New SCHUNK Products and Innovations
Clamping Technology
Modular system 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. The modular system for stationary workholding from SCHUNK offers you more than 1,000 VERO-S versions for workpiece clamping.

iTENDO

For safely machining various workpieces in unmanned, automated production processes, the components have to be equipped with intelligence “closest-to-the-part”. The answer from SCHUNK: The new iTENDO – the first intelligent toolholder on the market. Due to its real-time capable data communication, it allows process control in real time, and therefore a production with optimum parameters is ensured.
Product Quickfinder online
SCHUNK is setting benchmarks with the complete toolholder program for every application, and the world’s largest standard chuck jaw program with more than 1,200 jaws types. Your fastest and easiest way to the suitable product of both programs is the available product quickfinder – easy and online.

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.
Autonomous process optimization enables real-time data communication, process analysis, and parameter optimization.

Proven toolholder technology
No change of the outer contour, no restrictions for the use of cooling lubricants apply, high rigidity.

Process transparency
due to intuitive user interface and process-specific apps.

Data security
The process data remain within the closed control loop of the machine.

The first intelligent toolholder for real-time process control on the market.
**Principle of function**

1. iTENDO
2. Wireless, digital data transmission
3. icotronic communication module in the machine room
4. icotronic control unit
5. Real time communication
6. Machine control
7. Process control and adaption by app (OPC UA able to communicate)
The world’s first hydraulic expansion toolholder with standardized heat shrinking contour.

The ultimate for axial machining
Boring, countersinking, reaming, and treading in 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
### Sectional Diagram

1. **Chamber system**
   - When the chamber system 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.

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**Sizes**

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

**Run-out accuracy**

- 0.003 at 2.5 x D

**Repeat accuracy**

- < 0.003 mm

**Torque**

- Ø 6 16 Nm
- Ø 8 23 Nm
- Ø 16 185 Nm
- Ø 18 240 Nm
- Ø 25 400 Nm
- Ø 32 650 Nm

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

**Change of mounted points in a matter of seconds**
Quick and simply mounted point change reduces set-up times in no time at all.

**Process-reliable mounted point clamping**
Even with the smallest of shank diameters.

**Rotationally symmetrical design**
For maximum speeds and precise shape and position tolerances for filigree machining operations.

**One-piece design**
No moving parts, making it a low-maintenance system.

schunk.com/mounted-point-holder
### Sizes

<table>
<thead>
<tr>
<th>Model</th>
<th>Clamping Diameter</th>
<th>Available From</th>
</tr>
</thead>
<tbody>
<tr>
<td>HJND 50 TRIBOS Mini</td>
<td>Ø 3 .. 4 mm</td>
<td>the end of 2018</td>
</tr>
<tr>
<td>HJND 50 TRIBOS RM</td>
<td>Ø 6 .. 8 mm</td>
<td></td>
</tr>
<tr>
<td>HJND 21 TRIBOS RM</td>
<td>Ø 7 .. 12 mm</td>
<td></td>
</tr>
<tr>
<td>HJND 28 TRIBOS Mini</td>
<td>Ø 5 .. 8 mm</td>
<td></td>
</tr>
<tr>
<td>HJND 28 TRIBOS RM</td>
<td>Ø 9 .. 12 mm</td>
<td></td>
</tr>
</tbody>
</table>

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**Sectional Diagram**

1. **Thread**
   - for the connection to the grinding machine

2. **Compact design**
   - for the highest requirements

3. **Mounted point**
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.

[TRIBOS-ER Polygonal Clamping Technology]

[Image of TRIBOS-ER tool]

[Link: schunk.com/tribos-er]
### Sizes

<table>
<thead>
<tr>
<th>Toolholding System</th>
<th>Clamping Diameter</th>
<th>Available from</th>
</tr>
</thead>
<tbody>
<tr>
<td>ER 11 TRIBOS Mini</td>
<td>Ø 1 .. 4 mm</td>
<td>the end of 2018</td>
</tr>
<tr>
<td>ER 16 TRIBOS Mini</td>
<td>Ø 1 .. 6 mm</td>
<td></td>
</tr>
<tr>
<td>ER 20 TRIBOS RM</td>
<td>Ø 3 .. 8 mm</td>
<td></td>
</tr>
<tr>
<td>ER 25 TRIBOS RM</td>
<td>Ø 3 .. 12 mm</td>
<td></td>
</tr>
<tr>
<td>ER 32 TRIBOS RM</td>
<td>Ø 3 .. 12 mm</td>
<td></td>
</tr>
</tbody>
</table>

### Sectional Diagram

1. **ER interface**
2. **Stability**
   - through high radial rigidity
3. **Tool**

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Technical advice and sales: Tel. +49-7133-103-3888
High-precision anti-twist protection V4
for easy positioning in automated solutions.

Stepped flat surfaces with integrated cleaning function
in order to prevent chips from accumulating and to ensure an uncontaminated environment around the clamping pallet or clamping device.

Integrated media transfer
for transfer of fluids of up to 300 bar.

Cone seal integrated in the standard version
for a fully protected clamping pin interface.

schunk.com/vero-s-nse-a3
### Sectional Diagram

1. **Standard cone seal**
   - for protection of changing interface

2. **Anti-twist protection V4**
   - for high-precision positioning of single clamping pallets

3. **Patented dual stroke system**
   - between piston and clamping slide ensures maximum pull-down forces

4. **Turbo function**
   - for reinforcing the pull-down forces

5. **Completely sealed system**
   - therefore absolutely maintenance-free

6. **Monitoring of the clamping slide positions**
   - “open condition” and “locked condition” possible by means of dynamic pressure

7. **Stepped flat surfaces**
   - with integrated cleaning function

8. **Integrated media transfer**
   - for transfer of fluids of up to 300 bar

---

**Technical advice and sales:** Tel. +49-7572-7614-1301
The high-performance, pneumatic quick-change pallet system with anti-twist protection V4.

- **High-precision anti-twist protection V4**
  for easy positioning in automated solutions and the possibility to always keep the pallet 90° out of cycle.

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

- **Optimized design**
  for high system rigidity.

- **Increased pull-down force**
  due to optimized module kinematics in every clamping position.

**VERO-S NSE3 138-V4**
Quick-change Pallet Module

schunk.com/vero-s-nse3-v4
<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 (with turbo)</td>
<td>35 kN (M10)</td>
<td>&lt; 0.005 mm</td>
<td>6 bar</td>
</tr>
<tr>
<td></td>
<td>28 kN (without 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. **Anti-twist protection V4**
   for high-precision positioning of single clamping pallets

3. **Patented dual stroke system**
   between piston and clamping slide ensures maximum pull-down forces

4. **Turbo function**
   for reinforcing the pull-down forces

5. **Completely sealed system**
   therefore absolutely maintenance-free

6. **Monitoring of the clamping slide positions**
   “open condition” and “locked condition” possible by means of dynamic pressure

7. **Flat seal to protect the interface**
   dampens the mounting of the workpiece or the clamping pallet

8. **Plain bearing bushing in the force flow**
   for maximum pull-down forces and a long service life

⚠️ Technical advice and sales: Tel. +49-7572-7614-1301
Including all the benefits of the NSE mini 90–25 module such as completely sealed, increased pull-down forces and increased dimensional stability due to the new module design.

Central connection for simultaneous actuation of all modules of the clamping station.

Simple integration and alignment of the clamping stations into the machine tool transverse or longitudinally oriented alignment grooves.

100% compatible with NSE mini modular system. Fast and simple adaption of pre-existing clamping pallets and clamping devices with NSE mini clamping pins.

The clamping stations with compact dimensions and high performance.

schunk.com/vero-s-nsl-mini
Sizes
1-way, 2-way, 4-way

Pull-down force module
- 1.5 kN (with turbo)
- 6 kN (without turbo)

Holding force pins
- 15 kN (M6)
- 25 kN (M8)

Pneumatic pressure
- 6 bar

Sectional Diagram

1 100% compatible
with the large NSE mini modular system

2 NSL mini 100–25 clamping stations
available in 1-way, 2-way, and 4-way version

3 Sealed system
due to the design of the NSE mini 90–25

4 Central connection
for open module and turbo function

5 Alignment groove
or simple integration and alignment of the clamping stations

Technical advice and sales: Tel. +49–7572–7614–1301
Chip-repellent design prevents permanent settling of chips.

Ideal “clamping force to weight” ratio for use on “20 kg robots”.

Coolant drain holes make sure that any penetrating cooling lubricant is conducted outwards.

Tried-and-tested lubrication system either manual lubrication or central lubrication via connections at the bottom side.

The best clamping force/weight ratio of TANDEM clamping force blocks.
**Sizes**

**New:** 140
64 .. 250

**Clamping force**

4.5 .. 55 kN

**Jaw stroke**

2 .. 15 mm

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**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. **Optimized lubrication system**
   for a high degree of efficiency

4. **Long jaw guidance**
   offers optimum support for O.D.- and I.D.-clamping

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

6. **Optimized outside contour**
   for best accessibility and optimum chip falling

7. **Actuation of the clamping module**
   optionally from the side or the base

8. **Chuck piston guided in the lathe chuck**
   for mounting machining forces along the guideway

---

Technical advice and sales: Tel. +49-7572-7614-1301
Extremely flat design
for maximum use of the machine room and maximum rigidity of the system.

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

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

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

Manual double clamping vise for third-hand function for clamping two workpieces.

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.

**Completely sealed design**
for up to 20-fold longer maintenance intervals.

**Large through-hole**
for machining of all conventional bar diameters.

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

schunk.com/rota-nca
**Sizes**
160 .. 330

**Clamping force**
45 .. 160 kN

**Jaw stroke**
4 .. 5.3 mm

**Max. RPM**
3,500 .. 5,500 RPM

**Through-hole**
32 .. 104 mm

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**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. Even with maximum clamping force

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 sizes

6. **Sealing of the lathe chuck**
   for up to 20-fold 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 lathe 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 shorter cycle times and lower energy costs

---

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

Sealed Design for up to 3-fold longer maintenance intervals.

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-nca
Sizes | Clamping force | Jaw stroke | Max. RPM
---|---|---|---
190 .. 1,000 | 36 .. 300 kN | 6 .. 25 mm | 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. Even with maximum clamping force

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

4. **Standard chuck jaw interface**
   - with tongue and groove (up to Ø 225 mm), inch or metric (starting from Ø 250 mm)

5. **Centrifugal force compensation as an option**
   - for consistent clamping force even at highest speed

6. **Long jaw guidance**
   - offers optimum support for O.D.- and I.D.-clamping

7. **Sealing of the chuck**
   - for up to 3-fold longer maintenance intervals

8. **Central media feed-through**
   - for central lubrication, air control or coolant as an option

Technical advice and sales: Tel. +49-7572-7614-1302
Hydraulic Compensation Jaw

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

- **Low-deformation clamping**
  of thin-walled or sensitive workpieces.

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

- **Adjustable run-out**
  for higher precision on the workpiece.

- **Vibration damping**
  for better surface quality of the workpiece.

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

For highest accuracy
due to active pull-down during workpiece machining.

Flat workpiece support
for highest accuracy.

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.

![Comparison Graph]

Two steps to receive pull-down jaws:
Step 1: Select standard type of claw jaw
Step 2: Request with standard jaw and pull-down option at cms@de.schunk.com. You will receive a quotation shortly.

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.

- **Improved interfering contour**
  and therefore a reduced risk of collision.

- **Weight reduction of up to 45%**
  compared to conventional chuck jaws.

[Schunk website link](https://schunk.com/lightweight-jaw)
Faster cycle times with higher production safety!
This could be achieved by combining the SCHUNK lathe chuck ROTA NCE and SCHUNK lightweight jaws.

Two steps to receive pull-down jaws:
Step 1: Select standard type of claw jaw
Step 2: Request with standard jaw and pull-down option at cms@de.schunk.com. You will receive a quotation shortly.
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.

No. 1
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

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 German Social Accident Insurance (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.

schunk.com/egp-c
### 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

---

Technical advice and sales: Tel. +49-7133-103-3444
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
### 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

### Base jaws
With standardized screw connection diagram for the adaptation of workpiece-specific gripper fingers

### Sensor systems
Brackets for proximity switches and adjustable control cams in the housing

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

### Centering and mounting option
For universal assembly of the gripper

### Wedge-hook design
For high power transmission and minimum wear as a result of larger diagonal pull surfaces

### Piston
Maximum force through maximum surface of drive piston

---

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 from 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 Guidance
   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
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.
  
  ![IO-Link]

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

- **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.

schunk.com/pgn-plus-e
**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**

7. **Spindle nut**
   transforms the rotary movement into the axial movement of the wedge-hook

8. **Drive**
   Brushless DC servomotor

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
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

Technical advice and sales: Tel. +49-7133-103-2503
The new SCHUNK Magnetic Gripper EMH with 24 V Technology

The first compact electro-permanent magnetic gripper with integrated electronics.

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

- Response on magnetization condition 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

1 Magnetic gripper EMH
2 Compensation unit AGE−Z

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.
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

Modular system components for change and measuring operations

1. 6-axis force/torque sensor FT-AXIA 80 incl. adapter plate
2. Manual change system SHS 50 made up of: Quick-change head (SHK) and Quick-change adapter (SHA)

Mechatronic gripping systems with direct connection and integrated sensor system with connection cable

3. Collaborative gripper for small components SCHUNK Co-act EGP-C 40
4. Gripper for small components EGP 40

Pneumatic gripping systems with direct connection and integrated micro valves, sensor system with connection cable

5. Gripper for small components KGG 100–80
6. Long-stroke gripper PSH 22–1
7. Universal gripper JGP 80
8. Universal gripper JGP 100
9. Universal gripper PGN-plus-P 80
10. Universal gripper PGN-plus-P 100
11. Centric gripper PZN-plus 64

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

The most robust and powerful, pneumatic swivel module on the market.

**Most powerful**
Compact housing, increased torque and inertia, at 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).

schunk.com/srm
**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. **Damping**
   Hydraulic shock absorbers for high moments of inertia

5. **Drive**
   Pneumatic, powerful double piston drive

6. **Bearing**
   Pre-tensioned bearing without any clearance

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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 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 set-up to be swiveled

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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 M1 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.

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

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

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

şıhun.com/ft-axia
<table>
<thead>
<tr>
<th>Size</th>
<th>Weight</th>
<th>Force measurement range</th>
<th>Moment measurement range</th>
</tr>
</thead>
<tbody>
<tr>
<td>80</td>
<td>0.3 kg</td>
<td>$F_{xy}$ 200 .. 500 N</td>
<td>$8 .. 20$ Nm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$F_z$ 360 .. 900 N</td>
<td></td>
</tr>
</tbody>
</table>

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

Accessory parts
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
Rapid entry into the simulation and virtual commissioning of handling solutions.

**Up to 30% time saving**
due to the virtual commissioning in the Mechatronics Concept Designer Program MCD.

schunk.com/mcd
Virtual Commissioning and Simulation in the Engineering Process

With the aid of the Mechatronics Concept Designer from Siemens PLM Software and the Digital Twins from SCHUNK, designers and system planners are able to virtually depict the entire engineering process from the concept to mechanics, electronics, and software, right up to full commissioning.

- **Complete, digital system planning**
  based on the tried and tested simulation software Siemens Mechatronics Concept Designer MCD.

- **Everything from a single source**
  From design with the digital tools, to the implementation of the complete system with components, up to service, SCHUNK is a reliable partner for a holistic cooperation.

- **SCHUNK starter kit for simultaneous engineering**
  consisting of the simulation software Siemens MCD including support, as well as a component library with selected SCHUNK components.

- **Free-of charge test license available**
  The full version of the simulation software can be tested free of charge for six months.

- **Realistic simulation**
  The intelligent 3-D model can be created with the Siemens software MCD, and allows computer-aided simulation in real time for calculating cycle times and for synchronization of the work processes.

- **Plug & Work capable complete system**
  The proper system operation can be already tested with the Siemens Mechatronics Concept Designer via a real PLC control, therefore enabling an easy implementation into the real operation.

Technical advice and sales: Tel. +49-7133-103-2992
GRIPconnect
the new SCHUNK App
Technology carrier 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
The world’s most precise stand-alone depanelling machines with the widest range of workpiece holder solutions

- **Workpiece holder 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 MAGNOLATE 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
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
No. 1
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