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
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 2,500 employees in our innovative family-owned company.

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

Product Overview

SCHUNK Rotary and Swivel Units.
Cutting-edge technology for rotary Movements.

With its rotary module product range, SCHUNK offers a complete range of compact rotary and swivel units for every handling task and for quick and easy integration. Hose-free media feed-throughs ensure process reliability and minimize interfering contours. The monitoring options using sensors and wide range of mounting options for all modules can improve the flexibility of any automated production line. This high technology "Made in Germany" is only possible through our constant innovation.

Strong arguments in favor of SCHUNK rotary modules:

- Pneumatic and electric modules
- Over 600 components
- Quick and easy integration
- Locking intermediate position
- Steplessly adjustable end positions

Pneumatic Rotary Modules
Suitable for universal use in normal, clean or slightly dirty environments, or even in clean rooms. Suitable for assembly automation and the handling of both small components and heavy loads.
- Short swiveling times of min. 0.16 seconds
- End position adjustability 0° to 183°

Electric Rotary Modules
Process-reliable electric rotary modules with or without a rotary feed-through.
- Freely adjustable angle of rotation
- Configurable and adjustable process parameters, such as speed and torque

SRU-plus
ERS with DDF
It’s time to make use of your machine’s full potential!

With superior components, find potentials in your machine, where you would least expect them. SCHUNK Synergy – the perfectly harmonized interplay between clamping technology and gripping systems – turns our customers into productivity champions.

Sensor Systems and Accessories
With around 150 sensor variants and a wide range of high-quality accessory components, SCHUNK offers the greatest variety on the market.
- Sense positions
- Monitor workpieces
- Minimize energy consumption

Customized Rotary Modules
More than 5,000 customized solutions implemented
- Special designs for extreme environments
- For optimal production automation and robot equipment
SCHUNK Rotary Modules

Pioneering Technology and Performance.
For every Application – pneumatic or electric.

Pneumatic SCHUNK Rotary Modules

We offer a comprehensive portfolio of pneumatic rotary modules distinguished by high product quality and precision, with extensive accessories and query systems. The dimensions of the optimally differentiated series cover the full range of swiveling applications.

Pneumatics

Pneumatic SCHUNK rotary modules are characterized by their easy commissioning, high torques, high mass moment of inertia, short swiveling times and long service life.
Mechatronic SCHUNK Rotary Modules

Alternative – Adaptable – Intelligent

Mechatronics³ is the strategy that has made SCHUNK the first manufacturer to bundle together a comprehensive portfolio of electric rotary modules. Its three pillars – Alternative, Adaptable and Intelligent – combine to form a unique modular system. This brings together our decades of experience in the field of pneumatics and our pioneering success in the field of mechatronics, and offers proven, efficient automation solutions for almost any mechatronic requirement.

Mechatronics

Profit from the 3 main features of our leading modular system:

Alternative
Like-for-like pneumatic replacements with no change in power. Familiar pneumatics functions can be replicated with 100% accuracy using SCHUNK mechatronic components.

Adaptable
Driven by conventional servomotors. A motor adapter allows you to connect conventional servomotors to your SCHUNK components.

Intelligent
Fully integrated motor and control technology. The controller is either integrated into the SCHUNK component to save space or installed in the control cabinet.
## Rotary Modules

### Pneumatic

<table>
<thead>
<tr>
<th>Rotor</th>
<th>Rotary Actuators</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFL</td>
<td>RM-W</td>
</tr>
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<table>
<thead>
<tr>
<th>Technical data</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Angle of rotation &lt; 360° [°]</td>
<td>90 .. 180</td>
</tr>
<tr>
<td>Angle of rotation &gt; 360° [°]</td>
<td>0 .. 180</td>
</tr>
<tr>
<td>Number of sizes</td>
<td>3</td>
</tr>
<tr>
<td>Torque [Nm]</td>
<td>0.1 .. 3.6</td>
</tr>
<tr>
<td>Weight [kg]</td>
<td>0.09 .. 0.71</td>
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<tr>
<td>Max. permissible mass moment of inertia [kgm²]</td>
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</tr>
<tr>
<td>Repeat accuracy [°]</td>
<td>0.05</td>
</tr>
<tr>
<td>Protection class IP</td>
<td>52</td>
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<tr>
<td>Description</td>
<td>Rotary actuator with a high torque for easy rotation tasks up to 180°</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Options/Versions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Center bore</td>
<td>●</td>
</tr>
<tr>
<td>Pneumatic rotary feed-through</td>
<td>●</td>
</tr>
<tr>
<td>Electrical rotary feed-through</td>
<td>●</td>
</tr>
<tr>
<td>Center position</td>
<td>●</td>
</tr>
<tr>
<td>ATEX-certified</td>
<td>●</td>
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</table>

<table>
<thead>
<tr>
<th>Monitoring options</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Inductive proximity switches</td>
<td>●</td>
</tr>
<tr>
<td>Magnetic switches</td>
<td>●</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field of application</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• The optimal solution for easy rotation tasks</td>
<td>• For fast movement cycles</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ambient conditions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean</td>
<td>●</td>
</tr>
<tr>
<td>Slightly dirty</td>
<td>●</td>
</tr>
<tr>
<td>Extremely dirty</td>
<td>●</td>
</tr>
</tbody>
</table>

● = fully supported
<table>
<thead>
<tr>
<th>RM-F</th>
<th>SRU-plus</th>
<th>SRH-plus</th>
<th>SKE</th>
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<tbody>
<tr>
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<td><img src="image2.png" alt="Image" /></td>
<td><img src="image3.png" alt="Image" /></td>
<td><img src="image4.png" alt="Image" /></td>
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</table>

<table>
<thead>
<tr>
<th></th>
<th>Angle of rotation &lt; 360° [°]</th>
<th>Angle of rotation &gt; 360° [°]</th>
<th>Number of sizes</th>
<th>Torque [Nm]</th>
<th>Weight [kg]</th>
<th>Max. permissible mass moment of inertia [kgm²]</th>
<th>Repeat accuracy [°]</th>
<th>Protection class IP</th>
</tr>
</thead>
<tbody>
<tr>
<td>0..190</td>
<td>0..180</td>
<td>180</td>
<td>90</td>
<td>6</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td>0.05...1.9</td>
</tr>
<tr>
<td>0.082 .. 0.15</td>
<td>0.05</td>
<td>0.05</td>
<td>0.03</td>
<td>40</td>
<td>67</td>
<td>67</td>
<td>30</td>
<td>Light and fast rotary actuator</td>
</tr>
</tbody>
</table>

- For fast movement cycles
- For universal use with any swiveling movement
- Recommended for loading and unloading machine tools
- For light external loads

- Clean
- Slightly dirty
- Extremely dirty
- Monitoring options
  - Inductive proximity switches
  - Magnetic switches
Rotary Modules

Pneumatic

<table>
<thead>
<tr>
<th>Rotary Finger</th>
<th>Rotary Indexing Tables</th>
<th>Lifting/Rotary Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>GFS</td>
<td>RST-D</td>
<td>ORL</td>
</tr>
</tbody>
</table>

Technical data

<table>
<thead>
<tr>
<th>Angle of rotation &lt; 360° [°]</th>
<th>90 .. 180</th>
<th>90 .. 180</th>
<th>0 .. 180</th>
<th>0 .. 180</th>
<th>0 .. 180</th>
<th>180</th>
<th>90</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angle of rotation &gt; 360° [°]</td>
<td>22.5 .. 90</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Number of sizes | 3 | 4 | 4 | 6 | 8 | 7 | 4 |

| Torque [Nm] | 0.1 .. 3.6 | 0.7 .. 22 | 0.16 .. 1.15 | 0.05 .. 1.9 | 3 .. 11.5 | 3 .. 69.9 | 0.4 .. 9 | 0.64 .. 10 | 3.1 .. 29.3 | 2.26 .. 3.7 |

| Weight [kg] | 0.09 .. 0.71 | 0.65 .. 8.3 | 0.15 .. 0.65 | 0.046 .. 1.6 | 1.2 .. 26.5 | 2.1 .. 21.2 | 0.13 .. 1.95 | 0.55 .. 5 | 1 .. 8.3 | 2.7 .. 5 |

| Max. permissible mass moment of inertia [kgm²] | 0.0005 | 0.27 | 0.01 | 0.023 | 32 | 2.6 | 0.6 | 0.03 |

| Repeat accuracy [°] | 0.05 | 0.036 .. 0.046 | 0.07 | 0.082 .. 0.15 | 0.05 | 0.05 | 0.03 | 0.07 | 0.04 .. 0.09 | ±0.01 (Z)/0.02 (rot.) |

| Protection class | IP 52 | 40 | 65 | 40 | 67 | 67 | 30 | 54 | 50 |

- Rotary finger for turning workpieces that are held by a gripper or can also be used as a special rotary actuator
- 90° swivel head with single piston drive
- Rotary finger for turning workpieces that are held by a gripper or can also be used as a special rotary actuator
- Ring indexing unit for endless turning with a rotation angle up to 90° per cycle
- Compact lifting/rotary unit consisting of a powerful short-stroke cylinder and a rack and pinion swivel actuator

Options/Versions

- Center bore ● ● ● ● ● ● ● ● ●
- Pneumatic rotary feed-through ● ● ● ● ● ● ● ●
- Electrical rotary feed-through ● ● ● ● ● ● ● ●
- Center position ● ● ● ● ● ● ● ● ●
- ATEX-certified ● ● ● ● ● ● ● ●●

- Inductive proximity switches ● ● ● ● ● ● ● ● ● ● ● ●
- Magnetic switches ● ● ● ● ● ● ● ● ● ● ● ●

Field of application

- The optimal solution for easy rotation tasks
- For fast movement cycles
- For fast movement cycles
- For fast movement cycles
- For universal use with any swiveling movement
- Recommended for loading and unloading machine tools
- For light external loads
- For universal use
- For fast movement cycles
- For quick conversion and simultaneous rotation of workpieces in high-speed assembly lines.

Ambient conditions

- Clean ● ● ● ● ● ● ● ● ● ● ● ●
- Slightly dirty ● ● ● ● ● ● ● ● ● ● ● ●
- Extremely dirty ● ● ● ● ● ● ● ● ● ● ● ●

- For universal use
- For fast movement cycles
- For quick conversion and simultaneous rotation of workpieces in high-speed assembly lines.
SRU-plus Universal Swivel Unit

Universal pneumatic unit for rotary and turning movements in both clean and dirty areas.

Your benefits:

- **Clearly graduated series with uniform torque increase** – the correct size is available for delivery for many applications.
- **Angle of rotation either 90° or 180°**, complete freedom in choice of angle of rotation; special angles available on request
- **Choice of end position adjustability**: +3°/-3° (small) or +3°/-90° (large)
- **Choice of pneumatic or locked center position**; locked center positions can be unlocked under load. The two types of center position always allow further rotation in either direction.
- **Fluid feed-through suitable for gases, liquids, and vacuum** – no need for troublesome hoses
- **Electrical rotary feed-through** for continuous fail-safe feed-through of sensor and actuator signals; bus feed-through available on request
- **Choice of electronic magnetic switches or inductive proximity switches** for absolute variability in position sensing
- **Replaceable screw-in guide sleeves (bushing)** allow easy maintenance and quick replacement after millions of cycles.
- **Series extends downwards** with SRU mini-series for a broad range of applications

www.gb.schunk.com/SRU-plus
Control Concepts for SCHUNK Components

Standard mechatronic SCHUNK components offer the greatest flexibility when it comes to connecting customized control concepts. A variety of designs are available, depending on your requirements:

- Direct pneumatic set and actuators
- Modular SCHUNK components with external drive and external drive controller
- Modular SCHUNK components with integrated drive and external drive controller
- Modular SCHUNK components with integrated drive and drive controller

### Optionally available from SCHUNK:

<table>
<thead>
<tr>
<th>Communication interface**</th>
<th>Drive controller</th>
<th>Standard cable set</th>
<th>Transducer interface*</th>
</tr>
</thead>
<tbody>
<tr>
<td>D I/O</td>
<td>Schunk</td>
<td>Power cable</td>
<td>HIPERFACE</td>
</tr>
<tr>
<td></td>
<td>Profibus</td>
<td>Sensor cable</td>
<td>SSI</td>
</tr>
<tr>
<td></td>
<td>CAN</td>
<td>I/O cable</td>
<td>DRIVE-CLIQ</td>
</tr>
<tr>
<td></td>
<td>ProfiNet</td>
<td></td>
<td>HIPERFACE</td>
</tr>
<tr>
<td></td>
<td>Ether CAT</td>
<td></td>
<td>SSI</td>
</tr>
<tr>
<td></td>
<td>DeviceNet</td>
<td></td>
<td>EnDat 2.2</td>
</tr>
<tr>
<td></td>
<td>SERCOS Interfaces</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>EtherNet/IP</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Profibus</td>
<td>Modular SCHUNK com-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CAN</td>
<td>ponents with inte-</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>grated drive and</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>drive controller</td>
<td></td>
</tr>
</tbody>
</table>

* Dependent on drive  ** Dependent on drive controller
Matching cables also optionally available. A variety of transducer and fieldbus interfaces make the concepts compatible with any controller.

<table>
<thead>
<tr>
<th>Drive</th>
<th>Mechatronic SCHUNK components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard servomotors</td>
<td>Modular SCHUNK components with external drive and external drive controller</td>
</tr>
<tr>
<td>Direct pneumatic set and actuators</td>
<td>Alternative Like-for-like pneumatic replacements with no change in power.</td>
</tr>
<tr>
<td>Adaptable Driven by conventional means.</td>
<td>Modular SCHUNK components with integrated drive and external drive controller</td>
</tr>
<tr>
<td>Intelligent Controller external, motor integrated</td>
<td>Intelligent Motor and controller fully integrated</td>
</tr>
</tbody>
</table>

Matching cables also optionally available. A variety of transducer and fieldbus interfaces make the concepts compatible with any controller.
## Rotary Modules

### Electric

#### Rotary Actuators

<table>
<thead>
<tr>
<th></th>
<th>Adaptable</th>
<th>Intelligent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ERM</td>
<td>PR 2</td>
</tr>
</tbody>
</table>

- **360°, turns endlessly**

### Technical data

<table>
<thead>
<tr>
<th></th>
<th>ERM</th>
<th>PR 2</th>
<th>PRH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of sizes</td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Torque [Nm]</td>
<td>75</td>
<td>3.6 .. 88</td>
<td>0.75 .. 6.8</td>
</tr>
<tr>
<td>Speed [rpm]</td>
<td>62.5</td>
<td>25 .. 78</td>
<td>35 .. 117</td>
</tr>
<tr>
<td>Weight [kg]</td>
<td>15.5</td>
<td>1.7 .. 5.6</td>
<td>0.75 .. 1.55</td>
</tr>
<tr>
<td>Max. permissible mass moment of inertia [kgm²]</td>
<td>20</td>
<td>9.5</td>
<td>0.3</td>
</tr>
<tr>
<td>Repeat accuracy [°]</td>
<td>0.035</td>
<td>0.03 .. 0.08</td>
<td>0.004</td>
</tr>
<tr>
<td>Gear ratio</td>
<td>48</td>
<td>51 .. 161</td>
<td>30 .. 100</td>
</tr>
<tr>
<td>Current [A]</td>
<td>4.4 .. 10</td>
<td>1.3 .. 6.5</td>
<td>1.3 .. 6.5</td>
</tr>
<tr>
<td>Diameter of center bore</td>
<td>22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of electrical feed-throughs</td>
<td>8</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Number of pneumatic feed-throughs</td>
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<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Protection class IP</td>
<td>Motor-dependent</td>
<td>Incremental</td>
<td>Incremental</td>
</tr>
<tr>
<td>Measuring system type</td>
<td>Motor-dependent</td>
<td>Incremental</td>
<td>Incremental</td>
</tr>
<tr>
<td>Description</td>
<td>Electric rotary module with adaptable servomotor, angle of rotation &gt; 360°, center bore and optional feed-throughs</td>
<td>Servo-electric rotary actuator with angle of rotation &gt; 360°, precision gear and integrated electronics</td>
<td>Servo-electric miniature rotary actuator with angle of rotation &gt; 360°, center bore and precision gear</td>
</tr>
</tbody>
</table>

### Motor & Controller

<table>
<thead>
<tr>
<th></th>
<th>ERM</th>
<th>PR 2</th>
<th>PRH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor</td>
<td>Adaptable</td>
<td>Integrated</td>
<td>Integrated</td>
</tr>
<tr>
<td>Controller</td>
<td>External</td>
<td>Integrated</td>
<td>Integrated</td>
</tr>
<tr>
<td>Controller type</td>
<td>Motor-dependent</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Options/Versions

- **Center bore**
- **Pneumatic rotary feed-through**
- **Electrical rotary feed-through**
- **Brake**

### Field of application

- **Universal, incredibly versatile rotary module**
- **Suitable for use as a component in a handling or positioning system**
- **As a component in a handling or positioning system**
- **As an axis for light-weight arms in industrial or service robotics**
- **Universal-use, highly versatile rotary actuator**
- **As a component in a handling or positioning system**
- **As an axis for light-weight arms in industrial or service robotics**

### Ambient conditions

<table>
<thead>
<tr>
<th>Condition</th>
<th>ERM</th>
<th>PR 2</th>
<th>PRH</th>
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</thead>
<tbody>
<tr>
<td>Clean</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Slightly dirty</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Extremely dirty</td>
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</table>

● = fully supported
<table>
<thead>
<tr>
<th>ERD</th>
<th>ERS</th>
<th>PDU 2</th>
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<tbody>
<tr>
<td><img src="image1" alt="Rotary Actuators" /></td>
<td><img src="image2" alt="Rotary Modules" /></td>
<td><img src="image3" alt="Servo Drive" /></td>
</tr>
<tr>
<td>Torque [Nm]</td>
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<tr>
<td>Number of electrical feed-throughs</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Number of pneumatic feed-throughs</td>
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<td>2</td>
</tr>
<tr>
<td>Protection class</td>
<td>IP 65</td>
<td>40..54</td>
</tr>
<tr>
<td>Measuring system type</td>
<td>Motor-dependent Incremental Incremental</td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td>Powerful torque motor with absolute-value transducer and electric and pneumatic rotary feed-throughs</td>
<td>Electric rotary actuator with torque motor and angle of rotation &gt; 360° in optional protection class IP54 plus optional rotary feed-through and holding brake</td>
</tr>
<tr>
<td>Motor &amp; Controller</td>
<td>Adaptable Integrated Integrated Integrated</td>
<td></td>
</tr>
<tr>
<td>Controller type</td>
<td>Motor-dependent Bosch/Siemens Bosch/Siemens Bosch/Siemens Bosch/Siemens</td>
<td></td>
</tr>
<tr>
<td>Options/Versions</td>
<td>Center bore ● ●</td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>Electrical rotary feed-through ● ●</td>
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<tr>
<td></td>
<td>Brake ● ●</td>
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</tr>
<tr>
<td>Field of application</td>
<td>• Universal, incredibly versatile rotary module</td>
<td>• Universal-use, highly versatile rotary actuator</td>
</tr>
<tr>
<td></td>
<td>• As a component in a handling or positioning system</td>
<td>• As an axis for light-weight arms in industrial or service robotics</td>
</tr>
<tr>
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<td>• As a component in a handling or positioning system</td>
<td>• For all applications with unusual requirements in terms of repeat accuracy, speed of rotation, acceleration and service life</td>
</tr>
<tr>
<td></td>
<td>• For applications with unusual requirements in terms of maximum mass moment of inertia, compactness and reliability</td>
<td>• As a component in a handling or positioning system</td>
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<td>• As a component in a handling or positioning system</td>
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*For all applications with unusual requirements in terms of repeat accuracy, speed of rotation, acceleration and service life*
ERS Rotary Module with DDF Rotary Feed-through

Compact, dynamic and uniquely versatile

The SCHUNK ERS electric rotary module offers the option of a pneumatic and electrical rotary feed-through. This module is driven by a torque motor with a quill and features a rotary feed-through, making it one of the most compact electric rotary modules with an integrated pneumatic and electrical feed-through on the market. As standard, the rotary feed-through has more than eight signal feed-throughs and a pneumatic air duct.

<table>
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<tr>
<th>2-Axis Modules</th>
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<tr>
<td>PSM 2</td>
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<td>0.03 .. 0.08</td>
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Servo-electric drive with angle of rotation > 360° and integrated electronics
Servo-electric rotary pan-tilt actuator with precision gear and integrated electronics

Integrated
Integrated

Your benefits:
- Extremely low-profile design
- Dynamically stable and torsion-proof
- Pneumatic and electrical feed-throughs
- Endless turning at up to 250 rpm
- Standard transducer interface
- Protection class IP54 optional
- Great process versatility due to free choice of intermediate positions
- Easy system integration
- High acceleration and short cycle times due to high torque

www.gb.schunk.com/ERS_with_DDF
PR 2, PDU 2, and PSM 2 High-performance Rotary Modules

Compact powerhouses with integrated intelligence.

The SCHUNK PR 2, PDU 2, and PSM 2 high-performance rotary modules add three especially compact and high-performance drives to the SCHUNK mechatronic product range. All the control and power electronics are fully integrated into the modules. This saves an external controller and minimizes the cabling expenditure and error susceptibility.

Your benefits:
- Uniform control concept and standard connecting elements
- Service interface: USB
- Profibus or CAN bus fieldbus interfaces
- Harmonic Drive® gears reduction levels per size (PR 2/PDU 2)
- 4-LED status display
- Brushless DC servomotor
- Integrated holding brake
- 2 digital inputs
- Angle of rotation > 360° for a variety of applications
- The integration of the control and power electronics means there is no need for additional external controllers or additional cabling

www.gb.schunk.com/high-performance-rotary-modules
SCHUNK Rotary Module Accessories
Sensor Systems

<table>
<thead>
<tr>
<th>Switching behavior</th>
<th>MMS</th>
<th>MMS-PI 1</th>
<th>IN</th>
<th>RMS</th>
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<tr>
<td>1 digital point</td>
<td>●</td>
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<td>●</td>
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<table>
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<tr>
<th>Ambient conditions</th>
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<tr>
<td>Clean</td>
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<tr>
<td>Slightly dirty</td>
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<td>Extremely dirty</td>
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<table>
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<tr>
<th>Technical data</th>
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<td>Working principle</td>
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<tr>
<td>Supply voltage [V DC]</td>
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<tr>
<td>Supply current [mA]</td>
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<tr>
<td>PNP version</td>
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<tr>
<td>NPN version</td>
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<tr>
<td>LED display</td>
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<tr>
<td>Measurement switching distance [mm]</td>
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<tr>
<td>Closer</td>
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<tr>
<td>Opener</td>
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<table>
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<th>Connection type</th>
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<td>Number of wires</td>
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<tr>
<td>Cable version</td>
</tr>
<tr>
<td>Connection plug M8 version</td>
</tr>
<tr>
<td>Connection plug M12 version</td>
</tr>
</tbody>
</table>

● = fully supported

SST Sensor Tester

The SST sensor tester enables the rapid testing and adjustment of inductive sensors, magnetic switches and reed contacts. The necessary power is supplied by a 9 V compound battery. Used for sensor testing and adjustment of the switching point (sensor calibration).

Your benefits:

- **Visual and acoustic signaling** makes functional checks and adjustment easy
- **For 2 and 3-conductor DC technology**, enabling the connection of reed contacts, capacitive and inductive sensors
- **Tests possible without dismantling sensors** for short waiting times
- **Connections for M8 and M12 or open cable ends possible**, suitable for all SCHUNK sensors
- **PNP and NPN sensors** can be tested
- **Operating voltage with 9 V compound battery** for portable use
- **Automatic shut-off** to increase battery life
MMS PI1 Programmable Magnetic Switch


Magnetic switches are used for monitoring the status of automation components. When the component approaches the magnet, a signal is triggered when a certain threshold is crossed. No contact is required.

Magnetic switches from SCHUNK detect magnetic fields without contact or wear, and are resistant to vibration, dust, and humidity. Magnetic switches are installed in slots, and thus do not create any additional interfering contours.

Your benefits:

- **Individual switching point – no interfering contours.** The magnetic switch can be fully inserted, so there are no interfering contours caused by protruding sensors.
- **Programming in a matter of seconds** due to non-contact adjustment of the switching points and hysteresis.
- **Adjustable hysteresis** for precise position monitoring – even at very low strokes.
- **Ideal for confined spaces** due to wired teaching (optional).
- **Version with LED display** for checking the switching condition directly at the sensor.
- **Version with plug connector** for fast and easy extension cable replacement.
- **Highly flexible PUR cable** for a long service life and resistance against many chemicals.
- **Installed in the sensor slot** to save space and allow easy and fast assembly.

IN Inductive Proximity Switch


Inductive proximity switches are used to scan the current status of automation components. SCHUNK supplies them in two versions: IN (sensor with 30 cm molded cable and cable connector) and INK (sensor with 2 m supply cable and wire strands for connecting).

Inductive sensors detect metals without contact, and are resistant to vibration, dust and water.

Your benefits:

- **Bracket mounting** for easy and fast attachment.
- **Version with LED display** for checking the switching condition directly at the sensor.
- **Version with plug connector** for fast and easy extension cable replacement.
- **Highly flexible PUR cable** for a long service life and resistance against many chemicals.
- **Proximity switch can be installed flush** to reduce interfering contours in the application.
All inclusive!

Customized SCHUNK Gripping Systems. Profit from our Experience.

SCHUNK has implemented more than 12,000 solutions, a figure that speaks for itself.

Consistent and comprehensive project management is an important part of the SCHUNK philosophy. Our approach is systematic and tailored to your individual project – each step is traceable and documented.

At SCHUNK, our analysis of complex processes and holistic approach to our customers’ parts and products allows us to develop effective, customized gripping systems. Maximum precision is required in order to present automation processes visually – so we use the latest work technology, from 2D and 3D presentations to 3D simulation. Our components and configurations carry the decisive performance potential that can make your process chain more efficient. We unlock this potential. And you benefit from every last drop.
It will pay off for you!

From standard Components to Customized Gripping Systems.

1 personal contact for your single-source solution.

In order to allow smooth communication, a personal contact is made available to you from the start of the project until its completion. Your contact acts as the liaison between you and those involved in the project, and ensures that information is exchanged smoothly. From planning to continued support after the conclusion of the project, SCHUNK ensures that your project will be handled cooperatively and efficiently.

Your Advantage

- Over 30 years of experience with gripping systems
- Over 12,000 gripping systems implemented for a wide range of industries
- Modular kit with perfectly coordinated standard components
- Perfect fit due to standardized interfaces
- Shorter project lead times due to standardized systems
- Reliable implementation processes and planning security without extra project costs
- Functional assemblies fitted on request or ready for use
- Time savings due to the perfect solution – electric or pneumatic – from a single source
Customized SCHUNK Solutions

Rotary Modules

Connecting Rod Handling

Automotive Industry

Task
To save costs using multiple handling of connecting rod parts during production.

SCHUNK solution
A custom-developed connecting rod gripper based on a SCHUNK PGN-plus pneumatic universal gripper with special gripper fingers is mounted on a SCHUNK ERM rotary module. Due to the rotary module with adaptable drive, this solution can use the same drive as the axis system. This creates a universal drive concept.

Automated Handling

Automotive Industry

Task
To move connecting rods using a transfer system.

SCHUNK solution
8 SCHUNK lifting/rotary and gripper units are mounted on a horizontal SCHUNK linear axis with 8 slides to move the workpieces on in a cycle.

SCHUNK products

ERM
Rotary Module

PGN-plus
Universal Gripper

SRU-plus
Swivel Unit

PZN-plus
Centric Gripper

X-axis (horizontal) 2 x B140-25S toothed-belt Axis, Linear Module

Z-axis (vertical) 8 x SLE 32-125 pneumatic Lifting Unit, Linear Module Lifting Unit
Handling of Motor Blocks

Metal Cutting Industry

Task
To find an efficient and reliable means of transporting aluminum motor block blanks.

SCHUNK solution
Using a SCHUNK PGN–plus 380 2–finger heavy–load gripper combined with a SCHUNK SRU–plus rotary module to reliably transport aluminum motor block blanks.

SCHUNK products
- SRU–plus Swivel Unit
- PGN–plus Universal Gripper
- X–axis (horizontal) 2 x B140–ZSS toothed–belt Axis, Linear Module

Handling of Worm Gear Shafts

Metal Cutting Industry

Task
To remove worm gear shafts in a machining center and store them temporarily before they are machined further.

SCHUNK solution
A customized SCHUNK gripping system solution comprising two PGN–plus pneumatic, 2–finger, parallel grippers mounted on a SCHUNK SRH–plus rotary actuator, which take it in turns to take a ground, finished part from a clamping device and replace it with a blank. Finished parts are placed on a pallet; blanks are picked up from the pallet.

SCHUNK products
- SRH–plus Swivel Head
- PGN–plus Universal Gripper
- X–axis (horizontal) 2 x B140–ZSS toothed–belt Axis, Linear Module
SCHUNK Service

Competent and skilled personnel ensure optimal availability of your SCHUNK products, and make sure that their value will be maintained.

Your advantage:
- Fast supply of original spare parts
- Reduction of down-times
- The complete spectrum of components from one source
- Quality and availability that can only be guaranteed by the original manufacturer
- 12-month warranty

Initial operation
- Professional assembly
- Fast and trouble-free

Inspection
- Inspection is carried out by skilled service engineers
- Avoiding unplanned failures of workholding and toolholding equipment

Maintenance
- Regular maintenance carried out by skilled service engineers
- Increasing and ensuring the availability of your workholding and toolholding equipment

Repairs
- Short down-times due to fast intervention of the SCHUNK service engineers
- Spare parts and accessories
Training

• Fast and practical training
• Efficient use of your SCHUNK products by training of the operating personnel
• The basis for proper machining of workpieces
• Ensures longevity of your SCHUNK products

Online service – for a fast overview

All information in digital form, clearly structured and up-to-date on our website at www.schunk.com

• List of contact persons
• Online product search based on product descriptions
• Product news and trends
• Data sheets
• Order forms for easy and convenient ordering
• Free download area for pages from our product catalogs and technical data, for software and calculation programs for your gripping and rotary modules
• Free 2-D/3-D CAD design models, provided in a wide range of different CAD formats – for easy integration into your design!

Individual service – for better results

• Hotline to our inside technical consultants weekdays from 7 a.m. to 6 p.m.
• Project-oriented and on-site technical advice at your location
• Training on innovations and SCHUNK products – across the world in our local subsidiaries
Subsidiaries

Germany – Head Office
SCHUNK GmbH & Co. KG
Spans- und Greiftechnik Rahnhoftestr. 106 – 116
76434 Laufen/Neckar
Tel. +49-7233-103-0
Fax +49-7233-103-2399
info@de.schunk.com
www.schunk.com

Austria
SCHUNK Intec GmbH
Friedrich-Schunk-Straße 1
4531 Attingham
Tel. +43-7277 233 99-0
Fax +43-7277 210 99
info@at.schunk.com
www.at.schunk.com

Belgium, Luxembourg
SCHUNK Intec N.V./S.A.
Industriestraat | Zuid III
9320 Aalst-Erembodegem
Tel. +32-53-853904
Fax +32-53-836351
info@be.schunk.com
www.be.schunk.com

Brazil
SCHUNK Intec BR
Av. Santos Dumont, 733
BR 09015-310 Santo André – SP
Tel. +55-11-4468-6888
Fax +55-11-4468-6883
info@br.schunk.com
www.schunk.com

Canada
SCHUNK Intec Corp.
370 Britannia Road E., Units 3
Mississauga, ON L4Z 1B9
Tel. +1-905-722-2200
Fax +1-905-722-2200
info@ca.schunk.com
www.ca.schunk.com

China
SCHUNK Intec Precision Machinery Trading
(Shanghai) Co., Ltd.
Xinshaoqiang Industrial Park,
19, Building 1, No. 420 Chundong Road,
Minhang District
Shanghai 201108
Tel. +86-21-54420007
Fax +86-21-54420067
info@cn.schunk.com
www.cn.schunk.com

Czech Republic
SCHUNK Intec s.r.o.
Tulánka 15a I/1 152 07 Brno
Tel. +420-513 036 219
Fax +420-513 036 219
info@cz.schunk.com
www.cz.schunk.com

Denmark
SCHUNK Intec A/S
c/o SCHUNK Intec AB
Morabergsvægen 28
152 42 Södertälje Sweden
Tel. +45-46003339
Fax +45-46003942
info@dk.schunk.com
www.dk.schunk.com

Finland
SCHUNK Intec Oy
Hatunpaän valatie 3/A
33300 Tampere
Tel. +358-9-23-193861
Fax +358-9-23-193862
info@fi.schunk.com
www.fi.schunk.com

France
SCHUNK Intec SRL
Parc d’Activités des Trois Noyers
10, Avenue James de Rothschild
77920 Marne-la-Vallée, Cedex 3
Tel. +33-1-64638324
Fax +33-1-64638323
info@fr.schunk.com
www.fr.schunk.com

Germany
SCHUNK Intec Ltd.
Cromwell Business Centre
10 Howard Way
Interchange Park
Newport Pagnell MK16 9QY
Tel. +44-1908-65525
Fax +44-1908-65525
info@gb.schunk.com
www.gb.schunk.com

Great Britain, Ireland
SCHUNK Intec LTD
152 42 Södertälje Sweden
Morabergsvägen 28
www.schunk.com

India
SCHUNK Intec India Private Ltd.
# 80 B, Yeshwanthpur, Industrial Suburbs
Bangalore 560022
Tel. +91-80-60538999
Fax +91-80-60539099
info@in.schunk.com
www.in.schunk.com

Indonesia
Trade Representative Office of
SCHUNK Intec Pte. Ltd.
Jl Boulevard Ilamata BSD
Forest Business Loft 1 Blok C No. 16
Tangerang, 19339
Tel. +62-21-2201-1993
Fax +62-21-2201-2199
info@id.schunk.com
www.id.schunk.com

Italy
SCHUNK Intec S.R.L.
Via Barracone | 22055 Lurate Caccivio (CO)
Tel. +39-031-4951131
Fax +39-031-4951130
info@it.schunk.com
www.it.schunk.com

Japan
SCHUNK Intec K.K.
45-28 3-Chome Sannou
Oita-Ku Tokyo 141-0023
Tel. +81-3-37765500
Fax +81-3-37765500
info@jp.schunk.com
www.jp.schunk.com

Mexico
SCHUNK Intec S.A. de C.V.
Calle Pirineos # 313 Nave 6
Zona Industrial Benito Juárez
Querétaro, Qro. 76120
Tel. +52-442-211-7800
Fax +52-442-211-7800
info@mx.schunk.com
www.mx.schunk.com

Netherlands
SCHUNK Intec B.V.
Spellenmakerstraat 3d
5232 BN V-Hortogenbosch
Tel. +31-73-6444679
Fax +31-73-6444685
info@nl.schunk.com
www.nl.schunk.com

Norway
SCHUNK Intec AS
Vevrenomveien 45 | 3511 Hønefoss
Tel. +47-210-33106
Fax +47-210-33107
info@no.schunk.com
www.no.schunk.com

Poland
SCHUNK Intec Sp.z o.o.
ul. Puławska 40A
35-500 Phaseczno
Tel. +48-22-7262500
Fax +48-22-7262504
info@pl.schunk.com
www.pl.schunk.com

Russia
SCHUNK Intec LTD
ul. Beloslavskoy, 17, kor. 2, lit. A
St. Petersburg, 197432
Tel. +7-812-326-78-35
Fax +7-812-326-78-38
info@ru.schunk.com
www.ru.schunk.com

Singapore
SCHUNK Intec Pte. Ltd.
26 International Business Park
BDI-5152 Centre Point
Singapore 609916
Tel. +65-6240-6161
Fax +65-6240-6157
info@sg.schunk.com
www.sg.schunk.com

Slovakia
SCHUNK Intec s.r.o.
Levická 7 | SK-940 01 Nitra
Tel. +421-37-3260670
Fax +421-37-3260699
info@sk.schunk.com
www.sk.schunk.com

South Korea
SCHUNK Intec Korea Ltd
#1207 ACE HIGH-END Tower 11th,
361 Simgu-dong, Anyang-si, Gyeonggi-do,
14050, Korea
Tel. +82-31-382-6142
Fax +82-31-382-6142
info@kr.schunk.com
www.kr.schunk.com

Spain, Portugal
SCHUNK Intec S.L.
Fonera, 21 | 08304 Mataró (Barcelona)
Tel. +34-937 556 020
Fax +34-937 556 021
info@es.schunk.com
www.es.schunk.com

Sweden
SCHUNK Intec AB
Morabergsvägen 28
152 42 Södertälje
Tel. +46-8-554 421 00
Fax +46-8-554 421 01
info@se.schunk.com
www.se.schunk.com

Switzerland, Liechtenstein
SCHUNK Intec AG
Im Hang 12 | 8307 Effretikon
Tel. +41-52-35431-30
Fax +41-52-35431-10
info@ch.schunk.com
www.ch.schunk.com

Turkey
SCHUNK Intec Bağlama Sistemleri ve Otomasyon San. ve Tic. Ltd. Şti.
Kuşkulu İş Merkezi, Girne Mahallesi
İrmak Sokak, A Blok, No: 9
34452 Maltepe | İstanbul
Tel. +90-216-366-218
Fax +90-216-366-2217
info@tr.schunk.com
www.tr.schunk.com

USA
SCHUNK Intec Inc.
211 Kitty Hawk Drive
Morristown, NJ 07960
Tel. +1-908-572-2705
Fax +1-908-572-2800
info@us.schunk.com
www.us.schunk.com
<table>
<thead>
<tr>
<th>Country</th>
<th>Address</th>
<th>Phone Numbers</th>
</tr>
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<tbody>
<tr>
<td><strong>Australia</strong></td>
<td>REPLON Automation Pty. Ltd. Unit 30</td>
<td>T.Woodpark Road Forest Hill NBW 2044</td>
</tr>
<tr>
<td></td>
<td>Tel. +61-2-97207691</td>
<td>Fax +61-2-97207566</td>
</tr>
<tr>
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<td><a href="mailto:sales@repronield.com.au">sales@repronield.com.au</a></td>
<td><a href="http://www.repronield.com.au">www.repronield.com.au</a></td>
</tr>
<tr>
<td><strong>Chile</strong></td>
<td>Saman Acondicionado y CIA. LTDA. Quinta Noreña</td>
<td>Vargés Fontanilla N-4550</td>
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<tr>
<td></td>
<td>Tel. +56-2-793035</td>
<td><a href="mailto:camaneda@rotar.cl">camaneda@rotar.cl</a></td>
</tr>
<tr>
<td><strong>Colombia</strong></td>
<td>Caja - Centro de Automatización Vitural Ltda.</td>
<td>Oficina 107-avenida Experiencia N. 728 Bogotá D.C.</td>
</tr>
<tr>
<td></td>
<td>Tel. +571-1-6000799</td>
<td>Fax +571-1-6000846</td>
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<tr>
<td><strong>Costa Rica</strong></td>
<td>RECOMINACIA JACIULIO S.A.</td>
<td>1001 al oeste y 71 al sur del Cementerio Central de Jacó, Jacó</td>
</tr>
<tr>
<td></td>
<td>Tel. +506-2450-1717</td>
<td><a href="http://www.bibus.co.cr">www.bibus.co.cr</a></td>
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<tr>
<td><strong>Croatia</strong></td>
<td>Bibilus Zagreb d.o.o.</td>
<td>Avila 67</td>
</tr>
<tr>
<td></td>
<td>Tel. +385-1-1992920</td>
<td>Fax +385-1-198005</td>
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<tr>
<td><strong>Ecuador</strong></td>
<td>ELMED CIA. Ltda.</td>
<td>Calle D. Progreso 211-111 y Manglaralto Duto</td>
</tr>
<tr>
<td></td>
<td>Tel. +63-39-7767470</td>
<td><a href="mailto:info@dv-tools.co.id">info@dv-tools.co.id</a></td>
</tr>
<tr>
<td><strong>Estonia</strong></td>
<td>DV-Tools OÜ</td>
<td>Magonsaare Teer 5</td>
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<tr>
<td></td>
<td>Tel. +372-6030508</td>
<td><a href="http://www.dv-tools.ee">www.dv-tools.ee</a></td>
</tr>
<tr>
<td><strong>Greece</strong></td>
<td>Xero Groussinis Co. D.E.</td>
<td>27, Riga Perivou Str.</td>
</tr>
<tr>
<td></td>
<td>Tel. +30210-2846585</td>
<td>Fax +30210-2846585</td>
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<td><strong>Iceland</strong></td>
<td>Framholtar 1 of</td>
<td>Breidavikur 25</td>
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<tr>
<td></td>
<td>Tel. +354-5772200</td>
<td>Fax</td>
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<td><strong>Indonesia</strong></td>
<td>PT. Metaltech Indonesia</td>
<td>Komplek Puri Niaga 1 Blok K111</td>
</tr>
<tr>
<td></td>
<td>Tel. +62-21-5833240</td>
<td><a href="mailto:info@metaltechindonesia.com">info@metaltechindonesia.com</a></td>
</tr>
<tr>
<td></td>
<td>Tel. +98-21-8899000</td>
<td>Fax</td>
</tr>
<tr>
<td><strong>Israel</strong></td>
<td>Sun and Gosin Automation Service Ltd.</td>
<td>35, Shamgar St.</td>
</tr>
<tr>
<td></td>
<td>P.O. Box 1008</td>
<td>Mailcode-Tziva 49001</td>
</tr>
<tr>
<td></td>
<td>Tel. +972-1-9240703</td>
<td><a href="mailto:sales@yam-gosin.co.il">sales@yam-gosin.co.il</a></td>
</tr>
<tr>
<td><strong>Latvia</strong></td>
<td>Sia Info</td>
<td>Lapziba 871</td>
</tr>
<tr>
<td></td>
<td>Tel. +371-6-2825464</td>
<td>Fax</td>
</tr>
<tr>
<td><strong>Malaysia</strong></td>
<td>Preciotech Sdn. Bhd.</td>
<td>Plant 1, J5 Loring Penang Sdn Bhd Kajang 13800 Kuala Lumpur</td>
</tr>
<tr>
<td></td>
<td>Tel. +603-80802555</td>
<td>Fax</td>
</tr>
<tr>
<td><strong>Philippines</strong></td>
<td>ARCOS TECHNOLOGY S.A.E.</td>
<td>Avenida Flora Tintinian 765</td>
</tr>
<tr>
<td></td>
<td>Tel. +61-3-8470511</td>
<td><a href="mailto:info@maquinariaarcos.com">info@maquinariaarcos.com</a></td>
</tr>
<tr>
<td><strong>Romania</strong></td>
<td>A.C. Inmaacro S.R.L.</td>
<td>Industrial Machines and Accessories Romania</td>
</tr>
<tr>
<td></td>
<td>150560 Sântu-Severin</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tel. +40-668-8600280</td>
<td><a href="mailto:info@inmaacro.com">info@inmaacro.com</a></td>
</tr>
<tr>
<td><strong>South Africa</strong></td>
<td>APA Machines Ltd.</td>
<td>62 Sonneveld Road, East Village Sunward Park 9455</td>
</tr>
<tr>
<td></td>
<td>Tel. +27-11-910-1252</td>
<td>Fax</td>
</tr>
<tr>
<td><strong>Slovenia</strong></td>
<td>Itenci Kranj d.o.o.</td>
<td>Komunikaciona Cesta 2 31053</td>
</tr>
<tr>
<td></td>
<td>Tel. +386-42-771700</td>
<td>Fax</td>
</tr>
<tr>
<td><strong>Slovenia</strong></td>
<td>MB-Naklo Trgovsko Podjetje D.O.O.</td>
<td>Toma Sijunja 36</td>
</tr>
<tr>
<td></td>
<td>Tel. +386-42-771700</td>
<td>Fax</td>
</tr>
<tr>
<td><strong>South Korea</strong></td>
<td>Mapal Hiteco Co., Ltd.</td>
<td>96-102, Shinhe In. Complex 125-10, Jangjeong-dong, Shahin-gu</td>
</tr>
<tr>
<td></td>
<td>469-112 Gyeonggi-do, 469-112</td>
<td>Fax</td>
</tr>
<tr>
<td><strong>Taiwan</strong></td>
<td>AccuData Engineering Co., Ltd.</td>
<td>No. 155, Yuan-Chuan East 1st Rd. 40070 Taichung City</td>
</tr>
<tr>
<td></td>
<td>Tel. +886-42-2300078</td>
<td>Fax</td>
</tr>
<tr>
<td><strong>Thailand</strong></td>
<td>Bravomech Co., Ltd.</td>
<td>189, Soi Ram-nartri 65, Thar-Rang Bangkhen, Bangkok 10220</td>
</tr>
<tr>
<td></td>
<td>Tel. +66-2-5920500</td>
<td>Fax</td>
</tr>
<tr>
<td><strong>Ukraine</strong></td>
<td>Center of Technical Support „Mem”LLC</td>
<td>14502, Drospornick K605</td>
</tr>
<tr>
<td></td>
<td>Tel. +38016-9090905</td>
<td>Fax</td>
</tr>
<tr>
<td><strong>Ukraine</strong></td>
<td>Center of Technical Support „Mem”LLC</td>
<td>14502, Drospornick K605</td>
</tr>
<tr>
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Spann- und Greiftechnik
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D-74348 Lauffen/Neckar
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gippingsystems@de.schunk.com
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