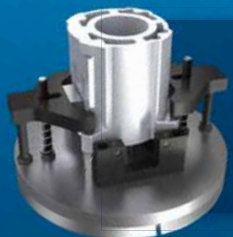


Customized chuck jaws



Special pendulum jaw for connecting rods

Low-deformation clamping. The left jaw is rigid and serves as a centering means and additional positioning means.



Customized Clamping Technology – your Machining, your Workpieces, our Know-how

SCHUNK offers the world's most comprehensive standardized assortment for tool and workpiece clamping. Our unique assortment and our development competence enable customized, process-reliable, and efficient clamping solutions.

Benefit from our know-how with more than 150,000 customized solutions realized in

hydraulic expansion technology and stationary workholding, with chuck jaws and chucks, as well as specially developed or modified toolholders.

A personal contact person is available to you for a smooth communication process from the beginning to the conclusion of the project.

TRIBOS RM for WK high performance spindles

Suitable in high-speed operation and for automatic change with gripper grooves in the spindle.



TENDO LSS – 250 mm

Interfering-contour-optimized toolholder for deburring difficult-to-access cross holes.

VERO-S quick-change pallet system

The four center modules of the NSE plus 138 8-way clamping station are mounted on a tilt rotary table and can additionally rotate around the center axis.



TANDEM – perfect for large-series production

Whether pneumatic or hydraulic – the compact TANDEM clamping force block is optimally designed for use on clamping bridges on 4-axis machining centers.

ROTA DFF

Rotary finger chuck, the workpiece is pre-centered, e.g. with a spring-mounted stop, and the clamping is purely axial.



ROTA 4B

4-jaw power chuck, for clamping cubic workpieces with rotationally symmetric machining.

Turning device

Low-deformation clamping. Purely axial clamping with positioning.

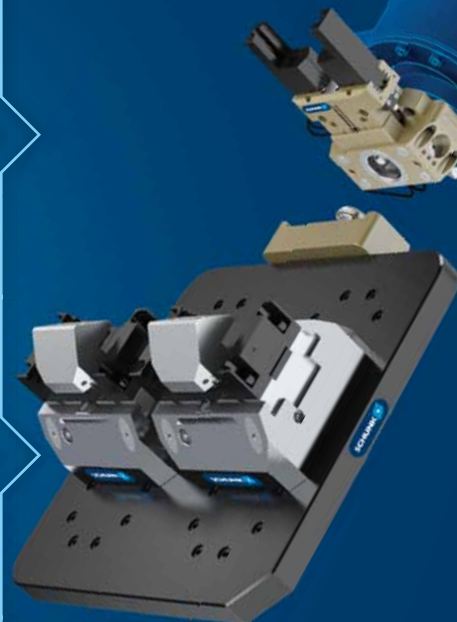


Customized chuck jaws

Internal clamping, axially alternating. UGE inserts ensure cost-effective change.

Customized clamping technology and gripper system solutions

VERO-S quick-change pallet system, NSR robot coupling and integrated PGN-plus 2-finger parallel gripper for automatic palletizing on the set-up table, as well as loading and removal of workpieces from the clamping device.



T|E|N|D|O[®] E compact

The universal Hydraulic Expansion Toolholder

Tighter tolerances, enormous cost pressure, better quality – TENDO E compact is the answer to growing demands in high-volume machining, which is no longer economically feasible with ER collets, heat-shrinking toolholders, Weldon mounts, and lower-quality hydraulic expansion toolholders.

With the TENDO E compact hydraulic expansion toolholder, SCHUNK combines all high-performance parameters into a contemporary toolholder which satisfies and exceeds all requirements.

TENDO E compact has an impressive price, which makes the switch from mechanical and thermal toolholders to significantly more precise TENDO quality an easy decision.



- Up to 300% longer tool life*
- Highest torques, now up to 2,000 Nm with dia. 32 mm in dry clamping conditions, 900 Nm with an oil tool shank
- Best surface finishes – no chatter marks
- Minimized noise emission
- Reduced tool costs
- Extremely fast tool change without peripheral equipment
- Long-lasting run-out and repeat accuracy < 0.003 mm

* Verified in a study by the wbk Institute of Production Technology at the Karlsruhe Institute of Technology (KIT).



Sensational! Milling at full speed! **T | E | N | D | O**® E compact

① Milling

TENDO E compact is the first hydraulic expansion toolholder that is suitable for difficult high-volume machining with up to 2,000 Nm torque with dia. 32 mm (in dry clamping conditions).

② Reaming

The outstanding vibration damping for best workpiece surfaces and long-lasting run-out for high dimensional accuracy.

③ Drilling

Drilling – one of the traditional strengths of the TENDO family. Vibration damping and run-out accuracy < 0.003 mm are also the top features of TENDO E compact.

④ Thread milling

TENDO E compact is virtually predestined for thread milling with its high torques and outstanding vibration damping.



www.schunk.com/tendo-e-compact





Hydraulic Expansion Technology by SCHUNK

Developed for the Aviation Industry, suitable for all Industries with the highest Demands.

Already today, SCHUNK toolholders like the TENDO hydraulic expansion toolholder represent maximum process reliability and efficiency. Now we are going one step further to fulfill the demands of mechanical tool locking that are required under the most extreme machining conditions in aviation: with TENDO Aviation, the SCHUNK toolholder with pull-out safety device, which is able to withstand even the most demanding working process.

100% Pull-out Safety!

The hydraulic Expansion Toolholder with mechanical Pull-out Safety Device.

Always ready for operation since machining tools with standard Weldon shanks without reworking are used.



www.schunk.com/tendo-aviation



Better safe than safe.

Safe holding of the tool guarantees flawless surface finishing, improved cost efficiency and process-reliable machining. The TENDO Aviation offers you threefold safety.

Safe, because every tool sits completely stable in the toolholder and therefore allows for maximum performance during material machining.

Safe, because the new TENDO Aviation can be used for every tool with standard Weldon surfaces. Changing tools could not be easier and does not require machining of the tool shank.

Safe, because TENDO Aviation has proven SCHUNK technology and you can therefore enjoy total investment security and depend on top-notch service.



PRISM03 Tool grinding Toolholders

One of a kind! Fully automated Tool Grinding with adjustable Clamping Range.

The SCHUNK PRISM03 tool grinding toolholders boast a large clamping range, optimized interfering contour and an ingenious clamping principle. SCHUNK PRISM03 offers optimal conditions for the automated, unmanned changing of all shank diameters between 3 mm and 20 mm.

- Suitable for **automated, unmanned** loading.
- All clamping diameters **between 3 mm and 20 mm** can be **clamped flexibly** and without transitions
- Small quantities machinable unmanned, **around the clock without re-programming** the L1 dimension
- Clamps using **direct clamping**, without the use of collet chucks or intermediate sleeves
- **Up to 70%** set-up cost savings
- Continuously high **run-out and repeat accuracy**
- Say goodbye to **run-out inaccuracies**
- **Low-wear and process** reliable
- **Continuous clamping** possible
- No shifting of the X-axis, and therefore **constant, continuous, and process-reliable clamping** without axial stop



PRONTO Jaw Quick-Change System

Now also fully automated

Whether conventional chucks with threaded jaws or a modern quick-change chuck: SCHUNK PRONTO minimizes the set-up time and allows for fully automated chuck change by robots, as required. The clamping system consists of special supporting jaws that can be combined with various quick-change inserts. The advantage: little to no displacement of the supporting jaws.

- **Fully automated jaw change** via robot possible, if necessary
- **45 mm clamping range extension without displacement of the supporting jaws** corresponds to 700% for ROTA NCD
- For all **O.D. clamping**
- Excellent repeat accuracy of **0.02 mm**
- **Six-sided form-fit clamping** for maximum process stability
- **High force and torque** transmission
- Can be **retrofitted** for all conventional lathe chucks with and without jaw quick-change with 1/16" x 90° and 1.5 mm x 60° serration and straight serration (wedge-bar power chuck)





T | E | N | D | O[®] *Aviation*

New products

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TENDO E compact. Now with SCHUNK CAPTO interfaces!

SCHUNK CAPTO C4, C5 and C6

SCHUNK is expanding the successful TENDO E compact range by adding the SCHUNK CAPTO interfaces C4 and C5 with diameters of 12 mm and 20 mm, as well as C6 with diameters of 12 mm, 20 mm, and 32 mm.

Quality for your money!

TENDO E compact is the answer to increasing demands in volume cutting – demands that can no longer be met economically using ER collets, heat-shrinking toolholders, Weldon mountings, and low-priced hydraulic expansion toolholders. The TENDO E compact is offered at an attractive price, which makes it easier to change from mechanical and thermal toolholders to significantly more precise TENDO quality. In short: now even more users are benefiting from more cost efficiency.



Sensational!

The most powerful hydraulic expansion toolholder ever! Made in Germany.

Immediately available



Sizes

C4: Ø 12 .. Ø 20
C5: Ø 12 .. Ø 20
C6: Ø 12 .. Ø 32



Run-out accuracy

0.003 at 2.5 x D



Torque

Ø 12: 110 Nm
Ø 20: 480 Nm
Ø 32: 800 Nm



Repeat accuracy

< 0.003 mm

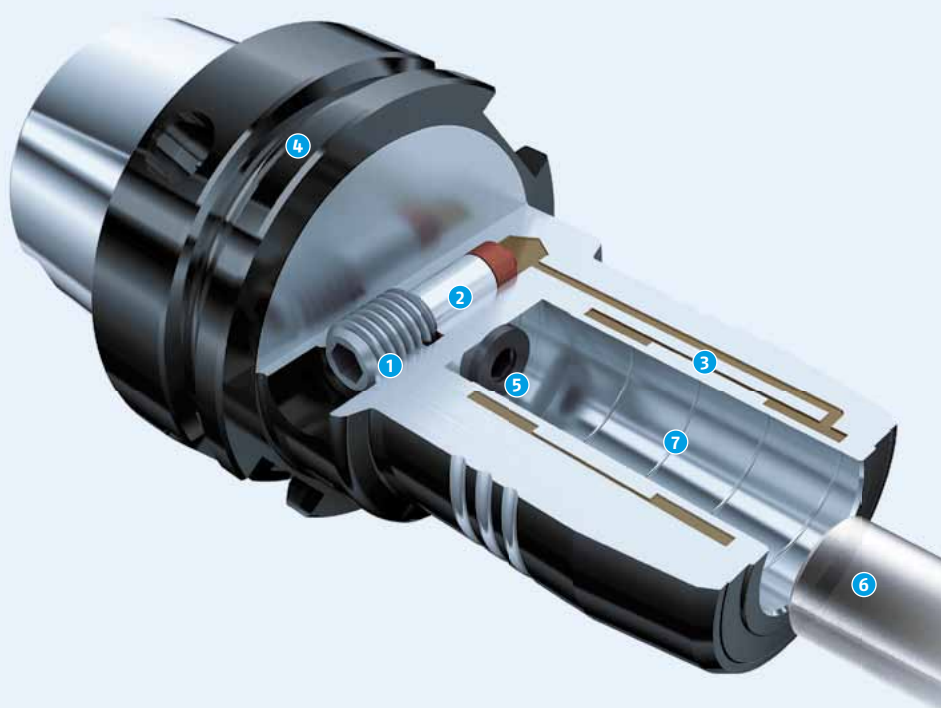
Product features

- Up to 300% longer tool life*
- Permanent run-out and repeat accuracy of < 0.003 mm
- For universal use in large-volume machining for milling, drilling, reaming, and thread tapping
- Tool change within seconds without peripheral equipment. Clamping to the limit stop
- Clamping of all standard shank types
- Fine-balanced as standard – suitable for HSC/HPC processing and HSK high-speed spindles
- Maintenance-free

* Proven by a study conducted by the wbk Institute of Production Science at the Karlsruhe Institute of Technology (KIT).

Sectional diagram

- 1 Clamping screw
- 2 Clamping piston
- 3 Expansion sleeve and oil chamber
- 4 Base body
- 5 Length adjustment screw
- 6 Tool
- 7 Dirt groove



TENDO Aviation Hydraulic Expansion Toolholder. High-performance Machining with maximum Safety.

Advantages from two clamping technologies.

The SCHUNK high-performance hydraulic expansion toolholder TENDO Aviation was specifically developed for demanding applications where mechanical tool locking is required, for instance in aerospace engineering. Its integrated pull-out safety device guarantees form-fit clamping of the aligned tool and prevents micro creep movements in tools with a standard Weldon shank. It is impressive due to its continuously high run-out accuracy and perfect vibration damping, as well as the tool-change that can be performed within seconds via Allen key without expensive peripheral equipment.

Now with new interfaces

SCHUNK TENDO Aviation enables maximum torque transmission with continuously high precision and process stability. It thereby offers significant advantages compared with both classical Weldon mountings and heat shrink toolholders, whose run-out accuracy decreases with time. Like all SCHUNK hydraulic expansion toolholders, TENDO Aviation can also be used without any additional peripheral equipment. This attractively priced high-end toolholder is available for interfaces HSK-A 63, HSK-A 100, SK-40, BT-40 (Ø 20 mm and 32 mm) as well as SK-50 and BT-50 (Ø 20 mm). The clamping diameter can be flexibly reduced with intermediate sleeves. In contrast to the ER collets or heat shrink holders, TENDO Aviation is resistant to dirt and boasts exceptionally low maintenance.



100% Pull-out safety!

The hydraulic expansion toolholder with mechanical pull-out safety device.

Immediately available



Sizes

HSK-A 63, Ø 20, 32
 HSK-A 100, Ø 20, 32
 SK-40, Ø 20, 32
 SK-50, Ø 20
 BT-40, Ø 20, 32
 BT-50, Ø 20



Clamping diameter across GZB-S

HSK-A 63 : 8, 10, 12, 16, 20, 25
 HSK-A 100: 8, 10, 12, 16, 20, 25
 SK-40: 8, 10, 12, 16, 20, 25
 SK-50: 8, 10, 12, 16
 BT-40: 8, 10, 12, 16, 20, 25
 BT-50: 8, 10, 12, 16



Torque

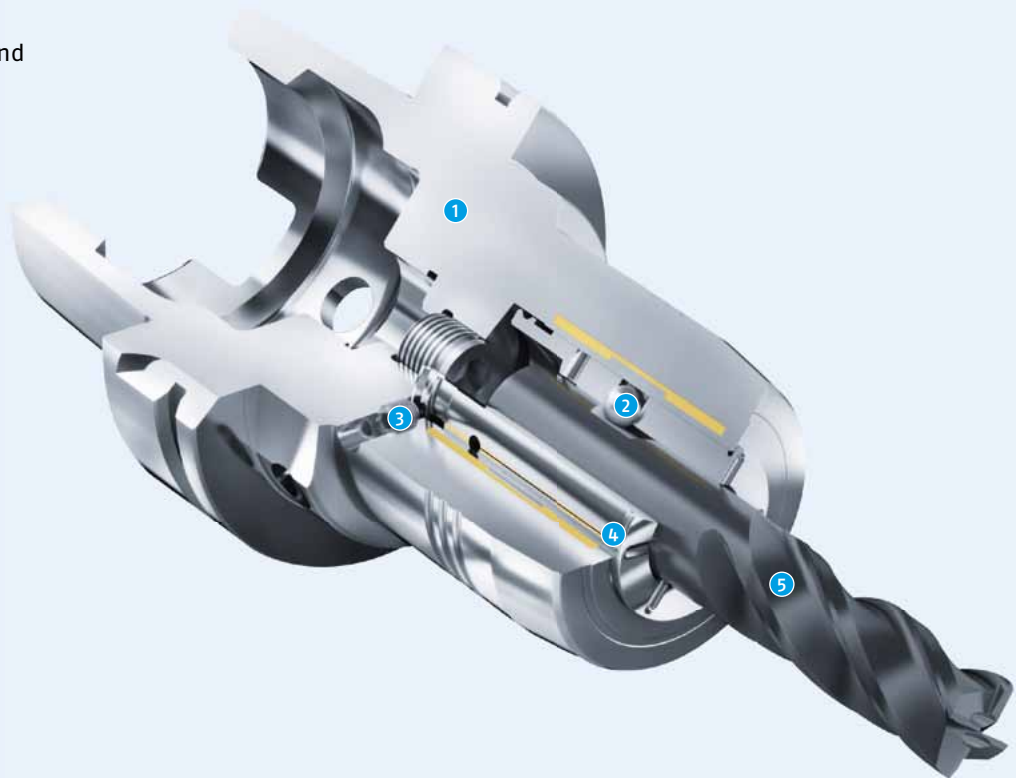
650 Nm at Ø 25

Product features

- Integrated pull-out safety device prevents micro creep movements of the tool and damage to the workpiece
- Maximum run-out and repeat accuracy
- For universal use in large-volume machining for milling, drilling, reaming, and thread tapping
- Increases tool life by up to 40%
- Tool change within seconds without peripheral equipment. Clamping to the limit stop
- No reworking of tool shank. Direct use of the tool with standard Weldon shank
- The vibration damping of the toolholder increases the service life of the tools and machine spindle, which minimizes purchasing costs
- Maintenance-free

Sectional diagram

- 1 Hydraulic expansion toolholder TENDO Aviation
- 2 Locking ball to secure end milling cutter
- 3 Locking screw to secure the intermediate sleeve
- 4 Intermediate sleeve with bore hole for locking ball
- 5 Tool



PRISMO3 Tool Grinding Toolholders

Flexible precision Toolholder for automated Tool Grinding.

More efficiency during production grinding and resharpener

Employing direct clamping, without the use of collets or intermediate sleeves, the SCHUNK tool grinding toolholder PRISMO3 clamps all shank diameters between 3 mm and 20 mm, fully automatically and allowing for quick change-over. The tool shank is automatically centered in the toolholder during the clamping process. An optimized interfering contour ensures that the grinding disc can come to a stop without any problems, even during demanding operations. The set-up time with PRISMO3 is up to 70% lower than that of conventional multi-purpose grinding chucks. Since the X-axis always remains unchanged irrespective of the tool diameter, in other words that the axial location of all chuck jaws is identical, it is possible to machine many different drilling, reaming and grinding tools around the clock without any need to reprogram the L1 dimension.

Compact dimensions and robust design

The structural design, the base sleeve and the robust structure give the toolholder extremely high rigidity. Its stable jaw guidance prevents the grinding wheel from swinging up and almost completely prevent run-out inaccuracies. In order to prevent contamination and to retain high precision in the long-term, the toolholder is washed with purified oil during grinding operation. PRISMO3 is compatible with grinding machines from all well-known manufacturers. Compact dimensions of 125 mm x 125 mm leave plenty of room for the tools, the grinding process, and loading.



Greater versatility!

Clamping diameters of 3 – 20 mm can be clamped without extra steps.

Immediately available



Clamping range
3 .. 20 mm



Run-out accuracy
 $\leq 0.010 \text{ mm}^*$



Repeat accuracy
< 0.005 mm



Max. rpm
2500 rpm



Weight
6.4 kg

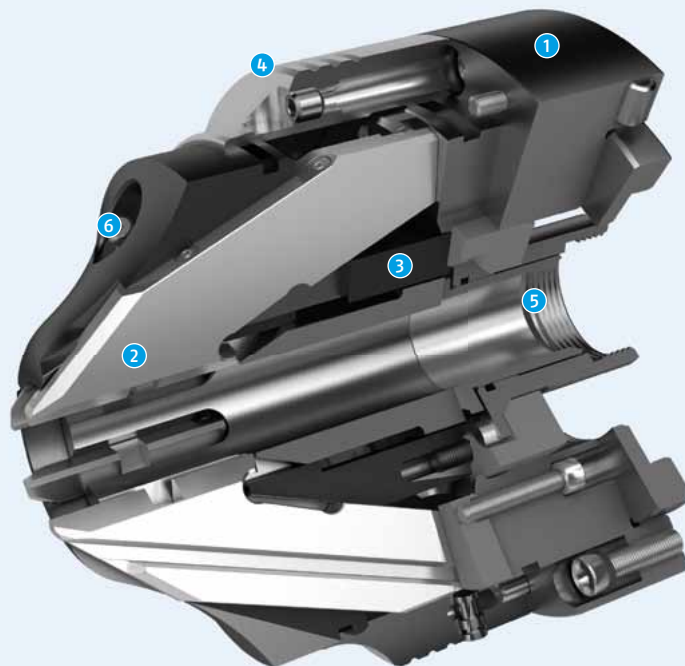
*For an unclamped length of max. 45 mm, across the entire clamping range, at max. clamping force.
Higher/more precise run-out accuracy can be guaranteed for adjusted process conditions!

Product features

- All clamping diameters between 3 mm and 20 mm can be flexibly clamped and without transitions
- Up to 70% saving on set-up costs
- Continuously high run-out and clamping repeat accuracy
- Say goodbye to lateral run-out
- The eroded chuck jaws and the piston are coated in hard material, ensuring they are low-wear and process reliable
- Continuous clamping possible
- No shifting of the X-axis, and therefore constant, continuous and process-reliable clamping position, even without axial stop

Sectional diagram

- ① Chuck body
- ② Chuck jaws
- ③ Piston
- ④ Housing
- ⑤ Center sleeve
- ⑥ Lubrication nipple



ADDUCO Hydraulic Clamping Nut. Raise in Efficiency with Hydraulic Clamping Nuts.

Attractively priced and diverse

The hydraulic clamping nut SCHUNK ADDUCO was developed specifically for precise, efficient clamping of rolling millers, gears, shafts and axis joints. This clamping element is balanced as standard and continuously guarantees simple operation and a clamping procedure within seconds with maximum precision. Since only axial forces are present, any bending or torsion moments that could lead to micro creep movements in the radial direction, are completely excluded. The clamping nut therefore always retains its exact defined position. All components of the almost maintenance-free clamping nut are designed for demanding continuous operation and still guarantee maximum process reliability after several thousand clamping cycles.

Extremely short set-up procedures with high holding force

In contrast to conventional clamping nuts, where several clamping screws have to be operated alternately, with the SCHUNK ADDUCO, it is sufficient to turn one Allen key with few more than five turns while applying minimum force application to the block – the clamping nut is then clamped precisely with an axial force of up to 60 kN. The holding force that occurs during this process is many times larger than for purely mechanical clamping methods. Currently, the SCHUNK ADDUCO clamping nut is available with the through-hole thread interfaces M27 x 1.5 LH, M30 x 1.5 LH and M36 x 2 LH.



Efficient!

Turn the clamping screw in with an Allen key to the limit stop – done.

Immediately available**Interfaces**

M27 x 1.5 LH
M30 x 1.5 LH
M36 x 2 LH

**Axial clamping force**

60 kN

Product features

- Clamping force control via clamping force display
- Vibration damping characteristics, which lead to cost-related benefits
- Environmentally-friendly clamping process, without peripheral equipment and without power
- Simple handling, independent of location, and with zero-defect guarantee for the clamping procedure
- Automatic resetting of axial piston for process-reliable clamping cycles
- Faster clamping force build-up due to lower actuating stroke
- Fine-balanced as standard

Sectional diagram

- ① Actuating screw
- ② Clamping piston
- ③ Sealing element
- ④ Clamping force display
- ⑤ Base body



PRONTO Jaw Quick-change System. Change Chuck Jaws in Seconds.

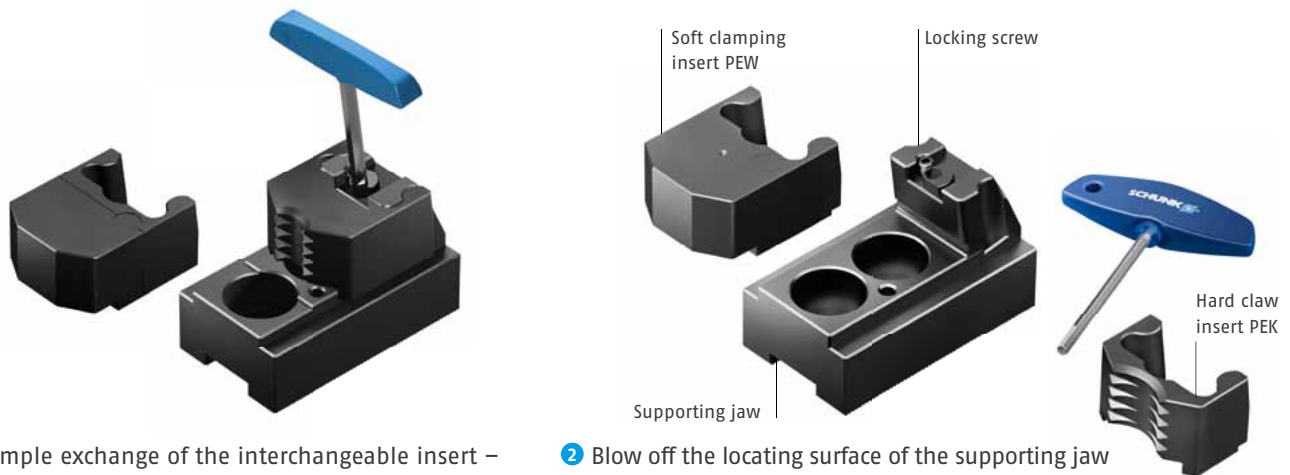
Low-cost retrofitting of conventional lathe chucks

The SCHUNK PRONTO jaw quick-change system was developed for conventional lathe chucks as well as modern quick-change chucks and enables fully automatic chuck jaw change via a robot if necessary.

With SCHUNK PRONTO the set-up time for a complete set of jaws is reduced to just 30 seconds, roughly 95% less than for conventional solutions. SCHUNK PRONTO combines supporting jaws with special quick-change inserts which allow the clamping diameter to be expanded by up to 45 mm in seconds. The SCHUNK ROTA NCD can be used to generate a clamping range extension of 700%. Positioning errors are ruled out in rapid jaw changes with high repeat accuracy.

Clamping of raw and finished parts

As required by the application, different supporting jaw variants are available for small, medium and large clamping ranges. As top jaws, the range offers hard claw inserts for various diameters and clamping ranges as well soft interchangeable inserts for finished parts processing. Once they have been turned out, the inserts can be used again and again on a system. The clamping depth can be varied via workpiece bolts. A configuration aid makes it easier to change jaws. A specifically developed mobile equipment cabinet guarantees clean storage and fast access to the required parts.



1 Simple exchange of the interchangeable insert – just loosen the locking screw, and remove the interchangeable insert by lifting it upwards.

2 Blow off the locating surface of the supporting jaw briefly and insert a new interchangeable insert

3 Tighten the locking screw – done.

Ready within seconds!

Only 5 seconds to change over each chuck jaw.

Immediately available



Sizes
200 .. 315

3 different supporting jaws
for quick-change chucks and
lathe chucks with fine serration

10 claw inserts
PEK-20, PEK-25, PEK-30, PEK-35,
PEK-40, PEK-45, PEK-50, PEK-55,
PEK-60, PEK-65

3 soft interchangeable inserts
PEW-40, PEW-60, PEW-80

Product features

- Can be retrofitted for all commercially available lathe chucks with and without jaw quick change with 1/16" x 90° and 1.5 mm x 60° serration and straight serration (wedge-bar power chuck)
- 45 mm clamping range extension without displacement of the supporting jaws corresponds to 700% for ROTA NCD
- For all O.D. clamping
- Less than 5 seconds to change over each jaw
- Excellent repeat accuracy of 0.02 mm
- User-friendly, quick handling even with overhead lathe chucks as well as set-up without having to readjust the jaw
- Fully automated chuck jaw change via robot possible if necessary
- Six-side form fit for maximum process stability
- High force and torque transmission
- Mobile equipment cabinet for clean storage

Clamping range extension without displacement of the supporting jaws



Claw insert PEK 20

While keeping the supporting jaw in the same position, the clamping diameter can be changed by up to 45 mm by just exchanging the insert.



Claw insert PEK 65

ROTA NCX Power Chuck. Power Lathe Chuck with jaw quick-change system for lathes with Short Stroke Cylinder.

Attractively priced production turbo

Following the previous success of the SCHUNK wedge-bar power chuck, SCHUNK is now transferring the principle of quick jaw changes to CNC lathes with short stroke cylinder. Particularly when it comes to optimizing production processes, the ROTA NCX stands out as an attractive production turbo due to its outstanding price-performance ratio. It minimizes set-up times and increases the machine's productive processing times. Due to the quick-change system, it is not necessary to unscrew the chuck jaws again.

Convenient jaw quick-change system

In order to increase operational reliability it is fitted with a jaw presence monitor. Only when the base jaw is properly engaged in the serration of the wedge bar, the wrench can be easily removed from the chuck. All standard SCHUNK top jaws with tongue and groove can be used as top jaws. It can be used for both O.D. and I.D. clamping.



More productive!

Minimizes set-up times, extends processing times.

Immediately available



Sizes
165 .. 315 mm



Clamping force
50 .. 155 kN



Jaw stroke
3 .. 6.3 mm



Speed
3500 .. 6000 rpm

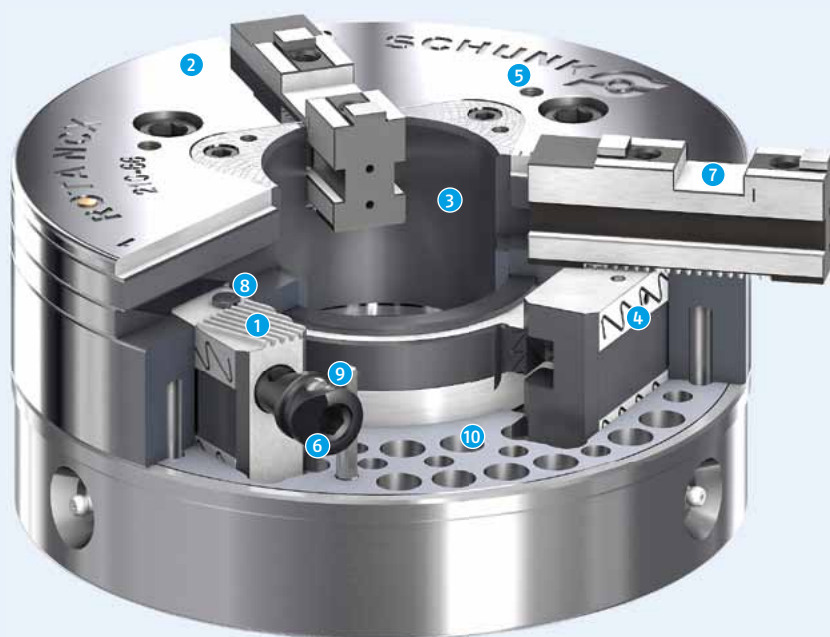
Product features

- Convenient jaw quick-change system
- Large through-hole
- High efficiency of the wedge-bar system
- Optimal quick jaw change repeatability
- Optimized lubrication system
- Modular center sleeve system
- Integrated jaw safety lock
- Center sleeve blank which can be disassembled and removed is integrated in the chuck
- Low chuck weight
- All sides of the functional parts are ground and hardened
- Simple handling
- Diverse standard chuck jaw range available

Sectional diagram

- 1 Wedge-bar drive offers high run-out accuracy at high speeds of rotation.
- 2 Hardened and extremely rigid base body, allowing longer service life while ensuring high precision. Even with maximum clamping force.
- 3 Large center through-hole for machining all commercially available bar material diameters
- 4 Optimal lubrication system for high efficiency
- 5 Mounting thread for workpiece stops or spring operated pressure plates are already available
- 6 Quick-change jaw system with individual unlocking of jaws, ensuring short conversion times
- 7 Standard jaw interface for use of SCHUNK standard top jaws
- 8 Locking mechanism with jaw presence monitor guarantees secure intermeshing of the base jaw serration with the wedge-bar serration.

- 9 Integrated bearing mechanism
The actuation key can only be actuated if the wedge-bar is properly engaged in the base jaw.
- 10 Weight-optimized design for great economy in daily use



ROTA TB2 pneumatic Front-end Chuck. Powerhouse for machining of Bars and Pipes.

Extremely large through-hole

SCHUNK's ROTA TB2 pneumatic front-end chuck sets a new standard in machining of bars and pipes for the oil industry as well as the mining and construction sectors. Despite the compact external dimensions, the ROTA TB2 has an extremely large through-hole of up to 560 mm. With air pressure of 6 bar it is already possible to achieve very high clamping forces of up to 280 kN, which can easily be adapted to the particular task. An anti-corrosive coating applied to the most important functional components of the SCHUNK ROTA TB2 significantly increases the service life. The base jaw guidances equipped with a special seal to prevent penetration of contamination, dust and swarf, therefore reducing maintenance costs. In addition, an advanced lubrication system ensures constant clamping forces and particularly high process stability.

Faster clamping procedures

To increase the cycle time in the machining of bars and pipes, the ROTA TB2 features a double acting check valve with extra large channel bores, which speeds up the clamping procedure considerably. After completion of machining an innovative sound-absorbing quick action ventilation system allows fast and low-noise release of the clamping setup. To start up the ROTA TB2, it only has to be connected to the existing compressed air supply. The integrated distributor ring eliminates the need for an additional rotary feed-through. An optional pressure sensor provides for maximum process reliability and operational safety in daily use.

**Extreme!**

Large through-hole of up to 560 mm.

Immediately available



Sizes
470 .. 1000



Clamping force
115 .. 280 kN



Jaw stroke
7 .. 25.4 mm



Speed
500 .. 1700 rpm



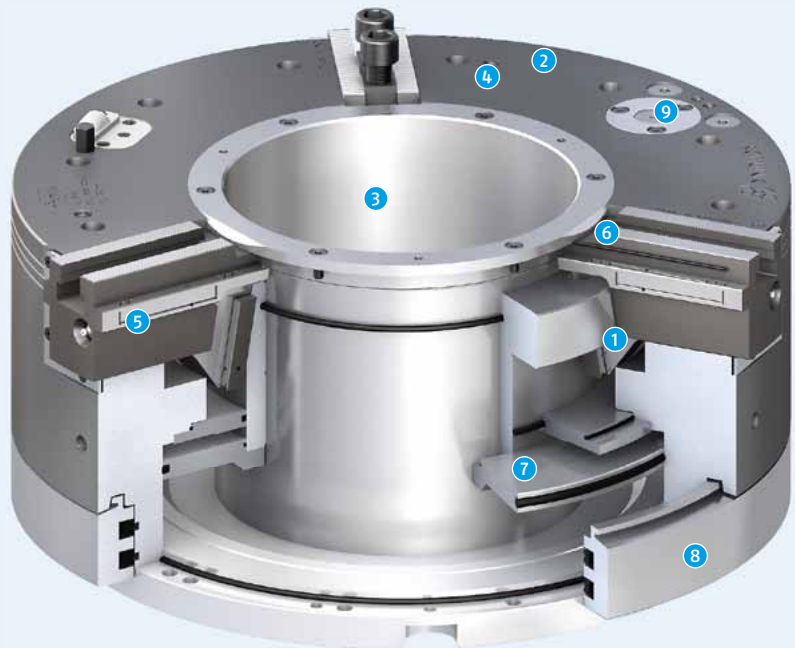
Actuating pressure
2 .. 8 bar

Product features

- Wedge hook front-end chuck for the highest quality demands
- Large chuck bore
- Optimized lubrication system
- Quick bleeding of the pressure chambers for shorter closing times
- Pneumatic cylinder integrated in the chuck
- Available as options: Pressure and/or path sensors
- Sealed guideways
- Outstandingly well-suited
- Air supply via a distributor ring (stator)
- High clamping forces at system pressure of 6 bar
- Corrosion-resistant functional components are hardened and ground on all sides
- Also available in long-stroke version ROTA TB2-LH

Sectional diagram

- 1 Wedge hook drive
for high clamping forces in daily operation
- 2 Corrosion-resistant, coated and extremely rigid base body
therefore a longer service life with highest precision with maximum clamping force.
- 3 Large through-hole
for the machining of all common tube diameters.
- 4 Fastening threads
provided for workpiece stops and spring operated pressure plates.
- 5 Optimal lubrication system for a high degree of efficiency.
- 6 Sealing of base jaw guidance for sealing-off of cooling lubricant and chips
- 7 Pneumatic cylinder integrated in the chuck for direct control of the lathe chuck without additional hydraulic cylinder
- 8 Static distributor ring
for the supply of air to the lathe chuck.
- 9 Pressure maintenance valve
provides for enduring clamping force during rotation



VERO-S Setup Cart. The rollable Organizer for all Products in the VERO-S Modular System.

Everything at arm's reach

The SCHUNK VERO-S setup cart organizes the clamping technology range and allows quick access right next to the machine. All modules and accessories are carefully stored in the rollable organizer and can still be accessed when needed. This eliminates time wasted looking for parts, saves long, unnecessary trips, and speeds up the set-up process at the machine.

Individual configuration possible

The SCHUNK VERO-S setup cart can be configured for various modules and accessories from the VERO-S clamping technology range and individually equipped with plastic mounts for clamping pins from the VERO-S plus or VERO-S *mini* series. Four drawers that can be fully opened allow safe, ergonomic loading and unloading using handling devices. The stable storage racks can simply be removed for cleaning. It is extremely easy to handle the setup cart since the external dimensions are under those of a euro-pallet.



Robust!

Total payload of 1,120 kg.

Immediately available



Sizes
for VERO-S NSE plus and
VERO-S NSE *mini* modular system

Product features

- Weight 250 kg
- Payload of upper storage rack 400 kg
- Four drawers each designed for loads of up to 180 kg
- Individual configuration possible
- Clamping pin mount (plastic) for SPx 20 and SPx 40
- Pull-out safety device for each drawer
- Drawers that can be fully opened
- Dimensions smaller than EPAL euro-pallets; storage in high-rise racks therefore also possible
- Removable rack inserts in every drawer

Sectional diagram

- 1 Stable rollers for mobile use
- 2 Structure welded from steel for high load capacities
- 3 Four drawers for extremely large storage space
- 4 Plastic clamping pin mount for the VERO-S NSE plus modular system
- 5 Plastic clamping pin mount for the VERO-S NSE *mini* modular system



VERO-S NSE mikro miniature Quick-change Module. The thinnest Quick-change Pallet Module in the World.

Efficient quick-change solutions in confined spaces

The SCHUNK miniature quick-change module has a height of only 12 mm and an outer diameter of 49 mm, making it the thinnest quick-change pallet module in the world. The associated clamping pins have an outer diameter of only 10 mm. The miniature module takes the rapid part-change performed with the SCHUNK VERO-S quick-change pallet system to a new level. Now it is possible to change the smallest components in confined spaces in seconds while maintaining reliability and precision with a repeat accuracy of < 0.005 mm. It is suitable for rapid change of workpieces, components and pallets in light machining as well as in assembly cells and measurement machines. In assembly applications it enables fast, fully automatic component and pallet change with high levels of accuracy.

Extremely small and flat

The interior of the miniature model is impressive due to the superior features of the VERO-S series: its patented drive concept, consisting of fast and clamping stroke, guarantees a tensile force of 400 N with the integrated turbo function as well as high holding forces of up to 5,000 N (M4). The clamping pin is positioned above the short taper and fixed with three clamping slides. Locking is done mechanically via a spring assembly. The locking itself is self-locking and uses form-fitting clamping. A system pressure of 6 bar is sufficient to pneumatically open the modules. All functional components, such as base body, clamping pin and clamping slide, are made from corrosion-free steel.

**Small and powerful!**

Height of only 12 mm.

Immediately available



Sizes
49



Holding force
3 kN (M3) / 5 kN (M4)



Pull-down force
400 N (with turbo)



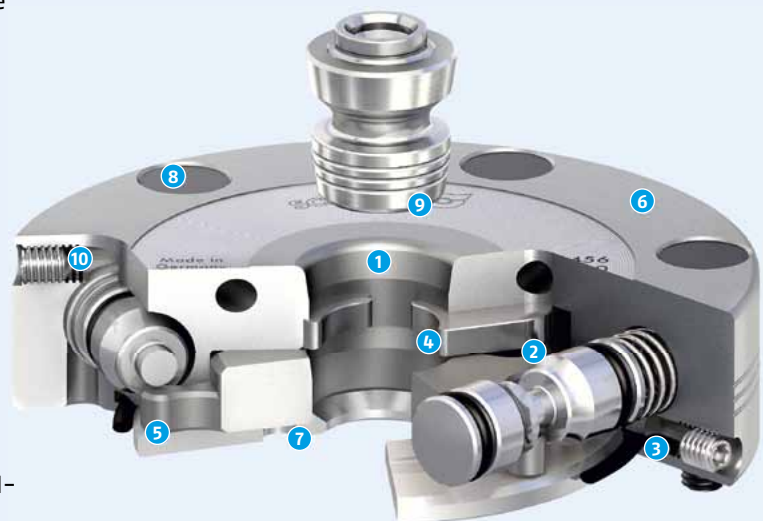
Repeat accuracy
< 0.005 mm

Product features

- Tensile forces: up to 400 N (for turbo)
- Form-fit locking via self-locking
- All force transmitting parts in hardened steel
- Gauge for bore holes for the clamping pins: 50 mm
- Extremely thin design: 12 mm
- All monitoring integrated as standard: clamping position (open/closed) and pallet presence
- No oiled air required
- Dimensions extremely compact: clamping pin $\varnothing$ 10 mm, outer diameter $\varnothing$ 49 mm

Sectional diagram

- 1 High-precision short taper centering provides micron-precise connection
- 2 Patented fast and clamping stroke between drive ring and clamping slide provides maximum tensile forces
- 3 Turbo function for increasing the pull-in forces
- 4 Large surfaces for transmitting the pull-in and holding forces
- 5 Patented drive concept allows an extremely flat design (12 mm)
- 6 Large flat surface for best support and highest rigidity
- 7 Monitoring of the clamping slide position via dynamic pressure possible
- 8 Cover caps for fastening screws, meaning no cooling lubricant or chips can build up
- 9 Entry radii on the clamping pin for fast and safe connecting at a tilt angle and with center offset
- 10 Pneumatic system Actuation with 6 bar



VERO-S WDB Clamping Technology Modular System. **The Modular System specifically for direct** **Workpiece Clamping.**

All the advantages of direct workpiece clamping

The new VERO-S WDB clamping technology modular system transfers the efficiency levels of the SCHUNK quick-change pallet system VERO-S specifically to machining in direct workpiece clamping. Using clamping pillars with a modular structure, freely molded parts and other workpieces can be clamped directly – so without any additional clamping devices and therefore without interfering contours – on the machine table in seconds. They guarantee collision-free operation, a defined clamping application and reliable simulation of machining.

Variable height

The modular system consists of VERO-S WDB basic modules for the machine table, VERO-S WDN clamping modules as well as VERO-S WDS stacking modules that can be combined freely. The stacking modules have a standardized height of 30 mm and 50 mm so that the height of the clamping pillars can be varied continuously in very fine intervals of 10 mm from a height of 80 mm without the need for any special solutions. In order to guarantee offset-free workpiece clamping, height differences can be bridged using a stepless, adjustable, hydraulically clamped VERO-S WDA compensation element.

All superior features of the VERO-S series included

All interfaces have a taper centering mechanism that is free from play and guarantees a repeat accuracy of < 0.005 mm between the individual components. The clamping modules can be actuated and the workpiece presence can be monitored via an integrated air feed-through without the need for any external media supply. The actual workpiece clamping takes place in an energy neutral manner via spring force; it is a self-locking, form-fit process. The workpieces remain safely clamped even if the pressure in the air system were to drop suddenly. A pneumatic system pressure of 6 bar is sufficient to open the clamping modules.



More production efficiency!

Pull-in force of up to 25,000 N for high cutting parameters.

Immediately available



Pillar diameter
99



Weight of the individual components
1.7 kg

Product features

- Flexible clamping structures with quick-change pallet systems
- For individual workpiece clamping on several pillars
- Corrosion free design
- Clever clamping connection between the stacking modules
- Integrated air feed-through for actuation of the quick-change pallet module
- Integrated air feed-through for monitoring of the workpiece presence
- Fine height adjustment for stacking pillars
- Simple cleaning option
- Holds an SPx 40 clamping pin
- Design compatible with VERO-S NSE plus modular system

Sectional diagram

- 1 Basic module VERO-S WDB ensures rigid connection to machine table
- 2 Pneumatic connections on basic module so no need for any bothersome cables on the workpiece
- 3 Locking drive for extremely high tensile forces
- 4 Media transfer via stacking modules for actuation of the quick-change pallet module
- 5 Stacking module WDS 50 for clamping pillar structure
- 6 Stacking module WDS 30 for clamping pillar structure
- 7 Clamping module WDN for direct connection to the workpiece



VERO-S MDN Media Transfer. Plug & Work Media Transfer for universal Use.

Flexible use of fluid-actuated components

The compact SCHUNK VERO-S MDN media transfer can be used universally and is an important piece in the puzzle enhancing the world's largest modular system for stationary workpiece clamping. It can be used to start up components actuated pneumatically, hydraulically or by vacuum on VERO-S NSL plus clamping stations via Plug & Work – all within seconds. In automated machine loading, the combination of quick-change pallet system and media transfer enables fast and reliable changing of various clamping devices. Alternatively, the module can be used to supply components for automated monitoring or cleaning.

Durable couplings

The media transfer can be flexibly combined with new or established SCHUNK VERO-S NSL plus clamping stations. Expensive, time-consuming isolated or special solutions are no longer required. It can be optionally fastened from above or below. The module is fitted with two fluid feed-throughs that can be actuated independently from one another and it is designed for a system pressure of up to 250 bar. Maintenance-free, specially sealed couplings guarantee process-reliable changing and operation. Actuation is performed either on the base side via channel bores in the clamping station or on the side via hose lines. If necessary, two SCHUNK VERO-S MDN media transfer modules can be combined to form a 4x media interface.



Maximum flexibility!

For use of fluid-actuated components on VERO-S NSL plus clamping stations.

On request



Size
Suitable for VERO-S NSL plus



Height
39 mm

Product features

- Corrosion free design
- Two separate coupling interfaces for alternate actuation of clamping system
- Actuation of coupling mechanisms on the side of housing or on the base side
- Base-side actuation possible via adjacent channel bores in the clamping station
- Fastening of the media feed-through possible from above or below

Sectional diagram

- 1 Actuation of the media transfer optionally from the side or the base
- 2 Hard-anodized aluminum body providing longer service life
- 3 Transfer element for leak-free transfer of the medium into the clamping station
- 4 Cover caps for fastening screws, meaning no cooling lubricant or chips can build up



TANDEM plus Clamping Force Block. Compact Powerhouse with fixed Jaw.

For automated loading with fixed jaw

The smallest SCHUNK TANDEM KSP/H-F plus clamping force block (size 64) is available immediately with fixed jaw so that the zero point can be defined, eliminating any displacement of the reference point. The compact clamping block is suitable for fully automated series production of small parts. Furthermore, it can be connected in series with clamping force blocks of the same design in order to clamp long parts such as profiles. It can optionally be actuated pneumatically (KSP-F plus) or hydraulically (KSH-F plus). The clamping force is 4,000 N; the jaw stroke is 2 mm.

Numerous variants

SCHUNK TANDEM plus clamping force blocks develop enormous forces in confined spaces. Their one-pieced, rigid base body, the wedge hook kinematics, and the long, ground jaw guidances provide for concentrated clamping forces of up to 55 kN. The optimized outside contour and the minimum gaps prevent the build-up of contamination, and stops chips and dust from penetrating into the clamping block. Special fitting screws ensure that the clamping modules can be exchanged with excellent repeat accuracy. The standardized powerhouses are available in a comprehensive range of variants: pneumatic, hydraulic, spring or manually actuated, in sizes between 64 and 250 mm, with a standard stroke, long stroke, or as a base plate with fixed chuck jaw.



Safe automation!

For series production of small components.

Immediately available



Size
64



Weight
1.5 kg



Clamping force
4000 N



Stroke
4 mm

Product features

- Fixed zero point due to fixed jaw
- No reference point motion
- Clamping of long profiles against fixed jaws of clamping force blocks connected in series
- Easy machine integration
- Dirt-resistant, due to the closed system
- Low height
- Best lateral access
- Base jaws with fine serration and tongue and groove as standard

Sectional diagram

- 1 Wedge hook drive offers constantly high clamping forces in operation
- 2 Hardened and extremely rigid base body, allowing longer service life while ensuring high precision. Even with maximum clamping force
- 3 Optimized lubrication system for high efficiency
- 4 Long jaw guidance offers optimal support for O.D.- and I.D.-clamping
- 5 Standard jaw interface for use of standard chuck jaws
- 6 Optimized external contour for best accessibility and optimal chip falling
- 7 Actuation of the clamping module optionally from the side or the base
- 8 Lubrication channels in the cover plate allow base lubrication
- 9 Fixed chuck jaw as stop for high accuracy
- 10 Movable chuck jaw for clamping force application



Superior Clamping and Gripping

It's time to use your machine's

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

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

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

SCHUNK Synergy – when everything fits together.

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

full potential!



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

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


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



up to **20 tons load handling**
MAGNOS Magnetic lifting technology

... in your Automated Handling System

... 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
TEINDLOFF – 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-P, Generation **Permanent**, the only gripper with multi-tooth guidance and permanent lubrication



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

... in your Machining Center



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

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



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



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

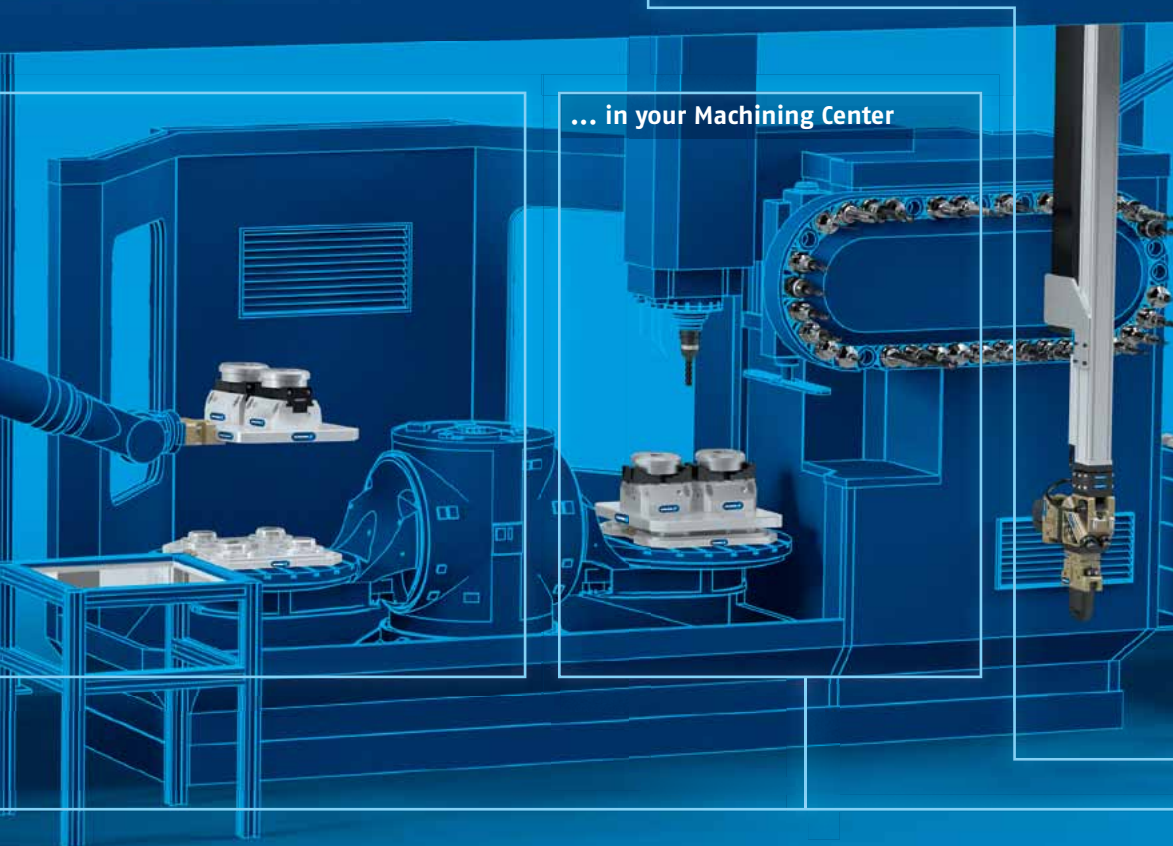


20 mm height
VERO-S NSE mini – the pneumatic quick-change pallet system in a very flat design

... in your Automated Handling System



... in your Machining Center



... in your Automate



75,000 customer-specific solutions

Hydraulic expansion technology for tool or workpiece clamping

100% encapsulated

KONTEC KSK Centric clamping vise fully functional in harsh environments



5-sided workpiece machining

in one set-up – MAGNOS Magnetic clamping technology



0.3 mm shank diameter

TIRILBLOIS mini sets a benchmark in micro machining

less than **3** μ run-out accuracy

TIRILBLOIS-SVL Super-slim tool extension optimized interfering contours



up to **85,000** rpm

TIRILBLOIS-S predestined for high-speed cutting

... in your Automated Assembly



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

∞ combination options
SCHUNK Modular assembly system



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

d Assembly

... 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
TIEINBLO-S-R with unique patented polygonal clamping technology



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

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



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



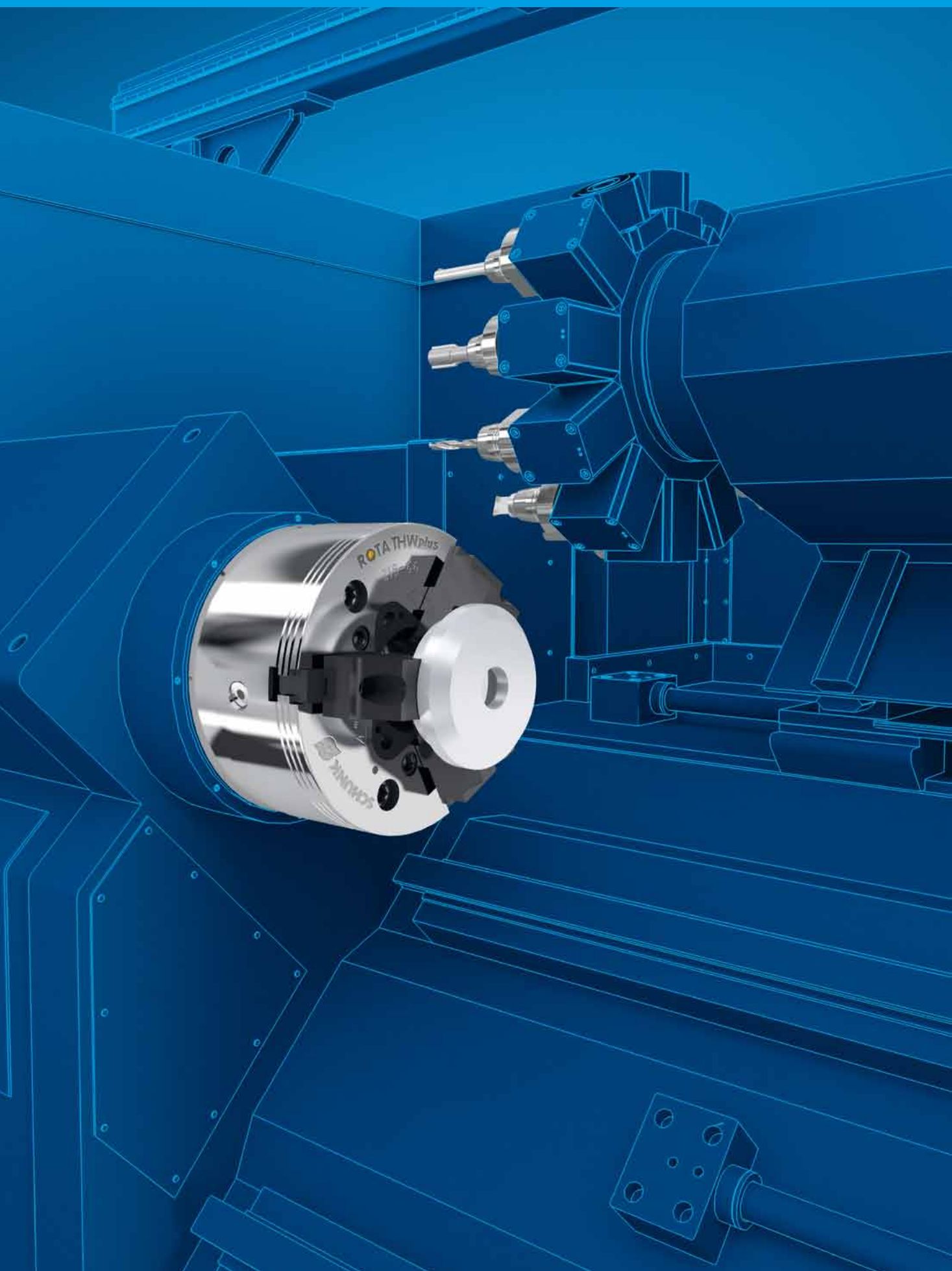
2,000 Nm torque with $\varnothing$ 32 mm
TIEINBLO E compact for large volume cutting, boring, reaming, and threads



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



Your Lathe





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

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

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

< 60 seconds quick jaw change

50% larger clamping range

0.01 mm repeat accuracy

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



The power chuck ROTA NCF plus 2 is the precise powerhouse for modern turning operation. The integrated centrifugal force compensation ensures save clamping at high RPM.

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.

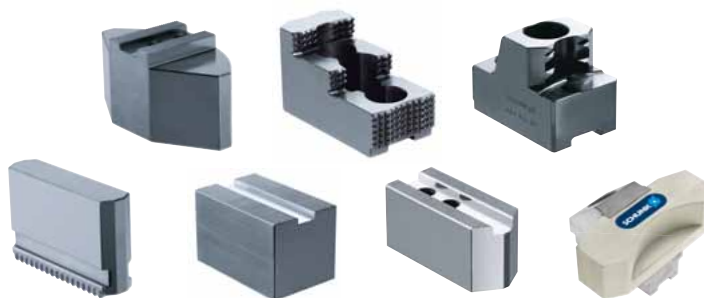


SCHUNK No. 1 Products for higher Productivity in your Lathe.



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.



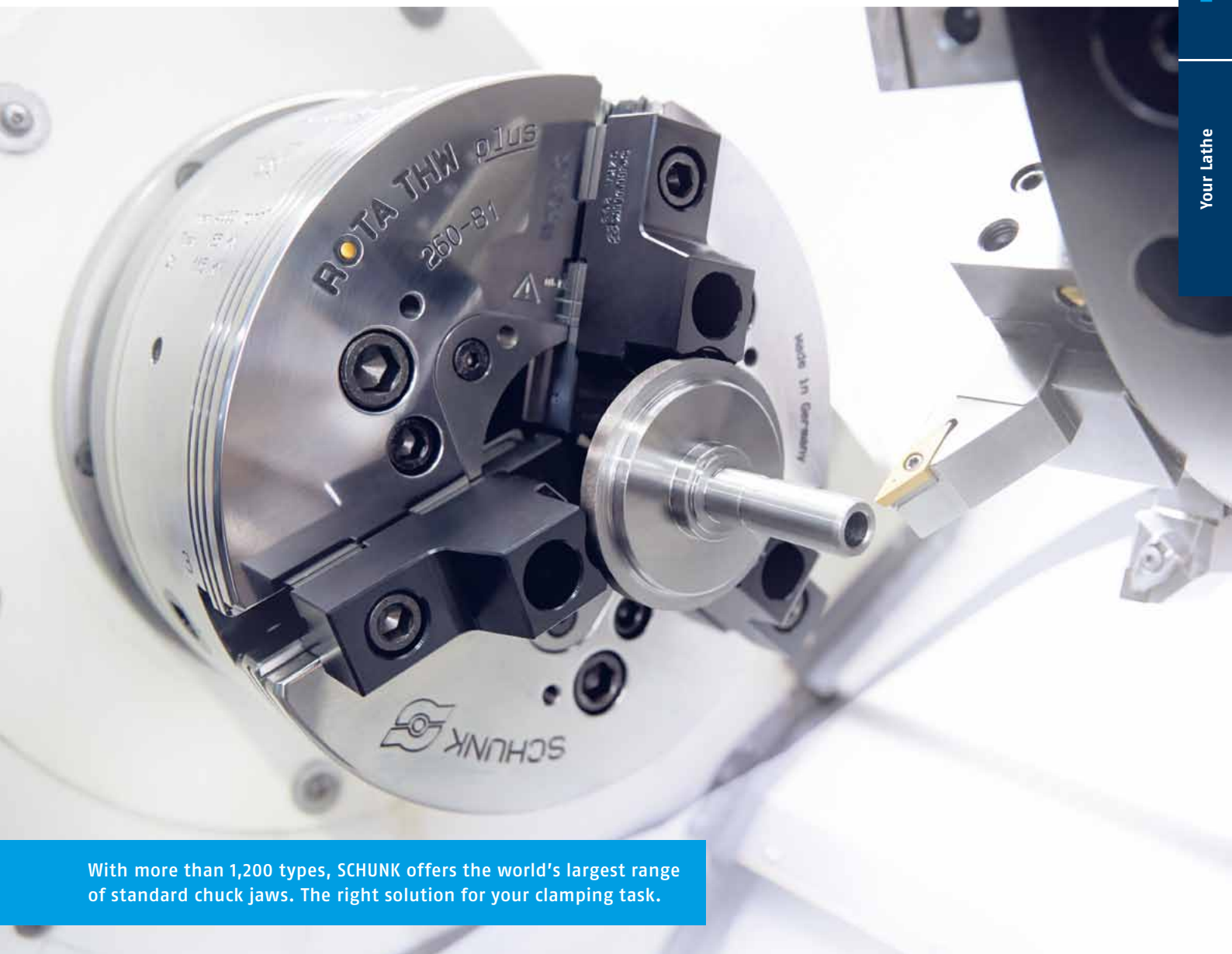
30 - 40% less wear

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.





With more than 1,200 types, SCHUNK offers the world's largest range of standard chuck jaws. The right solution for your clamping task.

Up to **300%** improved
surface finish

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

Including vibration damping!

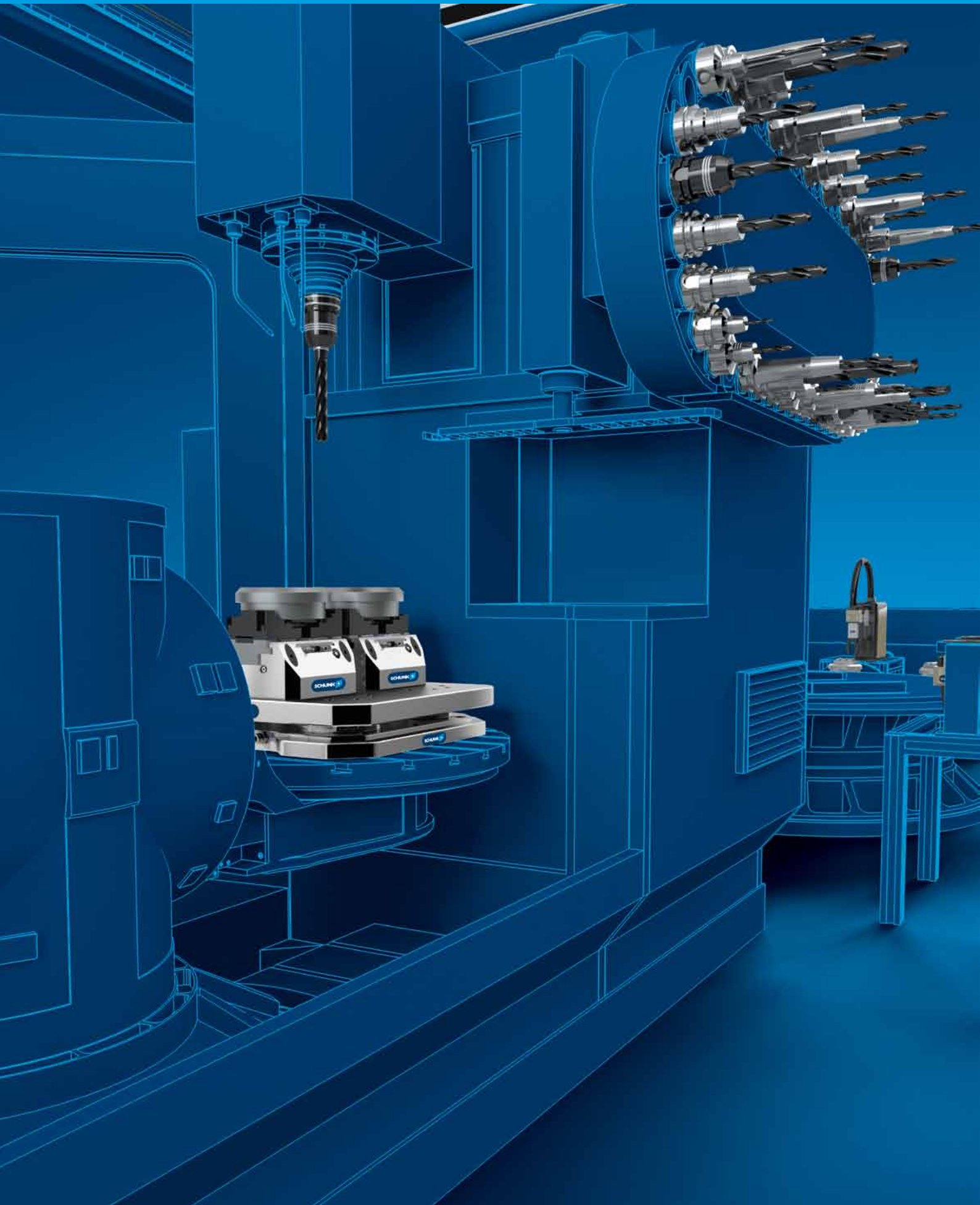
The only modular SCHUNK hydraulic expansion toolholder that requires no manufacturer-specific interface. Unique vibration damping for excellent workpiece surfaces.

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 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 workholding 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.



MAGNOS square pole technology for deformation-free clamping and the TENDO E compact hydraulic expansion toolholder for increasing the tool life by up to 300%.

Up to **300%**
longer tool life*

T | E | N | D | O® E compact Hydraulic Expansion Toolholder

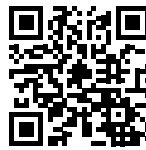
Full power

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

- Highest torques up to 2,000 Nm (with a diameter of 32)
- Run-out accuracy and repeat accuracy < 0.003 mm
- Up to 40% raised tool life

* Verified in a study by the wbk Institute of Production Technology at the Karlsruhe Institute of Technology (KIT).

Milling at
full speed!



www.schunk.com/tendo-e-compact



100% suitable

T | E | N | D | O® SVL Tool Extension

Long and super-slim

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



0 μ permanent run-out accuracy

T | E | N | D | O® zero Hydraulic Expansion Toolholder

Down to 0.000 mm in no time

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



100% safety

T | E | N | D | O® Aviation Hydraulic Expansion Toolholder

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

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



New!

0 Interfering contour

T | E | N | D | O® ES Hydraulic Expansion Toolholder

The powerhouse without interfering contour

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



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



0.3 mm shank diameter

T|R|B|O|S®-Mini Polygonal Clamping Technology

The smallest, exchangeable precision toolholder

Used in the medical, dental, electrical engineering, watch and jewelry, 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 $2.5 \times D$
- Balancing grade G2.5 at 25,000 rpm or $Rev_{max} < 1 \text{ gmm}$
- Quick and easy tool changes

3 μ run-out accuracy

T|R|B|O|S®-R Polygonal Clamping Technology

Stable and precise

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



85,000 rpm

T|R|B|O|S®-S Polygonal Clamping Technology

Extremely slim design

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



85,000 rpm

T|R|B|O|S®-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 $< 0.003 \text{ mm}$. SCHUNK TRIBOS-RM is the compact precision champion when it comes to high speed ranges of up to 85,000 revolutions of tools as of 3 mm.



3 μ run-out accuracy

T|R|B|O|S®-SVL Tool Extension

Better price due to standardization

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





Intermediate sleeves from SCHUNK provide greater flexibility in tool clamping.

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.



0.01 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 customized solutions

Customized Hydraulic Expansion Technology

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

For process-reliable clamping

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



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



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



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



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

Due to many combination possibilities with various clamping devices or other equipment, and the fact that workpieces can be set up outside the machine in parallel to the processing time, a consistent application of VERO-S offers a set-up cost reduction of up to 90%.



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.





Your Automated Machine Loading





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 SCHUNK 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



90% faster gripper change

SWS Quick-Change System

One system, two components.

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

75 kN holding force

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.





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 toolholder like a tool and can easily be changed into the spindle due to the standard interface. The result: fully automatic workpiece change only with the help of the axis movements of the machine tool.

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

Before it breaks

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

180° rotation

SRH Swivel Head

Precise rotation and long life span

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



30 seconds, and the machine room is clean.

RGH 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.





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

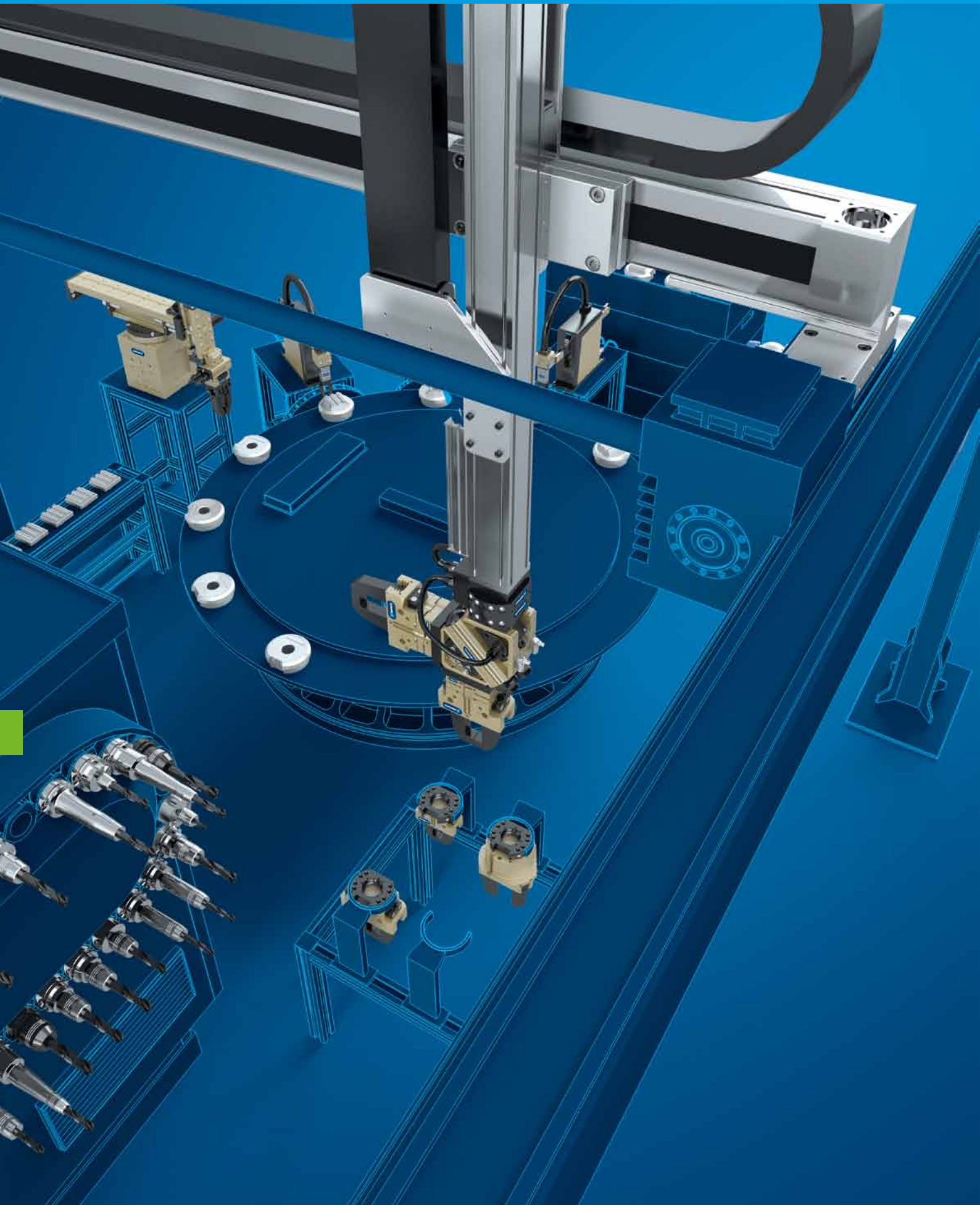
Dynamic and smooth-running

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 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

More than 500 standard combinations

Line and Room Gantries LPP/LPE/RPE

Standard gantries from a modular system

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

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



360° endlessly turning

ERM Electric Rotary Module

Extremely adaptable – integrates perfectly

The drive can be freely adjusted in 90° steps. In this way, the interfering contour of the SCHUNK rotary module can be optimally adjusted to the gantries or robots. Depending on the engine, the endlessly turning module has torques of up to max. 75 Nm. It can attain any intermediate positions and is designed for a maximum speed of up to 62.5 rpm.



The No. 1 in gripping

PGN-plus-P, Generation Permanent 2-Finger Parallel Gripper

The unique gripper with multi-tooth guidance and permanent lubrication

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.



Up to 1,750 N gripping force

EGA Long-stroke Gripper

Adaptable, robust, compact.

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



IP65 protection class

OPR Collision and Overload Protection

Rapid reaction

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





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

100% cycle increase

SRU-plus 20-S Universal Rotary Actuator

The new benchmark

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



Performance Level d/SIL 3

EGN Safety Gripping System

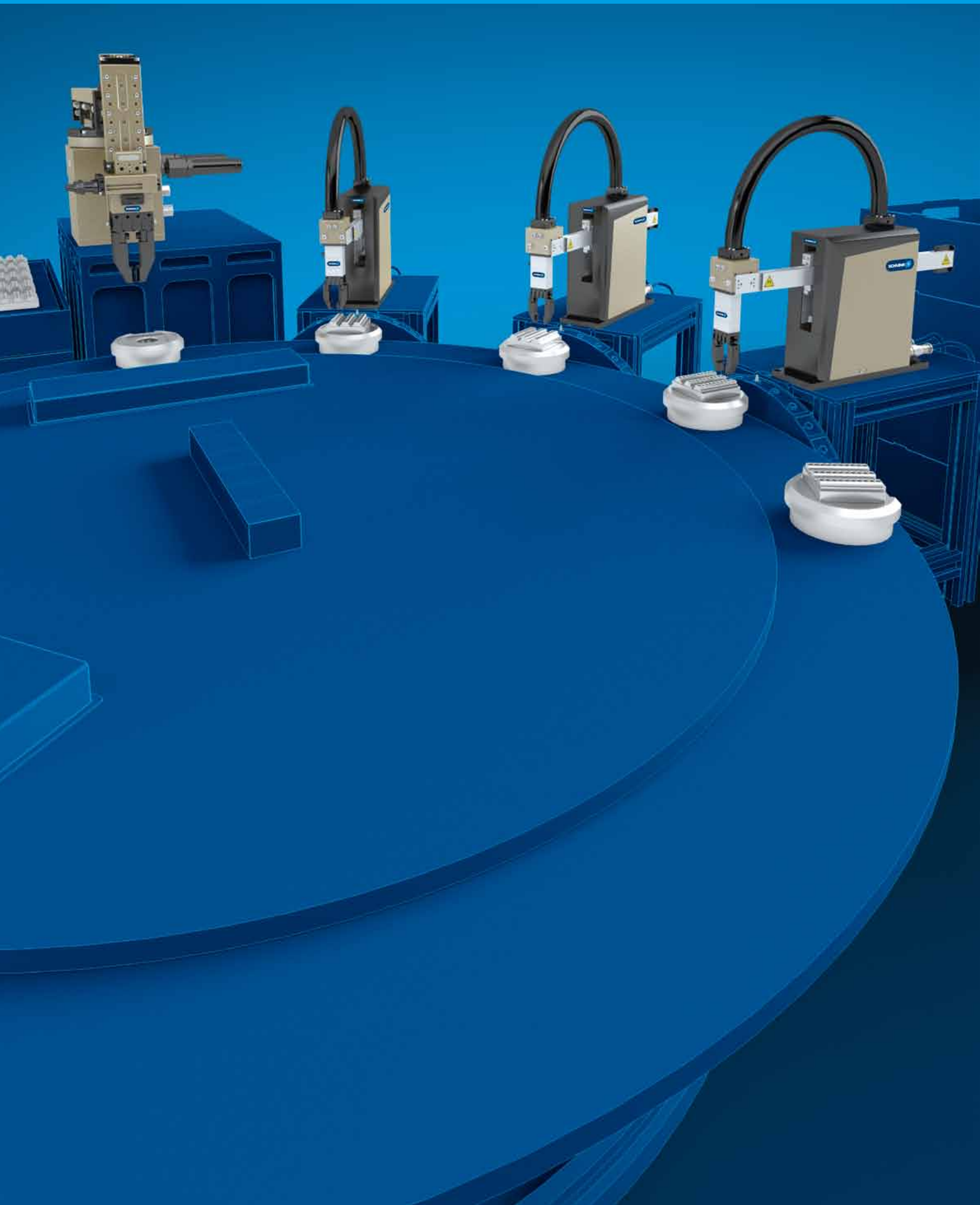
Permanently live

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





Your Automated Assembly





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.



In small components handling and the automated assembly process, workpieces have to be supplied quickly and reliably to the workpiece carrier in the linear transfer system. Various SCHUNK pick & place solutions can be used for this, and can be employed quickly and flexibly depending on the assembly 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

ERS Electric Rotary Module 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 microns repeat accuracy
- Plug & Work makes start-up as easy as can be



∞ combination possibilities

SCHUNK Modular Assembly System

More individuality and economy

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



Up to 75 cycles per minute

DRL Rotary Pick & Place Unit

High-speed assembly with integrated rotary motion

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



Over 10,000 possible combinations

Pillar Assembly System

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

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



6 sizes available

LDN Linear Module

For high-precision high-speed applications

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





Up to 6 parts per cycle

RVK Collection Gripper

With 4 or 6 grippers

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

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

25% higher gripping force

Miniature Parallel Gripper MPG-plus

The benchmark

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



180% better gripping force/mass ratio!

EGP Electric Gripper for small components

The alternative

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



Swiveling time 0.18 s/180°

EGS Gripping Rotary Unit

Efficiency class in handling small parts

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



340° rotation range

Powerball ERB

Well-rounded and intelligent

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



The SCHUNK RVK collection gripper increases the efficiency of pick & place applications many times over by the collect & place principle in automated assembly.

50% higher moment load

DDF 2 Rotary Feed-through

Flexibly rotating up to 360°

The latest standard for modern robot and assembly applications. With 3 variants, the DDF 2 offers full flexibility for different process requirements. You have the choice: Pneumatic feed-through, feeding through of electric signals or the combination of both.



High torque 29.3 Nm

RST-D Ring Indexing Table

Versatile with power!

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



4 air feed-throughs

CWS Manual Change System

Manually fast

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



Suitability for cleanroom applications ISO class 6

LM Linear Module

Standard solution for high-precision applications

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





Your Service Robotics Application





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

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

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

> 7 degrees of freedom

100% flexibility

340° rotation range



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

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





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.

New Products

Your Lathe

Your Machining Center

Your Automated Machine Loading

Your Automated Handling System

Your Automated Assembly

Your Service Robotics Application



Quality Assurance

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



Laboratory Use

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



Microchip Production

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



Exploration

The remote-controlled 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.



Future Service Robotics

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



Rehab and Care Robot

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

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



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 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

First industrial 5-finger hand

SVH 5-Finger Gripping Hand

An extremely wide range of sensitive gripping operations

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



120 N gripping force

WSG 2-Finger Parallel Gripper

Configured in 2 minutes

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



100% flexibility

SDH-2 3-Finger Industrial Hand

Using people as its model

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



Height 14 mm

FWS Manual Change System

Extremely flat

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





Two SCHUNK LWA 4P lightweight arms take over the complete handling from separating out parts through to loading the machine in two separate systems. They can be moved on a linear axis or along passive rails.



10 degrees of freedom

LWA 4D Dextrous Lightweight Arm

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





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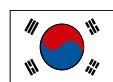
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