New SCHUNK Products and Innovations

Gripping Systems
Certified

With the new SCHUNK Co-act EGP-C gripper, for the first time an inherently safe industrial gripper is being presented that is certified and approved by the DGUV for collaborative operations. This simplifies the safety observation for collaborative applications and in turn shortens the expenditure of time.

Smart Factory

In Touch with Big Data. Already today, intelligent and interconnected SCHUNK components form the basis for the smart factory within the meaning of Industry 4.0 as an interface for the communication between workpiece and machine.
Digital Services

For the digitalization of products, SCHUNK components and services play a decisive role. Whether it’s a webshop for additively manufactured gripper fingers, digital twins, or even our digital services like the SCHUNK gripper design tool and the 3D online configurator.

Equipped by SCHUNK

Unique component selection for equipping your robots and machine with gripping and clamping technology. This means for you: 11,000 standard components. Everything from a single source.
The new SCHUNK Co-act EGP-C Gripper

The world’s first certified industrial gripper for collaborative operation.

**Plug & Work**
Pre-assembled gripping unit with robot interface for quick and easy assembly. Directly compatible with the cobots from Universal Robots, KUKA, and FANUC.

**Integrated status display**
Visual response on the condition of the application.

**Accessories**
Attachment finger set with 3 different variants for variable gripping processes.

**DGUV-certified gripping unit**
In accordance with ISO/TS 15066 simplifies the safety review of the overall application.

[Image of the Gripper]
Sectional Diagram

1. Collision protection cover
2. Gripper for small components EGP
3. Flange
   with integrated electronics and wiring
4. LED light band
   for the status display
5. Sensor system
6. Service flap
   for adjusting the sensor system
7. Service flap
   for adjusting the gripping force
The new SCHUNK Gripper PGN-plus-P

The world’s most proven gripper on the market. Lifelong maintenance-free.*

New: ATEX version EX
For use in explosion hazard zones.

New: dust-tight version SD
Absolutely dust-proof with increased protection against the ingress of materials like splash water and dirt.

New: Portfolio expansion
New sizes PGN-plus-P 40, 160 and 240.

Variety in accessories
A broad range of high-quality accessory components and suitable sensor systems.

* Under normal, clean operating conditions

schunk.com/pgn-plus-p
**Sizes**  40 .. 240

**Weight**  0.1 .. 8 kg

**Gripping force**  180 .. 5,800 N

**Stroke per finger**  2.5 .. 30 mm

**Workpiece weight**  0.9 .. 29 kg

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**Multi-tooth guidance**

Maximum service life due to lubricant pockets in the robust multi-tooth guidance and absorption of high forces and torques by means of the large guidance support

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**Base jaws**

with standardized screw connection diagram for the adaption of workpiece-specific gripper fingers

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**Sensor systems**

Brackets for proximity switches and adjustable control cams in the housing

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**Housing**

Weight-optimized due to the use of high-strength aluminum alloy

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Technical advice and sales: Tel. +49-7133-103-2503
The new SCHUNK Gripper for Small Components MPC

Simple, cost-efficient pneumatic gripper for small components for handling and assembly applications.

Cost-efficient basic gripper
Specially designed for use in small components handling.

Price-attractive sensor system
Technically and economically compatible SCHUNK sensor system for simple position monitoring. Everything from a single source.

Wide range of sizes
6 different sizes for a wide range of applications form light to medium-weight components.

schunk.com/mpc
### Sectional Diagram

1. **Base jaws**  
   for adaptation of the workpiece-specific gripper fingers

2. **Housing**  
   Weight-optimized due to the use of high-strength aluminum alloy

3. **Drive**  
   through pneumatic double piston system

4. **Guide**  
   Price-attractive flat guidance

5. **Kinematics**  
   Synchronization of the base jaws for centric gripping

6. **Sensor system**  
   C-slot on both sides for the use of magnetic sensors

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Technical advice and sales: Tel. +49-7133-103-2503
The new SCHUNK Gripper PGN-plus-E with IO-Link

The world's first electric gripper with multi-tooth guidance and IO-link technology.

24 V drive and actuation via either digital I/O or IO-link Class B connection for simple commissioning and rapid integration into existing systems.

New: Lifelong maintenance-free
The SCHUNK multi-tooth guidance with continuous lubricant pockets ensures even permanent lubrication.

New: Up to 50% longer gripper fingers
The higher maximum moments of the perfected SCHUNK multi-tooth guidance enable the use of longer gripper fingers.

Four-stage adjustable gripping force for easy adaption to sensitive workpieces.

schunk.com/pgn-plus-e
<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Size</strong></td>
<td>80</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>1.01 kg</td>
</tr>
<tr>
<td><strong>Gripping force</strong></td>
<td>up to 570 N</td>
</tr>
<tr>
<td><strong>Stroke per finger</strong></td>
<td>8 mm</td>
</tr>
<tr>
<td><strong>Workpiece weight</strong></td>
<td>up to 2.85 kg</td>
</tr>
</tbody>
</table>

**Sectional Diagram**

1. **Multi-tooth guidance**  
   Maximum life time due to lubricant pockets in the robust multi-tooth guidance

2. **Base jaw**  
   with standardized screw connection diagram for the connection of the workpiece-specific gripper fingers

3. **Sensor systems**  
   Integrated proximity switches and adjustable control cams in the housing

4. **Housing**  
   made of high-strength aluminum alloy

5. **Centering and mounting options**

6. **Wedge-hook design**  
   Transforms the rotary movement into the axial movement of the wedge-hook

7. **Spindle nut**  
   Brushless DC servomotor

8. **Drive**

9. **Control electronics**

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*Technical advice and sales: Tel. +49-7133-103-2503*
SCHUNK Gripper for Small Components
EGP now new with IO-Link

The most compact electric gripper for small components in assembly automation. Now with IO-link technology.

Flexible gripping force adjustment
Software control for flexible gripping force adjustment for various workpieces.

Maintenance and diagnostics reporting
Timely information on defined maintenance intervals or error message from the machine control system.

Integrated sensor system
For position detection of the gripper finger within the entire stroke range.

Variable position setting
Via IO-link technology, gripping positions can be adjusted variably and the gripper fingers pre-positioned.

schunk.com/egp
### Size Weight Gripping force Stroke per finger Workpiece weight

<table>
<thead>
<tr>
<th>Size</th>
<th>Weight</th>
<th>Gripping force</th>
<th>Stroke per finger</th>
<th>Workpiece weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>0.32 kg</td>
<td>140 N</td>
<td>6 mm</td>
<td>up to 0.7 kg</td>
</tr>
</tbody>
</table>

---

Technical advice and sales: Tel. +49-7133-103-2503

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**Sectional Diagram**

1. **Base jaws**  
   for adaptation of the workpiece-specific gripper fingers

2. **Junction roller guide**  
   for precise gripping using a backlash-free base jaw guidance

3. **Gear**  
   Rack and pinion design for centric clamping

4. **Drive**  
   Brushless DC servomotor

5. **Control electronics**  
   Integrated control and power electronics for decentralized actuation via IO-link
The new SCHUNK Magnetic Gripper EMH with 24 V Technology

The first compact electric permanent magnetic gripper with integrated electronics.

Compact design
The integrated electronics reduces the interfering contour. No external controllers required.

Feedback signal
on the magnetic state and workpiece presence.

24 V voltage supply
Simple wiring and digital actuation via digital I/O.

Short cycle time
Magnetization in just 300 ms for more gripping cycles in less time.

schunk.com/emh
Application Example

Sizes
36 .. 114

Weight
1 .. 8 kg

Workpiece weight
3.5 .. 70 kg

Cycle time
300 .. 700 ms

Technical advice and sales: Tel. +49-7133-103-2503
The new SCHUNK End-of-Arm Modular System

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

Up to 36 product combination possibilities.

schunk.com/end-of-arm-modular-system
The new SCHUNK End-of-Arm Modular System

exclusively for Universal Robots: It facilitates the individual and fast automation of handling and assembly tasks. Besides the conventional automation, a gripper for collaborative operation is also included in the modular system.

Simple automation
In the area of handling and assembly, the SCHUNK modular system combined with Universal Robots is reducing the time for the implementation of an application several times over.

Plug & Work
Compatible interfaces as well as suitable grippers. Plug-in for fast assembly and commissioning.

Diversity
Complete SCHUNK modular system for the individual automation with electric and pneumatic SCHUNK grippers, change system and force/torque sensor, precisely fitting and exclusively for Universal Robots.

Modular system overview

1. 6-axis force/torque sensor 
   FT-AXIA 80 
   incl. adapter plate

2. Manual change system SHS 50 
   made up of: 
   SHK (quick-change head) and SHA (quick-change adapter)

3. Gripper for small components 
   EGP 40 
   electrically

4. SCHUNK Co-act EGP-C gripper 
   electrically for collaborative operations

5. Gripper for small components 
   KGG 100-80 
   pneumatically

6. Long-stroke gripper PSH 22-1 
   pneumatically

7. Universal gripper PGN-plus-P 80 
   pneumatically

8. Universal gripper PGN-plus-P 100 
   pneumatically

9. Centric gripper PZN-plus 64 
   pneumatically

10. Universal gripper JGP 80 
    pneumatically

11. Universal gripper JGP 100 
    pneumatically

Technical advice and sales: Tel. +49-7133-103-2503
Most powerful
Compact housing, increased torque and inertia, and shorter swiveling time.

Large Center bore
for feeding through power supply lines and cables. Can also be used for versions with media feed-through.

Simple commissioning and maintenance
For many application cases, the throttle setting is suitable, as the shock absorber stroke has already been pre-adjusted. Low maintenance costs due to modular design.

Durable and modular
Backlash-free, pre-loaded bearing, high-quality piston seal made of polyurethane and viton seal. Optionally available with air feed-through (MDF) or electrical feed-through (EDF).
Sectional Diagram

1 Housing
Weight-optimized due to the use of hard-anodized aluminum alloy

2 Pinion
Extremely stable pinion for transforming the piston movement into a rotary movement

3 Swivel angle adjustment
for fast and simple adjustment of the end position

4 Shock absorbers
Hydraulic shock absorbers for high moments of inertia

5 Drive
Pneumatic, powerful double piston drive

Technical advice and sales: Tel. +49-7133-103-2503
The new electric SCHUNK Swivel Module ERP

No other electric swivel module on the market is as easy to adjust.

Unique auto-learn function
Simple and fast und commissioning due to the automatic speed adjustment depending on the mass of the swivel body.

24 V drive and control via digital I/O
Simple actuation and integration into existing control concepts. Fully compatible in the SCHUNK 24 V technical portfolio.

Direct Drive
Maximum reliability and speed, also very quiet-running with max. 68 db(A).

Fine adjustment of the speed
Sensitive adjustment of the speed of rotation due to manual rotary switch on the module. Individual adjustment to various applications.

schunk.com/erp
Sectional Diagram

1. Drive
   Rotational direct drive

2. Control electronics
   Integrated control and power electronics for decentralized actuation of the module

3. End position adjustment
   Mechanical adjustment of end positions via stop screws

4. Sensor system
   C-slot for the use of magnetic sensors for end position monitoring

5. Connecting plug
   Standard plugs for easy connection to sensor and power distributors

6. Drive flange
   for mounting the setup to be swiveled

Technical advice and sales: Tel. +49-7133-103-2503
The electric SCHUNK Linear Module ELP

The easiest electric linear module on the market to adjust. Now also available without auto-learn function for pressing and joining applications.

- **New:** Variant without auto-learn function with manual speed adjustment
  For applications with forces in the direction of movement (e.g., joining, pressing) or for use in cam-controlled systems.

- **Rotary switch**
  For simple and manual adjustment of the speed without Auto-Learn function.

- **Low-maintenance 24 V linear direct drive**
  Process-reliable and long-lasting. Fully compatible in the SCHUNK 24 V technical portfolio.

- **Integrated regulation and power electronics**
  Control via digital I/O.

schunk.com/elp
Sectional Diagram

1 Roller guide
   for maximum positioning accuracy and moment loads

2 Drive
   Linear direct drive

3 Control electronics
   Adaptive control technology with integrated control and power electronics

4 End position adjustment
   Mechanical adjustment of end positions via stop screws

5 Connecting plug
   Standard plugs for easy connection to sensor and power distributors

6 Hole pattern for SCHUNK modular system
   Complete integration into the modular system of the modular assembly automation

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Technical advice and sales: Tel. +49-7133-103-2503
The new SCHUNK Quick-change System SWS

Very compact and optimized interfering contour and ideal for use in handling and assembly applications.

**Integrated piston stroke monitoring**
Monitoring via MMS magnetic switch for locking status.

**Integrated pneumatic feed-through**
for a safe power supply of the handling modules and tools.

**Patented locking system**
for reliable connection between the quick-change head and the quick-change adapter.

**Simple direct connection**
with robot flange without additional adapter plate.

schunk.com/sws
**Sectional Diagram**

1. **Integrated air feed-through**
   with optional axial feed-through

2. **Mechanical locking**
   Force-free with self-locking in locked state

3. **Integrated sensor monitoring**
   for locking status open/closed using magnetic switch

4. **Direct connection**
   for robot flange ISO-A 31.5

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Technical advice and sales: Tel. +49-7133-103-2503
The new SCHUNK Force/Torque Sensor FT-AXIA

The first compact force/torque sensor with two calibrations.

**Compact design**
Due to completely integrated electronics and status display via LEDs.

**Simple configuration**
Two calibrations can be controlled in the sensor via web interface.

**Robust and durable**
Even at short-term overload, the sensor is protected from damage.

**Plug & Work**
Directly compatible for KUKA and Universal Robots via installations module.

schunk.com/ft-axia
**Size** | **Weight** | **Force measurement range** | **Moment measurement range**
--- | --- | --- | ---
80 | 0.3 kg | $F_{x y} \ 200 \ .. \ 500 \ N$ | $8 \ .. \ 20 \ Nm$
| | | $F_z \ 360 \ .. \ 900 \ N$ |  

**Sectional Diagram**

1. **Electronics**  
   No interfering contour due to compact integration into the housing

2. **Resistance strain gauges**  
   made of silicon ensure a strong signal

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Technical advice and sales: Tel. +49-7133-103-2503
The new Design and Selection Tool for SCHUNK Grippers

The first online design and selection tool for the complete, standardized SCHUNK gripper portfolio.

Gripper design available online
schunk.com/online-design-tool

schunk.com/online-design-tool
With the new SCHUNK online Design and Selection Tool, the suitable SCHUNK gripper from the entire SCHUNK gripper portfolio can be easily and specifically selected for each use.

**Design of the suitable SCHUNK gripper**
for each individual application case due to many years of experience and tried-and-tested calculation logic.

**Simple and consistent user guidance with visual support**
for the data entry of all relevant parameters for calculating and designing SCHUNK grippers.

**User receives a hit list**
with suitable SCHUNK grippers for convenient and safe selection of the suitable SCHUNK product.

**Specific utilization ratio in accordance with the application scenario**
of the SCHUNK gripper is shown in a hit list. In addition to the hit list, the specific utilization criteria for the respective components is specified.

**Design tool available online all over the world**
on all end devices due to HTML-based user interface.

**Latest SCHUNK product portfolio**
and the associated data is always up to date. This increases safety and efficiency when selecting components.

**Archiving, opening of the calculation, or designing**
for viewing the entry parameters and calculation results again later.

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Technical advice and sales: Tel. +49-7133-103-2503
SCHUNK 3D Online Configurator

With tried-and-tested CADENAS technology, now new with configurable gripping/swivel units and new functions and combinations for assembly automation.

CAD data available online

schunk.com/online-3d-configurator
With the new SCHUNK 3D online configurator
besides Pick & Place, entire gripping/swivel units can now be easily and quickly generated and accessories integrated.

3D online configurator gripping/swivel units
Simple configuration of gripping/swivel units with SCHUNK grippers in combination with the SRU-plus universal swivel unit.

3D online configurator modular assembly automation
Up to four different pick & place design variants can be freely configured including pillar assembly system.

All configurations are available in all common 2D and 3D variants
For simple and swift integration into existing CAD systems. The download of a 3D PDF document facilitates the display of the configuration also without CAD system.

Fast and fault-free configuration
due to integrated combinational logic. Access via the SCHUNK PartCommunity on the basis of tried-and-tested CADENAS technology. Available all over the world free of charge.

Accessories
like the sensor system or required adapter plates are automatically integrated into the design. Convenient preview function with live adjustment of changes. Automatic parts list creation of all required products incl. all standard parts. Memory and download function of the created configuration as a finished component.

SMART Parts Service
Comparative function of all technical product data of SCHUNK gripping system components is now also available online. Function features such as mounting kit or dust-proof version can be directly selected and configured. Classification according to eClass 10.0. Simple and direct linking to the most up-to-date data sheets.

Technical advice and sales: Tel. +49-7133-103-2503
GRIPconnect
the new SCHUNK App

Cutting-edge technology for data evaluation and status display for the electric SCHUNK gripper EGL 90.

schunk.com/app-egl90
SCHUNK is the world's first provider to give users the possibility to access information on the current status and operating status of the gripper on mobile devices via an app.

**Mobile information**
Status and operating status of the SCHUNK gripper EGL 90 is available anywhere and at any time.

**Condition monitoring**
All relevant information and measurement values available at a glance. Increased accuracy of the data due to the optional “plus functions”*.

**Predictive maintenance**
Avoids gripper downtimes due to early intervention on the basis of the information and evaluations from the app.

**Flexible data evaluation**
Statistical analysis can also be carried out easily by the parameters defined in advance for each specific process.

**Flexible applications**
The app is tailored to the SCHUNK gripper EGL 90 and provides relevant information regardless of the process. Therefore, the gripper including the app can be used very flexibly in the Industry 4.0 environment, for instance in quality management.

*Optional additional functions for app extension

Technical advice and sales: Tel. +49-7133-103-3452
Stand-alone Depanelling Machines
SCHUNK SAR-1300-Mono-Smart and SCHUNK SAR-1700

The world’s most precise stand-alone depanelling machines with the widest range of workpiece carrier solutions

- **Workpiece carrier solutions and depanelling machines from a single source**
  Save set-up time and disconnect sensitive depanelling machines without any stress.

- **Maximum milling accuracy**
  Due to the use of highly precise workpiece carriers and linear motor axes ±100 μm.

- **Over 98% technical availability**
  For absolute process stability.

- **Large milling range**
  From 500 mm x 600 mm for the separation of large standard or longboards.

schunk.com/depanelling-machines
Application Example

SAR-1700 – The first collaborative loading for depanelling machines

1. SCHUNK Co-act EGP-C gripper for collaborative operations
2. SCHUNK MAGNOPLATE universal workpiece carrier replaces custom-made products and saves enormous costs
3. Highly dynamic linear motor axes for 35% shorter cycle times
4. Milling head can optionally be upgraded with a vision system or scanner
5. Circuit board storage rack

Technical advice and sales: Tel. +49-7725-9166-0
Inline Depanelling Machine
SCHUNK ILR-2200

150% faster loading times

Panel infeed in less than 2 seconds
The fastest fully automatic depanelling machine on the market. Unique: Milling, turning, swiveling, palletizing and visually inspecting on a single depanelling machine.

Automatic grippers and gripper finger change
on basic servo and modular gripping systems for the highest level of flexibility and minimum set-up times.

100% modular
Basic module can be upgraded with additional modules.

100% in-process monitoring
Visual inspection of the circuit board surface for deviations from the layout.

schunk.com/depanelling-machines
<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed of axes</td>
<td>up to 2,000 mm/s &lt; 2 seconds</td>
</tr>
<tr>
<td>Panel infeed</td>
<td></td>
</tr>
<tr>
<td>Repeat and positioning accuracy</td>
<td>±0.02 mm</td>
</tr>
<tr>
<td>Milling accuracy</td>
<td>±0.01 mm</td>
</tr>
</tbody>
</table>

**Application Example**

Automatic exchange of gripper fingers for fast and simple product change without additional grippers being required.

![Image of gripper system](image)

1. 2-finger parallel gripper PGN-plus
2. Gripper jaw storage rack with changing stations
3. Gripper jaws for changing
4. Quick-change system SWS-001

Technical advice and sales: Tel. +49-7725-9166-0
11,000 standard products

Learn more about the largest portfolio of gripping systems and clamping technology with 11,000 standard components in our catalogs or at schunk.com
Jens Lehmann, German goalkeeper legend, SCHUNK brand ambassador since 2012 for safe, precise gripping and holding.

852 minutes without a goal against him in the Champions League

681 minutes without a goal against him on the national team

2 intercepted penalties in the 2006 World Cup

1 headed goal as a goalie

0 defeats English Soccer Champion

and

More than 2,000,000 sold precision toolholders

About 1,000,000 delivered SCHUNK grippers

More than 100,000 lathe chucks and stationary workholding systems are in use worldwide

More than 16,000,000 sold standard chuck jaws

More than 75,000 implement hydraulic expansion customer-specific solutions

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info@de.schunk.com
schunk.com

Follow us

Jens Lehmann, German goalkeeper legend, SCHUNK brand ambassador since 2012 for safe, precise gripping and holding. schunk.com/lehmann
New SCHUNK Products and Innovations
Clamping Technology
Your SCHUNK

TENDO Slim 4ax
TENDO Slim 4ax is the world’s first hydraulic expansion toolholder in standardized heat shrinking contour as per DIN 69882-8 and convinces with its simple handling, short set-up times, long tool service life, high flexibility, Plug & Work, and applications with minimum quantity lubrication as well.

VERO-S NSE3
The high-performance pneumatic quick-change pallet system for universal milling operations. Now with 150% higher rigidity and increased pull-down force in order to be able to absorb higher tilting moments and transverse forces.
ROTA NCE
Extremely weight-reduced 3-jaw power lathe chuck in innovative design for a great potential of savings in dynamic processes. The chuck is particularly suitable for the use on machines with short-stroke cylinders.

Equipped by SCHUNK
Unique component selection for equipping your robots and machines with gripping and clamping technology. This means for you: 11,000 standard components. Everything from a single source.
The world’s first hydraulic expansion toolholder with standardized heat shrinking contour.

The ultimate for axial machining
Boring, countersinking, reaming, and threading in a 5-axis centers and in the die and mold making industry.

Plug & Work
1:1 interchangeable. Insert a hydraulic expansion toolholder – replace a heat shrinking toolholder

Excellent vibration damping
The hydraulic system ensures high surface finish, the machine spindle’s performance is enhanced, the tool’s service life is increased, and costs are reduced.

Fast tool change
Micron-precise without peripheral equipment. Turn to dead stop.

schunk.com/tendo-slim-4ax
### Sizes

- New: SK 40
- HSK-A 63
- Ø 6 .. 32 mm

### Run-out accuracy
- 0.003 at 2.5 x D < 0.003 mm

### Repeat accuracy Torque
- Ø 6 16 Nm  Ø 18 240 Nm
- Ø 8 23 Nm  Ø 25 400 Nm
- Ø 16 185 Nm  Ø 32 650 Nm

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**Sectional Diagram**

1. **Oil chamber**
   - When the oil chamber is filled with hydraulic fluid, it has a damping effect on the clamped tool

2. **Expansion sleeve**
   - The expansion sleeve evenly expands against the tool shank. This clamping process first centers the tool shank before fully clamping it over the whole surface

3. **Base body**
   - The machine-side interface is located on the base body

4. **Length adjustment screw**
   - for fast and easy tool presetting

5. **Dirt groove**
   - The enormous clamping pressure of the TENDO Slim 4ax hydraulic expansion toolholder creates a displacement of oil, grease, or coolant residues in the groove, which results in the clamping faces remaining dry

---

Technical advice and sales: Tel. +49-7133-103-3888
< 0.003 mm
Run-out and repeat accuracy ensure the best surface results.

Up to 300% longer tool life
Proven by a study conducted by the wbk, Institute of Production Science at the Karlsruhe Institute of Technology (KIT).

The ultimate for large-volume machining
for all applications, for all cutting tools.

Maximum performance on steep taper interfaces
100% face contact between machine spindle and toolholder.

Now available new with simultaneous taper and face contact.

TENDO® E compact BT-Dual Contact Hydraulic Expansion Toolholder

schunk.com/tendo-e-compact-dc
Sizes
- BT-DC 30 with face contact (Ø 20 mm)
- BT-DC 30 with face contact (Ø 12 mm)
- BT-DC 40 with face contact (Ø 20 mm)
- BT-DC 40 with face contact (Ø 12 mm)

Run-out accuracy
- 0.003 at 2.5 x D

Repeat accuracy
- < 0.003 mm
- Ø 20: 400 Nm (BT-DC 30 with face contact)
- Ø 20: 520 Nm (BT-DC 40 with face contact)

Torque

Sectional Diagram

1. Turn the clamping screw in with an Allen key to the dead stop
2. The clamping piston compresses the hydraulic fluid into the oil chamber system
3. Expansion sleeve and chamber system
   - The expansion sleeve evenly expands against the tool shank. This clamping process first centers the tool shank before fully clamping it over the whole surface
4. The machine-side interface is located on the base body
5. Length adjustment screw for fast and easy tool presetting
6. The tool is centrically clamped to the center axis — highest run-out and repeat accuracy of < 0.003 mm
7. Dirt groove(s)
   - The enormous clamping pressure of the TENDO E compact hydraulic expansion toolholder creates a displacement of oil, grease, or coolant residues in the groove, which results in the clamping faces remaining dry

Technical advice and sales: Tel. +49-7133-103-3888
Patented TRIBOS polygonal clamping technology for your lathe.

- **Process reliable**
  Direct clamping of smallest shanks.

- **Slim-design interfering contour**
  for machining in areas which are difficult to access.

- **Rotationally symmetric design**
  for highest rotational speed and exact dimensional and geometrical tolerances during filigree machining operations.

- **Highest stability**
  for high tool life of the turning tools.

[Patented TRIBOS polygonal clamping technology](schunk.com/tribos-er)
Sizes | Clamping diameters | Available from
--- | --- | ---
ER 11 | TRIBOS-Mini Ø 1–6 | the end of 2018
ER 16 | Ø 1–6 |
ER 20 | TRIBOS-RM Ø 3–12 |
ER 25 | |
ER 32 | |
TRIBOS® Fixscanner

Intelligent clamping pressure adjustment speeds up tool change.

Maximum process reliability
Manual data-entry errors and damage to the toolholder due to excessive clamping pressure are now prevented.

Easy installation

Faster tool change
due to the automated process.

Fast and easy retrofitting
of the clamping devices TRIBOS SVP-2D, SVP-2-D/H, and SVP-4.

schunk.com/tribos-fixscanner
For series
TRIBOS-Mini
TRIBOS-RM
TRIBOS-S

Application Example

Faster!
Automated process due to data transmission by Data Matrix Code.

Technical advice and sales: Tel. +49-7133-103-3888
The high-performance pneumatic quick-change pallet system for universal milling operations.

- **100% compatible with NSE plus 138**
  for easy exchange of the modules.

- **Optimized design**
  for an even higher rigidity of the system.

- **Increased pull-down forces**
  through optimized module kinematics in every clamping position.

- **Optional cone seal**
  for a fully protected clamping pin interface

[Schunk website link](https://schunk.com/vero-s-nse3)
<table>
<thead>
<tr>
<th>Size</th>
<th>Pull-down force</th>
<th>Holding force</th>
<th>Repeat accuracy</th>
<th>Pneumatic pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>138</td>
<td>8 kN (without turbo)</td>
<td>35 kN (M10)</td>
<td>&lt; 0.005 mm</td>
<td>6 bar</td>
</tr>
<tr>
<td></td>
<td>28 kN (with turbo)</td>
<td>50 kN (M12)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>75 kN (M16)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Sectional Diagram**

1. **Optional: cone seal**
   for protection of changing interface
2. **Patented dual stroke system**
   between piston and clamping slide ensures maximum pull-down forces
3. **Turbo function**
   to increase the pull-down forces
4. **Completely sealed system**
   therefore absolutely maintenance-free
5. **Monitoring of the clamping slide positions**
   “open condition” and “locked condition” possible by means of dynamic pressure
6. **Plain bearing bushing in the force flow**
   for maximum pull-down forces and a long service life
7. **Lower-lying countersunk screws**
   for the easiest cleaning of the flat surface

**Technical advice and sales:** Tel. +49-7572-7614-1301
**VERO-S NSE-E mini 90 Quick-change Pallet Module**

The first electrically driven quick-change pallet module from SCHUNK.

- **Inductive clamping slide monitoring**
  for monitoring the “open” and “closed” state of the clamping module.

- **Actuation with 24 V DC direct current**
  Can be operated with the standard machine control.

- **Dust- and water-tight**
  according to protection class IP67.

- **Electromechanical drive**
  Energy-efficient alternative to pneumatic modules.

schunk.com/VERO-S-NSE-E-mini
<table>
<thead>
<tr>
<th>Size</th>
<th>Pull-down force</th>
<th>Holding force</th>
<th>Repeat accuracy</th>
<th>Clamping and release time</th>
</tr>
</thead>
<tbody>
<tr>
<td>90</td>
<td>1.5 kN</td>
<td>15 kN (M6)</td>
<td>&lt; 0.005 mm</td>
<td>&lt; 1 s</td>
</tr>
<tr>
<td></td>
<td></td>
<td>25 kN (M8)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Sectional Diagram**

1. High-precision short taper centering
   provides micron-precise connection
2. Patented dual stroke system
   between piston and clamping slide ensures maximum pull-down forces
3. Large surfaces
   for transmitting the pull-down and holding forces
4. Large flat surface
   for excellent support and maximum rigidity
5. Gear
   for reinforcing the engine torque
6. Electric motor
   for generating the required torque
7. Integrated electronics
   for transmitting power and control signals
8. 4-pin connection
   for easy connection of the module to the machine control system
9. Inductive proximity switch
   for monitoring the clamping positions “open” and “closed”
Base plate for pneumatic TANDEM clamping force blocks with VERO-S interface.

**Versatile in use**
Assembly on the base plate rotated by 90° possible.

**Pneumatic connection from three sides**
facilitated by means of lateral handovers or optionally on the base via NSE plus 138-P module.

**VERO-S interface**
for use of the base plates on the VERO-S quick-change pallet system.

**Use of a pallet storage system possible**
due to integrated pressure maintenance valve and visual pressure display via pressure gauge.

schunk.com/tandem-base-plate
Sizes
100/160 .. 250

Pneumatic pressure
up to 9 bar

Sectional Diagram

1 TANDEM KSP plus clamping force block
   for powerful and precise clamping of the workpieces

2 Pneumatic connection from three sides
   via lateral handovers or optionally on the base

3 Integrated pressure gauge
   Display of the current pressure, also in case of interrupted air supply

4 Pneumatic valves
   for manual actuation

5 VERO-S interface
   Can be flexibly combined with the large VERO-S modular system

6 Media transfer on the base
   for automatic actuation via NSE3 138-P module possible

Technical advice and sales: Tel. +49-7572-7614-1301
Quick lever clamping for easy and quick clamping of the workpieces by traction.

Individual adjustment of the clamping center for the use on 5-axis machines.

Optimum accessibility of the machine spindle due to special design and higher seated spindle.

Continuous adjustment of the clamping force quickly and easily, from 4–40 kN.

KONTEC KSX-C
5-Axis Clamping Vise

Power-amplified 5-axis clamping vise with adjustable clamping center.

schunk.com/kontec-ksx-c
## Sectional Diagram

| 1 | Actuation via hexagonal connection | thereby simplified operation |
| 2 | Completely encapsulated spindle | offers optimum protection against coolant and chips |
| 3 | Long jaw guidance | offers optimum support |
| 4 | Jaw clamping via hexagonal connection | for individual adjustment of the clamping center |
| 5 | Continuous clamping force adjustment | Simple and fast force adjustment from 4–40 kN |
| 6 | Mechanical force transmission | for self-retaining and vibration-resistant clamping |
| 7 | Lasered scale | for quick positioning of the chuck jaws |
| 8 | Standard chuck jaw interface | with a great selection of chuck jaws from SCHUNK |

---

Technical advice and sales: Tel. +49-7572-7614-1301
Manual double clamping vise for third hand function for clamping two workpieces.

Vast chuck jaw program
for fast adaption to new clamping tasks.

Third hand function
Easy and safe loading of several workpieces on tombstones.

Extremely flat design
for maximum use of the machine room and maximum rigidity of the system.

VERO-S interface
for direct clamping onto the VERO-S quick-change pallet systems without intermediate plate.

schunk.com/KONTEC-KSC-D
**Sizes**
80 .. 125

**Tightening torques**
90 .. 100 Nm

**Clamping force**
25 .. 40 kN

**Clamping width**
0 .. 331 mm

---

**Sectional Diagram**

1. **Spindle drive**
   for maximum clamping forces

2. **Long chuck jaw guidance**
   offers optimum support for O.D. clamping

3. **Third hand function**
   holds the first workpiece while the second is being clamped in

4. **Fastening thread**
   for workpiece stops

5. **Standard chuck jaw interface**
   for the use of standard top jaws from SCHUNK

6. **Central jaw**
   for clamping two components

7. **Actuation via hexagonal connection**
   thereby simplified operation

---

Technical advice and sales: Tel. +49-7572-7614-1301
Sealed power lathe chuck for significantly longer maintenance intervals.

Permanent grease lubrication for constantly high clamping forces.

Large through-hole for machining all conventional bar diameters.

Weight-reduced design for significantly reduced acceleration and braking times.

schunk.com/rota-nca
**Sectional Diagram**

1. **Wedge–hook drive in annular piston design**
   Offers constantly high clamping forces in operation

2. **Hardened and extremely rigid base body**
   Allowing longer service life at maximum precision

3. **Large through-hole**
   For machining all conventional raw material diameters

4. **Fastening thread**
   For workpiece stops

5. **Base jaw serration**
   Freely selectable between inch or metric size

6. **Sealing of the lathe chuck**
   For significantly longer maintenance intervals

7. **Weight-optimized design**
   For great economy in daily use

---

Technical advice and sales: Tel. +49-7572-7614-1302
Weight-optimized design with minimum mass moment of inertia for significantly reduced acceleration and braking times.

100% compatible with Kitagawa BB200 series (up to size 260)
Exchange of the existing Kitagawa chucks can be done quickly and easily.

Large through-hole for machining of all common bar diameters.

DIN EN ISO 50001
Suitable for energy management certification according to DIN EN ISO 50001.

Extremely weight-reduced wedge hook power chuck with minimum mass moment of inertia.

schunk.com/rota-nce
### Sectional Diagram

1. **Wedge-hook drive**
   - Offers constantly high clamping forces in operation.

2. **Hardened and extremely rigid base body**
   - Allowing longer service life at maximum precision. Even with maximum clamping force.

3. **Large through-hole**
   - For machining all conventional bar diameters.

4. **Optimized lubrication system**
   - For high efficiency.

5. **Mounting thread**
   - For workpiece stops.

6. **Base jaw serration**
   - Freely selectable between inch or metric sizes.

7. **Jaw stroke display**
   - For monitoring the jaw stroke.

8. **Blank draw nut**
   - For turning the required mounting thread onto draw tube or drawbar.

9. **Weight-optimized design**
   - For great economy in daily use.

---

Technical advice and sales: Tel. +49-7572-7614-1302
Compensating 6-point clamping for low-deformation clamping of thin-walled workpieces.

Low height for maximum use of the machine room and maximum rigidity of the system.

Integrated pendulum mechanism for best roundness tolerance values of deformation-sensitive workpieces.

High-low clamping Suitable for machining workpieces with different clamping forces.

Sealed 6-jaw power lathe chuck for significantly longer maintenance intervals.

schunk.com/rota-ncr-a
### Sizes
- 190 .. 1,000

### Clamping force
- 36 .. 300 kN

### Jaw stroke
- 6 .. 25 mm

### Max. RPM
- 600 .. 4,000 RPM

#### Sectional Diagram

1. **Angle lever drive**
   - Offers constantly high clamping forces in operation

2. **Hardened and extremely rigid base body**
   - Allowing longer service life at highest precision

3. **Optimized lubrication system**
   - For high efficiency

4. **Fastening thread**
   - For workpiece stops or spring operated pressure plate

5. **Standard chuck jaw interface**
   - For use of standard from SCHUNK chuck jaws

6. **Inside located pendulum body**
   - Connection of one each pair of base jaws

7. **Sealing of the chuck**
   - For considerably longer maintenance intervals

8. **Wiper strips**
   - Seal the base jaw guidances and offer good protection against coolant and chips

---

Technical advice and sales: Tel. +49-7572-7614-1302
Deformation-low clamping
of thin-walled or sensitive workpieces.

Centrifugal force compensation
The minimum loss of clamping force ensures safe clamping.

Vibration damping
for better surface quality of the workpiece.

Hydraulic Compensation Jaw
Chuck jaw with oil chamber system for low-deformation workpiece clamping.

schunk.com/hydraulic-compensation-jaw
Comparison: Clamping of deformation-sensitive Workpieces

1. Conventional 3-point clamping
2. 6-point clamping with hydraulic chuck jaw

Hydraulic chuck jaws for deformation-minimized and compensating workpiece clamping with centrifugal force compensation. The doubling of the clamping points enables a low-deformation clamping and improves the concentricity of the workpiece threefold.

Technical advice and sales: Tel. +49-7133-103-3888
Pull-down Jaw

Avoids lifting of the workpiece.

Closed system
avoids contamination and accumulation of chips and minimizes wear.

Flat workpiece support
for highest accuracy.

High stability
due to active pull-down during workpiece machining.

Repeatable zero point
by preventing the workpiece from lifting.

schunk.com/pull-down-jaw
Sizes for all common lathe chucks

**Comparison:**
Compared to conventional stepped jaws, the new pull-down jaws avoid the lifting of the workpiece on the chuck during machining.

![Graph](image)

- Conventional stepped jaw
- Pull-down jaw – workpiece stop on the chuck jaw
- Pull-down jaw – workpiece stop on the lathe chuck

Technical advice and sales: Tel. +49-7133-103-3888
Lightweight Jaw

Weight-optimized chuck jaw for raw part clamping on all conventional lathe chucks.

- **Reduction of the centrifugal force**
  The minimum loss of clamping force ensures safe clamping.

- **Efficiency enhancement**
  Due to higher maximum RPM and therefore shorter processing times.

- **Weight reduction of at least 40%**
  Compared to conventional chuck jaws.

schunk.com/lightweight-jaw
Sizes for all common lathe chucks

Your Advantage

Faster cycle times with higher production safety!
This could be achieved by combining the SCHUNK ROTA NCe lathe chuck and SCHUNK lightweight jaws.

Technical advice and sales: Tel. +49-7133-103-3888
11,000 standard products

Learn more about the largest portfolio of gripping systems and clamping technology with 11,000 standard components in our catalogs or at schunk.com
Jens Lehmann, German goalkeeper legend, SCHUNK brand ambassador since 2012 for safe, precise gripping and holding.

852 minutes without a goal against him in the Champions League

681 minutes without a goal against him on the national team

2 intercepted penalties in the 2006 World Cup

1 headed goal as a goalie

0 defeats English Soccer Champion

and

More than 2,000,000 sold precision toolholders

About 1,000,000 delivered SCHUNK grippers

More than 100,000 lathe chucks and stationary workholding systems are in use worldwide

More than 16,000,000 sold standard chuck jaws

More than 75,000 implement hydraulic expansion customer-specific solutions

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Fax +49-7133-103-2399
info@de.schunk.com
schunk.com

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schunk.com/lehmann