Clamping technology

Product overview 2026

Hand in hand for tomorrow

Shaping technological progress together

Hand in hand with our customers and partners

"We are convinced that innovation arises when different areas of expertise come together – in teams, in strong partnerships, and in open networks where we produce impact together. That's how exchange turns into action. We are developing new technologies that gear up manufacturing facilities for the future, while taking a responsible approach toward people and husbanding resources."

Kristina I. Schunk

Hand in hand for tomorrow

As a global technology pioneer in toolholding, workholding, gripping, and automation technology, we boost productivity for customers and partners in the industrial sector.

1945

Start in a garage in Lauffen

Friedrich Schunk founded a machine shop and, using a secondhand lathe, began working as a contract manufacturer for companies in the region.

1968

First standard products

Under Heinz-Dieter Schunk, the small trade business transformed into an industrial enterprise: SCHUNK developed its first in-house products and launched clamping jaws for lathe chucks onto the market.

1982

New business units

The next logical step followed: SCHUNK expanded its portfolio, establishing new business units. In addition to toolholding and workholding, SCHUNK is now also a pioneer in standardized gripping technology.

1989

Global growth

The company's international expansion began with its first overseas branches in Belgium and Switzerland. Today, SCHUNK stays in very close proximity to its customers across the globe with 10 production facilities and 34 subsidiaries.

TODAY

Technology partner for industry

We develop cutting-edge technologies across many industries, including automotive, e-mobility, aerospace, life sciences, and electronics. SCHUNK is a reliable partner throughout the entire value chain.

TOMORROW

Digital and humanoid future

Digital services and artificial intelligence are becoming standard. Smart gripping hands are opening up new areas of application for humanoid robots.

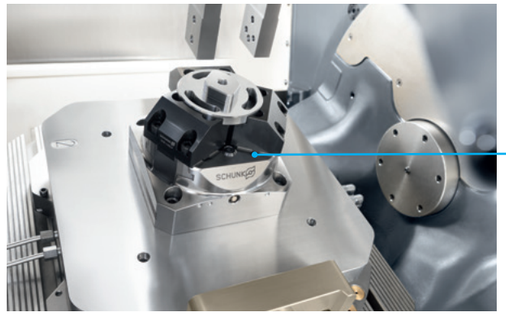
For over 80 years, we have been developing cutting-edge technologies for modern manufacturing and automation processes – alongside our customers and partners. Close collaboration leads to solutions that effectively put digitalization, automation, and artificial intelligence into practice and help make industrial processes more efficient and resource-efficient.

Our portfolio includes standard components, engineering customer-specific components and systems, as well as complete machines for automation and electronics production.

Reliable clamping technology for your workpieces and tools

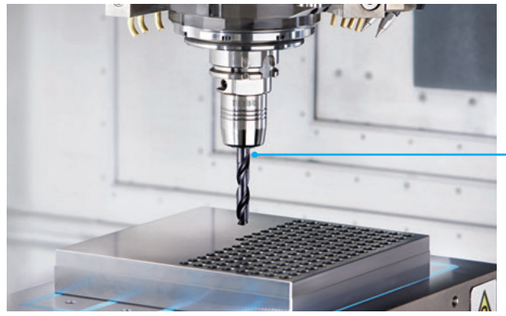
Increase the efficiency and performance of your production lines with SCHUNK

We offer a wide range of high-quality clamping technology that can be tailored to the specific requirements of your applications. From proven chuck jaws and innovative lathe chucks to intelligent automation solutions – at SCHUNK you will find everything you need to increase the productivity of your machines and optimize the quality of your manufactured parts. SCHUNK means decades of experience, state-of-the-art technology and the highest quality standards. We help you increase the efficiency of your production – because efficiency is the key to your success!



Trending topics

Workpiece clamping technology



Tool clamping technology

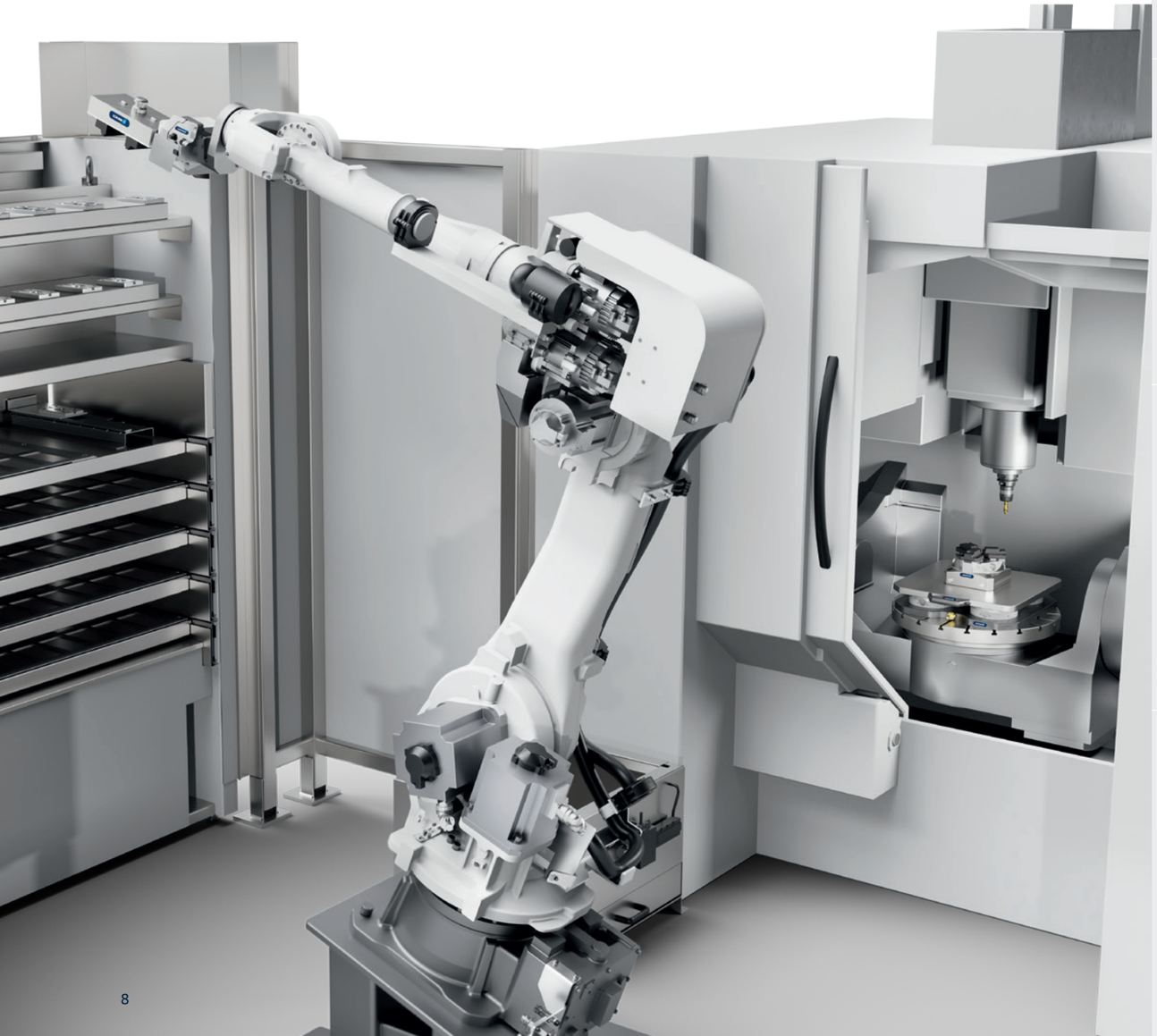
Content

	Beginning on page
Company	**2**
Trending topics in the focus	**8**
Industries	10
Automation	12
Intelligent clamping technology	18
Process monitoring	20
Digital services	22
SCHUNK Engineering	**24**
Workpiece clamping technology	**26**
Chuck jaws	28
Lathe chucks	32
Stationary workholding	38
Quick-change pallet systems	40
Clamping force blocks	62
Stationary lathe chucks	74
Manual clamping systems and tombstones	78
Magnetic clamping technology	90
Vacuum clamping technology	96
Tool clamping technology	**100**
Hydraulic expansion toolholder	102
Polygonal toolholders and expansion toolholders	110
Heat shrinking and mechanical toolholders	114
Toolholder accessories	118
SCHUNK worldwide	**120**

Trending topics in the focus

A future-proof tomorrow with SCHUNK

Discover the pioneering trend topics at SCHUNK that are shaping the future of metal processing. Our automated solutions, intelligent clamping technology, precise process monitoring and convenient product configurators are setting new standards to help you move forward. With SCHUNK, you are not only shaping the present, but also securing a place at the forefront of the rapidly developing manufacturing landscape – for a future-proof tomorrow.



Industries

In a world full of industry-specific challenges, SCHUNK offers tried-and-tested solutions that are precisely tailored to your needs.

Automation

SCHUNK is the right partner to increase the productivity of your machine tools. With our broad product portfolio and process understanding, we offer different ways to automate your machine tools.

Intelligent clamping technology

Intelligent clamping devices from SCHUNK allow the collection and transmission of comprehensive data to recognize current clamping situations and identify wear and maintenance requirements at any time.

Process monitoring

From smart toolholders to simple process monitoring and integration into the machine control systems. In terms of digitalization, SCHUNK is setting standards in the metal-cutting industry with the iTENDO².

Digital services

With our individually configurable standard products, we reduce complexity in system planning and offer individual adaptation options for a wide range of applications.

Industries

No matter which challenge you are facing in your production processes – with SCHUNK, you have the right partner at your side. We create individual concepts for your gripping, handling, and clamping tasks, and take care of the validation processes in our CoLabs. Our holistic approach means fewer interfaces. Moreover, we also take care of the design and project planning for your applications, noticeably reducing the workload of your day-to-day project work. Another plus point is our in-house production, which is characterized by a high level of vertical integration, reliable process monitoring and complete assembly documentation.

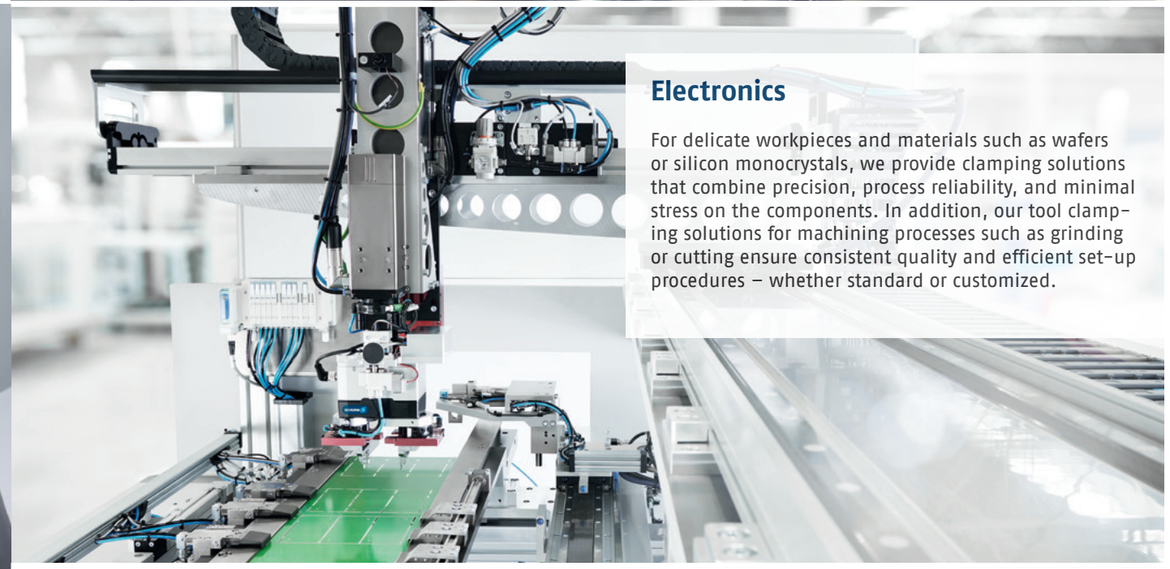
Trending topics
Industries

Automotive & E-mobility

The automotive industry is driving change and precision in manufacturing – from traditional powertrains to electric mobility. In this demanding environment, clamping technology is critical to cycle times, dimensional accuracy, and process reliability. SCHUNK offers robust, modular clamping systems and customized solutions that reduce set-up times, ensure component precision, and make it possible to integrate new manufacturing processes. This is how we lay the foundations for economically viable, future-proof production chains.

Aerospace

The aerospace industry places the highest demands on precision, reliability, and durability. Our clamping solutions can help you overcome these challenges and achieve process-reliable machining – whether you are working with thin-walled structural components, geometrically complex engine components, or landing gear components made of heavy materials that are difficult to machine.



Electronics

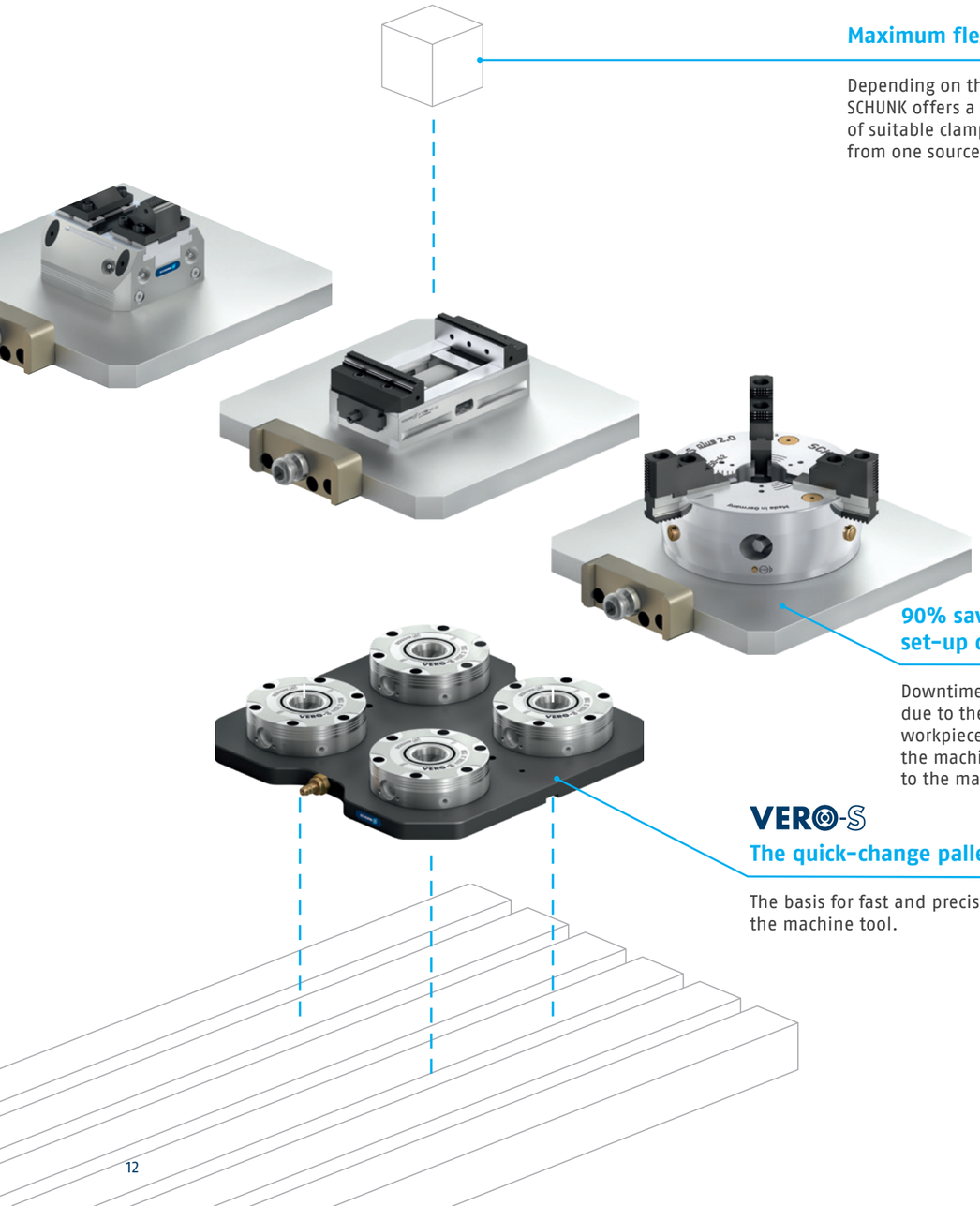
For delicate workpieces and materials such as wafers or silicon monocrystals, we provide clamping solutions that combine precision, process reliability, and minimal stress on the components. In addition, our tool clamping solutions for machining processes such as grinding or cutting ensure consistent quality and efficient set-up procedures – whether standard or customized.

Life Science

MedTech components are becoming smaller and more diverse, and they require extremely precise manufacturing processes that can be validated with zero fault tolerance.
SCHUNK supplies robust, sensor-monitored clamping solutions that reliably clamp even delicate parts made of plastic and metal.

Systematic set-up approach: the SCHUNK modular system for automated machine loading

Highly standardized – for maximum flexibility



Maximum flexibility

Depending on the workpiece, SCHUNK offers a unique portfolio of suitable clamping devices – all from one source.

90% savings in set-up costs

Downtimes are minimized due to the set-upf the workpieces outside of the machine and parallel to the machine time.

VERO-S
The quick-change pallet system

The basis for fast and precise retooling on the machine tool.

Your entry into the world of automated machine loading

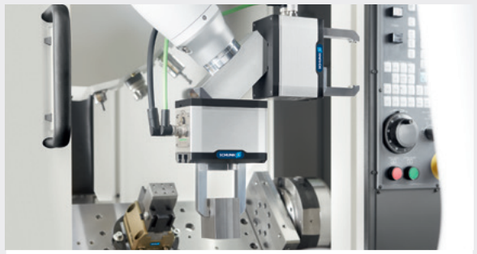
We support you right from the beginning, ensuring that you understand the basics of automated machine loading and can make the most of it. What options are there? Which solution suits your manufacturing process? And what are the advantages of each approach? Together, we will find the right type of automation for your process.
There are six automation types to choose from, depending on the workpiece, batch size, manufacturing process and machine.

Lean automation

Workpiece variance	●○○○○
Workpiece complexity	●○○○○
Batch size	●○○○○

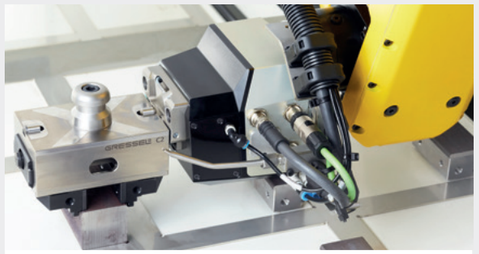
Vise automation

Workpiece variance	●●●●○
Workpiece complexity	●●●○○
Batch size	●●●○○



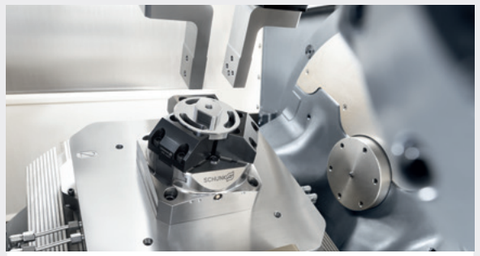
Workpiece automation

Workpiece variance	●●●○○
Workpiece complexity	●●○○○
Batch size	●●●●●



Workpiece and pallet automation

Workpiece variance	●●●●○
Workpiece complexity	●●●○○
Batch size	●●●●○



Pallet automation

Workpiece variance	●●●●○
Workpiece complexity	●●●●●
Batch size	●●○○○

Flexible manufacturing system

Workpiece variance	●●●●●
Workpiece complexity	●●●●○
Batch size	●●●○○

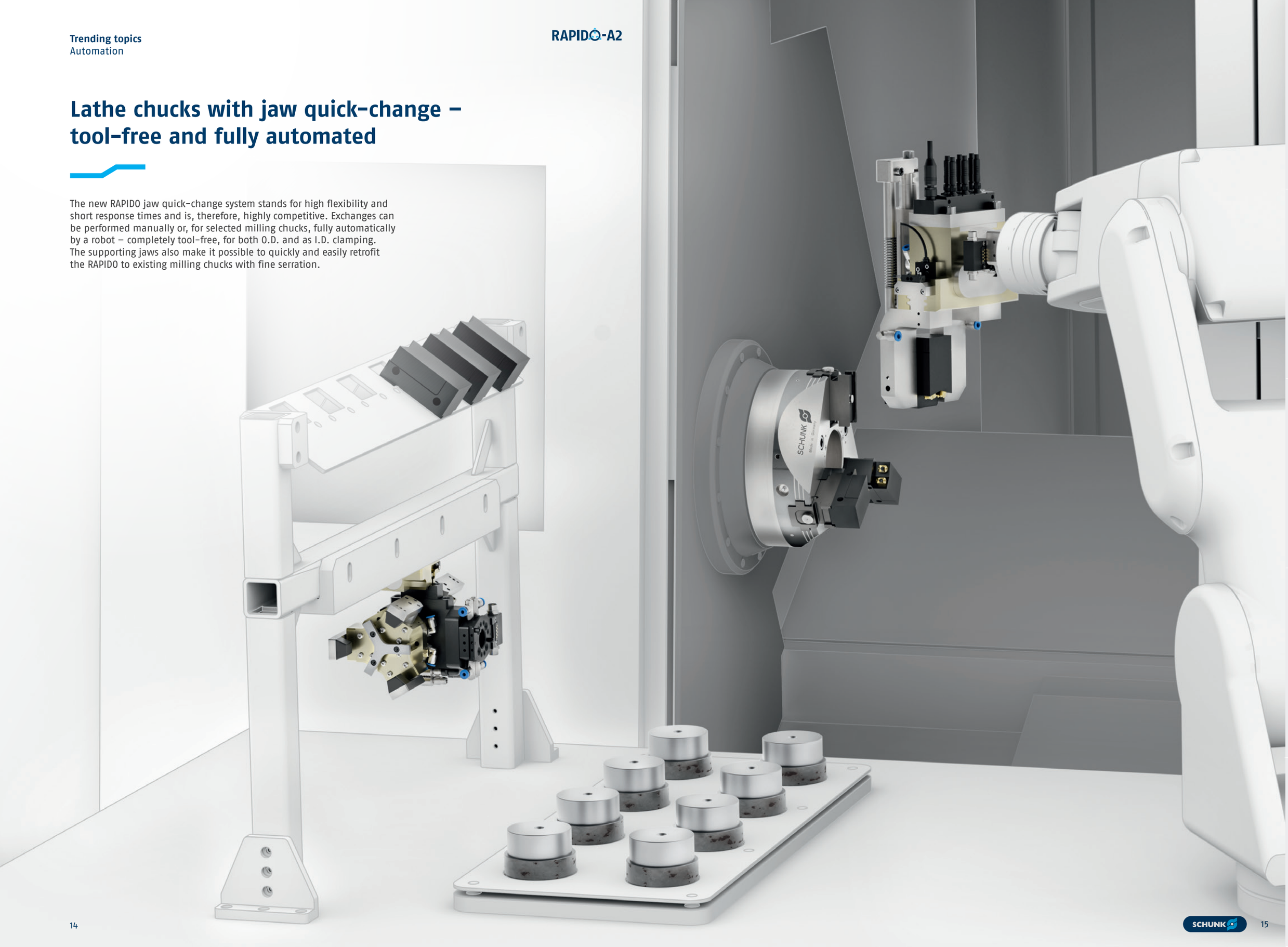
Workpiece variance = how many different workpieces are loaded
Workpiece complexity = how demanding is it to clamp the workpieces

Batch size = quantity of identical workpieces that are produced without interruption

RAPIDO-A2

Lathe chucks with jaw quick-change – tool-free and fully automated

The new RAPIDO jaw quick-change system stands for high flexibility and short response times and is, therefore, highly competitive. Exchanges can be performed manually or, for selected milling chucks, fully automatically by a robot – completely tool-free, for both O.D. and as I.D. clamping. The supporting jaws also make it possible to quickly and easily retrofit the RAPIDO to existing milling chucks with fine serration.

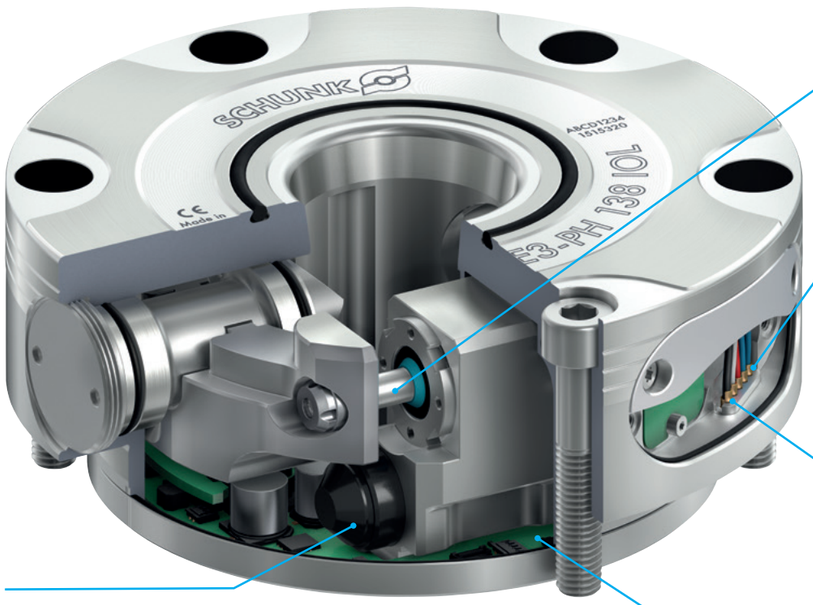


Fully automatable, tool-free jaw quick-change

The completely tool-free jaw quick-change is an absolute highlight of the current generation of TANDEM clamping force blocks. Thanks to the new jaw quick-change system, the jaws can be exchanged manually or automatically via a robot within seconds. This results in significantly reduced set-up and machine downtimes, in both the 2-jaw and 3-jaw versions.

Electrified clamping technology!

By implementing a sensor system for data acquisition and transmission, the intelligent clamping devices from SCHUNK offer all the necessary preconditions for processes where you require knowledge of the current clamping situation. All sensory and electromagnetic clamping devices from SCHUNK can be integrated into the machine control. Therefore, wear and maintenance requirements can be detected at any time.



The energy-efficient alternative to fluid-driven clamping devices

Control via IO-Link

For simple integration in commonly used fieldbus systems

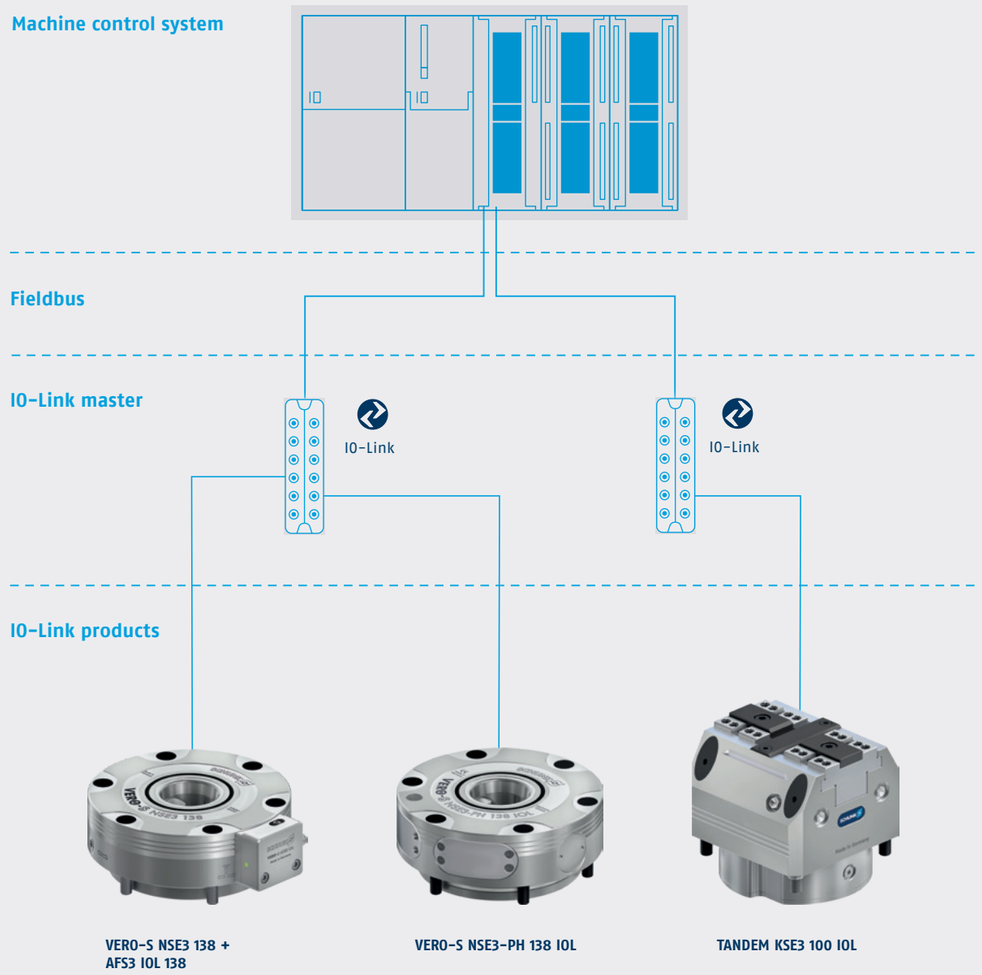
Signal processing occurs exclusively in the clamping device

Integrated electronics, sensor systems and actuators

IO-Link – the universal interface for data transmission

The new sensory and electromechanical clamping systems from SCHUNK communicate via the standardized IO-Link interface (IEC 61131-9). This is a fieldbus-independent point-to-point connection that enables events as well as process and service data to be exchanged between machine control and clamping devices. Various clamping devices can be integrated into the machine control system via a fieldbus system using an IO-Link master. A clamping device can be integrated or exchanged quickly and easily via its own IODD. IO-Link technology can be used universally and can be integrated into virtually any fieldbus system.

Modular control concept with IO-Link



The intelligent way to the optimum process

iTENDO² easy monitor

Simple, universally applicable monitoring for your process

iTENDO² pad

Optimization of processes

iTENDO² easy connect

The easy connection of smart toolholder technology to your process monitoring system

Easy connection
of the smart toolholder iTENDO² to the machine

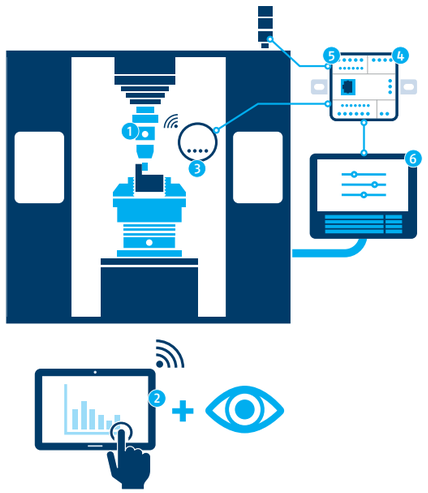
Advanced data collection
"closest to the part" for your existing system

High data quality
by direct recording of process data on the last non-wearable part

Intuitive operability
through a convenient user interface

Functional diagram

1. iTENDO²
2. iTENDO² pad + easy monitor software extension
3. Wireless receiver
4. Connect Box
5. Monitoring trend limits and alarms
6. Integration into the machine control system



schunk.com/itendo2

Discover the many possibilities of the iTENDO² technology

iTENDO² applications

Monitoring

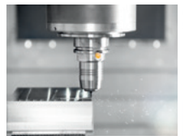
Monitoring of tools
Detection of tool wear and breakage through solutions that are permanently integrated into the machine control system.

Monitoring of workpieces
Detection of irregularities during processing that have a negative impact on the workpiece produced, such as changes in surface quality or chatter marks.

Monitoring of the machine
Detection of changes to the machine and spindle.

Optimization

Optimization of the clamping procedure
Due to the transparency of the vibration behavior during the process, the set-up can be improved.



Optimization of the cutting data
Productivity can be increased or tool wear reduced through the targeted adjustment of cutting data.

Process optimization
Transparency about the vibrations that can occur during different process stages as a means of optimizing the machine strategy, parameters, cooling or as an aid in tool selection.

iTENDO² easy connect/iTENDO² easy monitor

iTENDO² pad

Find out more at schunk.com/itendo

Technical data

Series	Analog output [V]	Data rate [Hz]	Memory locations	Digital outputs	Digital inputs
iTENDO² easy connect	0–10	100	64 (iTENDO² preselection)	1) System ready 2) iTENDO² connected 3) iTENDO² battery status	1) Memory selection 2) Connect iTENDO²
iTENDO² easy monitor	0–10	100	64 (iTENDO² preselection and setting the limits)	1) System ready 2) iTENDO² connected 3) iTENDO² battery status 4) Alarm limit 5) Upper trend limit 6) Lower trend limit	1) Memory selection 2) Connect iTENDO² 3) Start process

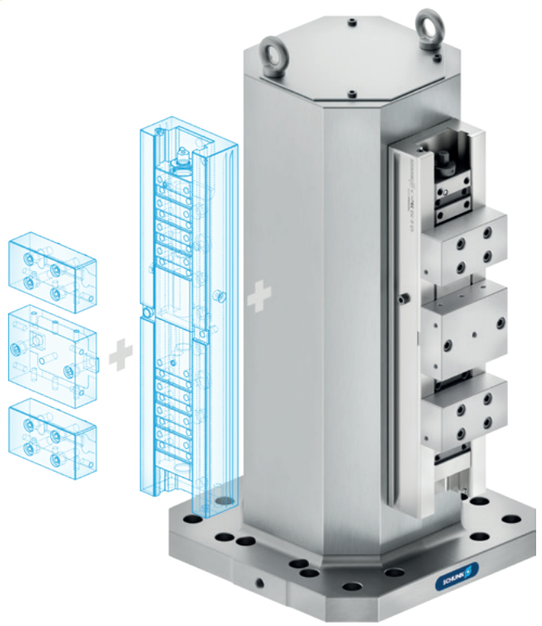
Fast. Online. Customized.

Experience the synergy of efficiency and transparency with our pioneering configurators for toolholder mountings, chuck jaws and manual clamping systems. Access is very easy via the web browser, allowing you to not only use the user-friendly configuration, but also to download the CAD data directly. The best thing about it is that there is no development knowledge required, and depending on the configurator, you can retrieve information on prices and delivery times. Discover a new dimension of customization options and increase the efficiency of your production.

Clamping system configurator

Complete clamping solutions can be combined as desired

NEW



Limitless possibilities

Thanks to a wide selection of quick-change pallet technology, clamping force blocks, vises, and tombstones

3D data in real time

Visualize the desired product, download as .step data, and export parts lists

Preconfigured solutions to get you started

Extensive collection of customer solutions to find inspiration for your manufacturing

schunk.com/clamping-system-configurator

easy Toolholder

Customized toolholder configuration

schunk.com/easytoolholder

Flexible configuration

Individual adaptation to geometries, selection of clamping diameters and of machine interface, with or without data carrier chip and peripheral cooling

3D data in real time

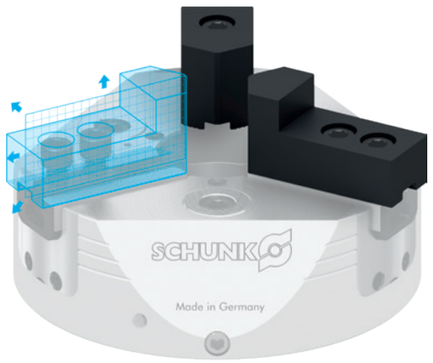
View and download the configuration in different formats in real time

Simple inquiry and ordering process, 24/7

Inquiries and orders are processed directly via the configurator; prices and delivery times are calculated instantly

easyJAW

Individual chuck jaws delivered within 1 to 3 weeks



schunk.com/easyjaw

Flexible configuration

From over 500 standard variants of soft top jaws, intermediate jaws, full grip jaws, monoblock jaws, claw jaws, and RAPIDO

Geometries of the chuck jaws can be individually adjusted

Derived from the respective standard variant, freely configurable

Simple inquiry and order process 24/7

Inquiries and orders are processed directly via the configurator; prices and delivery times are calculated instantly

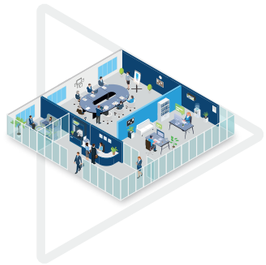
SCHUNK Engineering

Innovating partnerships

We offer a comprehensive range of services for the development of individual solutions, including in-depth industry expertise, an established engineering process, and a broad component portfolio. With 34 sales offices and 6 state-of-the-art engineering hubs, we offer worldwide project management, design, manufacturing, installation, and after-sales service. We are always close to our customers.

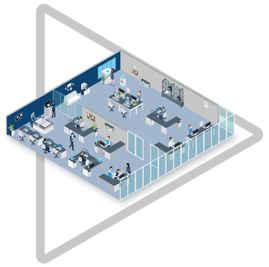
Four steps to project success

1 Understanding challenges



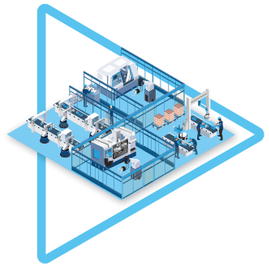
From working out precise requirement specifications in personal discussions to the development of concepts with reliable budget estimates.

2 Developing solutions



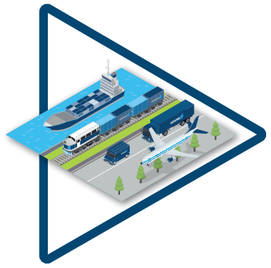
We work closely with you to develop customized solutions. This allows you to fully concentrate on your core competencies.

3 Manufacturing and assembly



With our high level of manufacturing expertise and end-to-end digital process chain, we ensure maximum efficiency and precision worldwide.

4 On-site support



As a trusted partner, we take care of your concerns and support you at every step.

Factors contributing to the success of our collaboration

A perfect fit instead of a compromise

Solutions tailored exactly to your requirements

Quick decision making

Keeping track of solutions, the work involved, and the costs

More stable processes

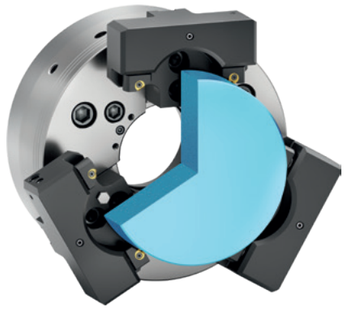
Consistent quality and reliable sequences

Lower risk

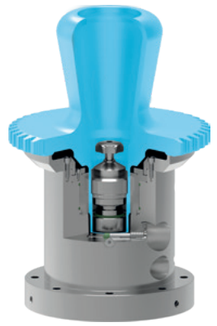
One contact person, clear responsibilities

Solutions for your industry

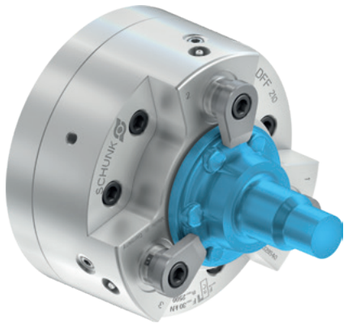
We can assist you, whether you are machining particularly challenging workpieces or seeking targeted support for finding industry-specific solutions. SCHUNK Engineering offers you exactly this expertise and will stand by your side as a reliable partner.



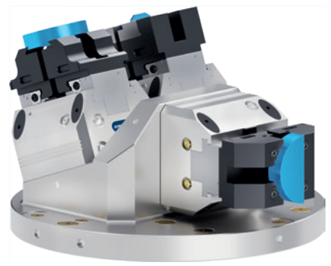
Clamping irregularly shaped components with hydraulic compensation jaws



Clamping engine parts with a hydraulic expansion chuck



Axial clamping of workpieces that are sensitive to deformation using a ROTA DFF rotary finger chuck

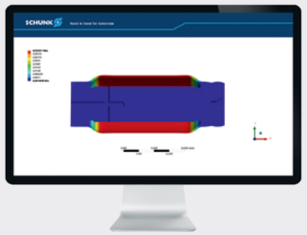


Setting up knee implants using a TANDEM clamping pyramid

Simulation services

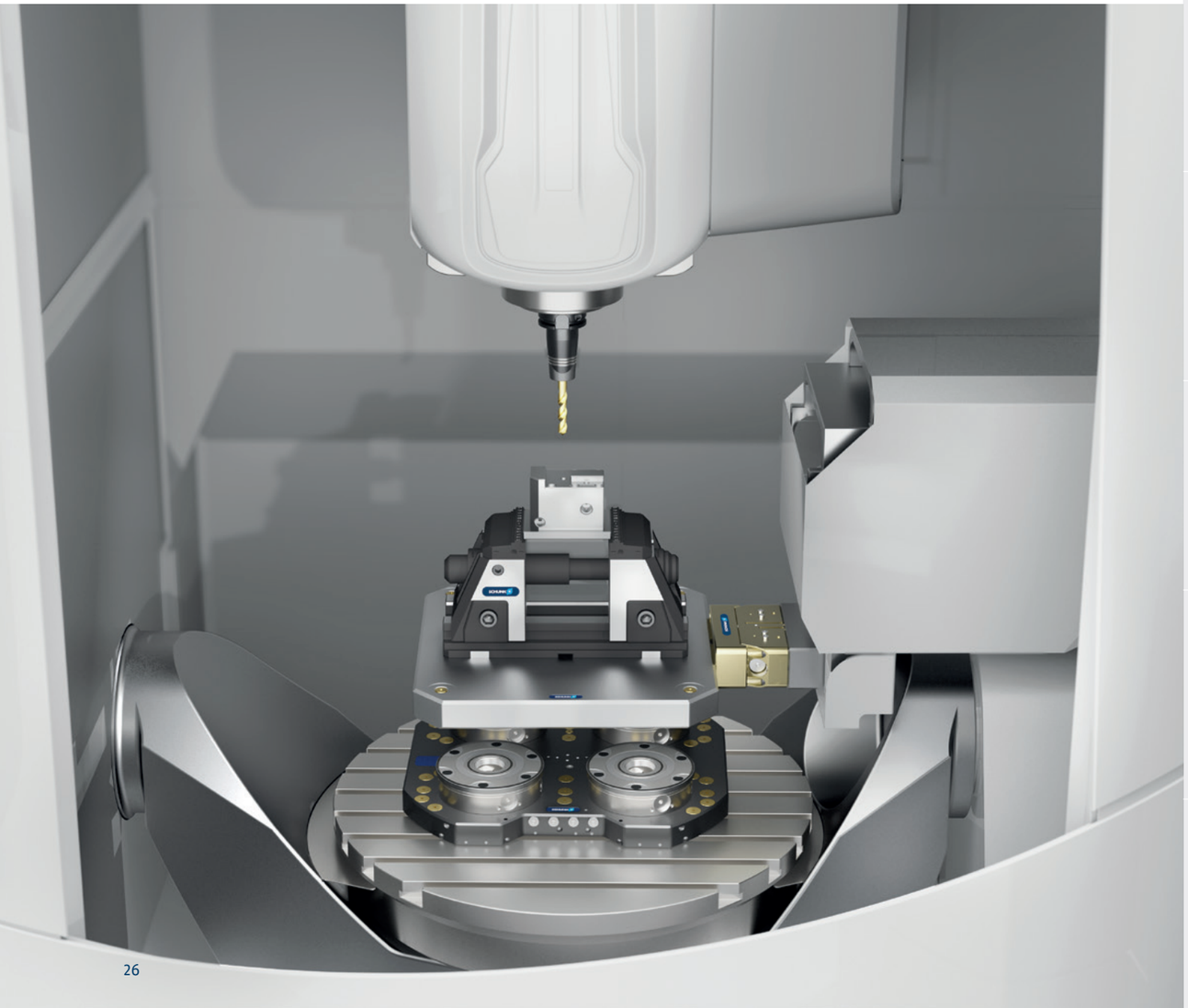
We can simulate your clamping solution in order to optimize your machining and handling processes. We design clamping and gripping systems tailored precisely to your production process and, if necessary, coordinate them with your planned automation.

- **Basis for making decisions faster:** feasibility, variants
- **Lower risk & less reworking:** detect vulnerabilities early
- **Greater process reliability:** consistent, reproducible results



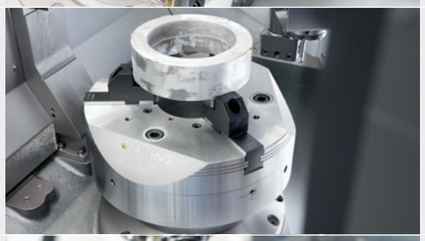
Efficient, powerful and versatile: Workpiece clamping technology from SCHUNK

Discover the variety of workpiece clamping technology from SCHUNK – from lathe chucks and stationary Workpiece clamping technology to complete clamping systems with maximum clamping forces. Our products are the result of over 40 years of know-how and innovative technology, manufactured by specialized employees with a focus on outstanding quality. With our quality management system, which is in accordance with DIN EN ISO 9001/2015, we are your reliable partner for clamping devices of the highest quality. Our solutions offer you a high degree of flexibility and efficiency in mastering your clamping tasks. Discover the intelligent solution for your clamping requirements – with SCHUNK.



Chuck jaws

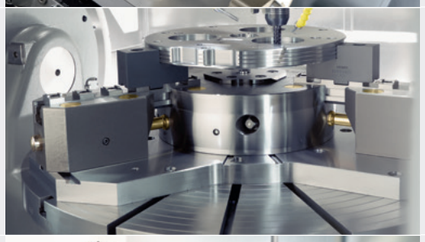
Lathe chucks



Quick-change pallet systems

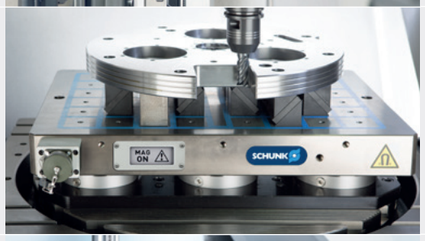
Clamping force blocks

Stationary lathe chucks

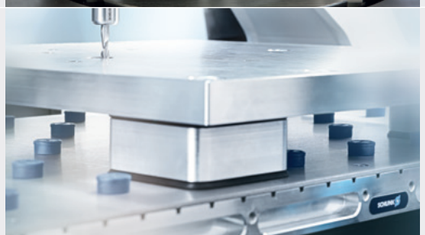


Manual clamping systems and tombstones

Magnetic clamping technology



Vacuum clamping technology



Chuck jaws

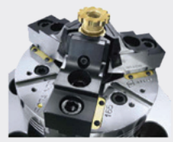
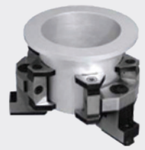
Chuck jaws are the only interface between workpiece and lathe chuck, making them a critical component for increased productivity. Use of the correct chuck jaw guarantees not only perfect power transmission but also reliable workpiece clamping and optimal utilization of machine and tool potentials.

With the extensive range of SCHUNK standard jaws, you will find the perfect clamping solution for your application. Simply determine the relevant parameters based on the workpiece, the machining task and the workpiece clamping in order to select the optimal chuck jaw. SCHUNK chuck jaws are available for most toolholder manufacturers and interfaces, including 1.5 and 3.0 x 60°, 1/16 x 90°, 3/32 x 90°, Module 2, and tongue and groove.

Engineered
Customized

Special chuck jaws. For complex machining tasks, our experts develop tailor-made clamping solutions for you.

- **Suitable for all toolholder manufacturers**
- **Maximum performance**
- **Ensuring the correct clamping**

Tech Line
Problem solvers

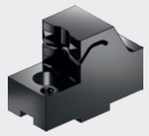
Tech jaws. Claw jaws with active pull-down, standardized pendulum jaws and QUENTES plastic jaws from SCHUNK enable gentle and secure clamping of thin-walled workpieces that are at risk of deformation.

- **For special clamping tasks**
- **Standardized problem solvers**

Hydraulic compensation jaw

QUENTES

Pendulum jaws


Pull-down jaws

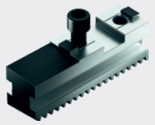
Flexible
Jaw quick-change systems

Quick-change systems. SCHUNK jaw quick-change systems excel with their easy handling and reduce set-up times by changing jaws within seconds.

- **Simple set-up**
- **Jaw change in a matter of seconds**
- **Suitable for automated solutions**

Jaw quick-change system RAPIDO, manual

Jaw quick-change system RAPIDO-A2, automated


Base jaws

Special base jaws

Aggressive grip
Raw part machining

Raw part clamping. SCHUNK provides a wide range of hard chuck jaws for machining raw material in the first clamping operation.

- **Maximum holding force**
- **Available for I.D., O.D. and bar clamping**
- **Increased productivity**

Claw jaws for O.D. clamping

Claw jaws for I.D. clamping

Claw jaws for bar clamping

Hard stepped jaws

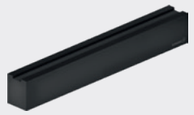
Soft grip
Finished parts machining

Finished parts clamping. Chuck jaws made of resistant material with ground serration ensure a long service life and high accuracy of the chuck jaws.

- **Maximum holding force**
- **Hardening steel**
- **Ground serrations**
- **High-precision interfaces**

Soft top jaws and jaw blanks

Soft full grip jaws

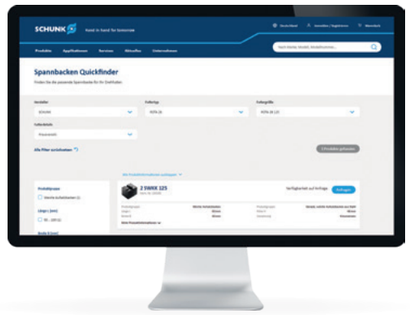

Serrated bars

Soft monoblock jaws

Overview
Chuck jaws

Chuck jaw quickfinder

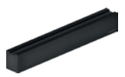
With the chuck jaw quickfinder, you can find the right chuck jaws for your clamping task with just a few clicks. Please select whether you require chuck jaws for lathe chucks or chuck jaws for stationary workholding.



Chuck jaw quickfinder with print function
schunk.com/chuck-jaw-quickfinder

Technical data
Chuck jaws

Chuck jaws

	Chuck jaws		Fields of application: Raw part clamping	Finished part clamping	I.D. clamping	O.D. clamping	Compen-sation of shape tolerances	Clamping diameter can be adjusted by turning	Low-de-formation clamping of rings and fitting disks	Quick jaw change	Characteristics: Configurable at schunk.com/easyjaw	Jaw interface/type (as standard)	Available for lathe chuck sizes (as standard)	Material
Tech Line (problem solvers)	**Pendulum Jaws**		●	●		●	●	●	●	◑		Fine serration 90° Fine serration 60° Straight and diagonal wedge-bar serration	200 – 500 mm	Case-hardened steel
Tech Line (problem solvers)	**QUENTES plastic jaws**			●	●	●		●	●	◑		Fine serration 90° Fine serration 60° Tongue and groove	160 – 315 mm	Glass-fiber-reinforced plastic
Flexible (jaw quick-change systems)	**Base jaws**									●		Straight and diagonal wedge-bar serration	125 – 1000 mm	Hardened and precision ground steel
Flexible (jaw quick-change systems)	**Jaw quick-change system RAPIDO/ RAPIDO-A2**		●	●	●	●		●		●	●	Fine serration 90° Fine serration 60°	160 – 400 mm	Case-hardened steel
Aggressive grip (raw part machining)	**Claw jaws**		●		●	●				◑	●	Fine serration 90° Fine serration 60° Tongue and groove Module 2	140 – 1000 mm	16MnCr5 steel, case-hardened
Aggressive grip (raw part machining)	**Stepped top jaws**		●		●	●				◑		Fine serration 90° Fine serration 60° Tongue and groove Module 2	110 – 1200 mm	16MnCr5 steel, case-hardened
Aggressive grip (raw part machining)	**Stepped block jaws**		●		●	●				●		Straight and diagonal wedge-bar serration	160 – 630 mm	16MnCr5 suitable for case hardening or 16MnCrS5K steel
Soft grip (finished parts machining)	**Serrated bars**			●	●	●		●				Fine serration 90° Fine serration 60°	125 – 800 mm	Steel or aluminum
Soft grip (finished parts machining)	**Soft top jaws**			●	●	●		●		◑	●	Fine serration 90° Fine serration 60° Tongue and groove Module 2	80 – 1200 mm	16MnCr5 steel suitable for case hardening or high-tensile aluminum
Soft grip (finished parts machining)	**Jaw blanks**			●	●	●		●			●	Fine serration 90° Fine serration 60° Module 2	160 – 800 mm	16MnCr5 steel suitable for case hardening
Soft grip (finished parts machining)	**Full grip top jaws**			●	●	●		●	●	◑	●	Fine serration 90° Fine serration 60° Tongue and groove	80 – 630 mm	16MnCr5 steel suitable for case hardening or high-tensile aluminum
Soft grip (finished parts machining)	**Monoblock jaws**			●	●	●		●		●	●	Straight and diagonal wedge-bar serration	140 – 800 mm	C45, tempered, suitable for induction hardening

● Most suitable ◑ Suitable

ROTA

ROTA

Lathe chucks

SCHUNK offers the right lathe chucks for any application, from universal manual lathe chucks to lathe chucks with jaw quick-change systems and maximum clamping forces. Backed by over 40 years of experience in development and production, SCHUNK lathe chucks meet the requirements of state-of-the-art machining and highly demanding machining tasks in internationally known top quality.

Steady rests, quick-change systems, chuck jaws and clamping cylinders complete the product range, which meets the high requirements of modern machining. Through continuous further development of technology and products, as well as consistent compliance with the quality management system DIN EN ISO 9001:2015, SCHUNK is your competent partner for high-quality lathe chucks. SCHUNK provides complete solutions and guarantees high flexibility for your clamping tasks.

Engineered
Customized

SCHUNK offers complete solutions from the toolholder to the lathe chuck to the drive for your application.

ROTA NCML ▲■

ROTA NCM ◆●■

ROTA HSA ◆

ROTA DFF ◆

ROTA BEV ◆

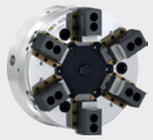
ROTA HSH ◆

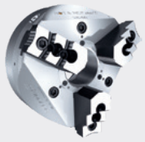
Tech Line
Specialized

Lathe chucks for industry-specific requirements and applications.

ROTA NCE ◆

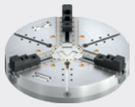
PROTACT


ROTA NCR-A ◆


ROTA NCF plus 2 ◆

ROTA NC plus 2 ◆
4 jaws

ROTA NCO ◆

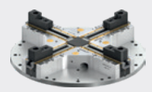

ROTA NCO2 ◆

ROTA 2B ◆

ROTA NCR ◆

ROTA TB2 | ROTA TB2-LH ●

ROTA-M flex 2+2 ▲

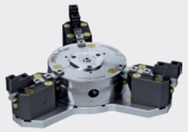

ROTA-ML flex 2+2 ▲

ROTA MEM ◆

Flexible
Quick-change systems

Selected lathe chucks that are characterized by high flexibility for small batch sizes.

ROTA-S plus 2.0 ▲


ROTA-S flex ▲

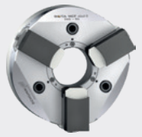
PROTACT

ROTA THW3 ◆

PROTACT

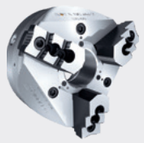
ROTA THW3 2+2 ◆

ROTA THW plus ◆


RAPIDO-A2 ◆

Conventional
Universally

Selected lathe chucks developed to meet the high demands of modern machines for various applications.


ROTA NC plus 2 ◆
3 jaws

ROTA NC plus 2 ◆
2 jaws

ROTA TP ●

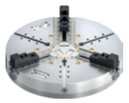
ROTA-G ▲

ZENTRICO THL plus ◆●

◆ Hydraulic ● Pneumatic ▲ Manual ■ Magnetic

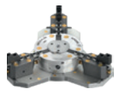
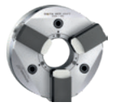
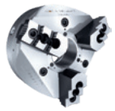
ROTA

ROTA

	Type		Description	Sizes	Max. speed of rotation [RPM]	Max. clamping force [kN]	Stroke/jaw [mm]	Compensation stroke/ jaw [mm]	Number of jaws
Tech Line (Specialized)	ROTA-M flex 2+2		Highly flexible 4-jaw manual lathe chuck with patented drive concept. Due to the large compensation stroke, round, cubic and geometrically unshaped workpieces can be clamped without any problems.	260 – 500	1500 – 2700	100 – 180	9.5 – 17.3	5.1 – 12	4
	ROTA-ML flex 2+2			500 – 1800	300 – 1500	180	17.3	12	4
	ROTA NCE		Highly weight-optimized power lathe chuck with through-hole and up to 40% reduced moment of inertia compared to conventional lathe chucks. Shortened cycle times and energy-efficient machining, especially in the area of high-volume production.	130 – 630	1500 – 7500	45 – 260	3.2 – 8		3
	ROTA NCF plus 2		Power lathe chuck with through-hole and integrated centrifugal force compensation to reduce the loss of clamping force under speed of rotation. This allows the workpieces to be machined at significantly higher speeds.	185 – 315	4000 – 6000	72 – 160	5.3		3
	ROTA NCF			400 – 630	1800 – 3300	187 – 300	8 – 11		3
	ROTA NCO		Power lathe chuck without through-hole with the longest jaw stroke at the highest jaw clamping force. An absolute problem solver for demanding applications.	165 – 630	1600 – 6000	72 – 330	6.4 – 15		3
	ROTA NCO2		Power lathe chucks without through-hole especially for vertical lathes. Optionally available with centrifugal force compensation or individual jaw adjustment.	800 – 1400	500 – 900	330	23		3
	ROTA 2B		2-jaw power lathe chuck without through-hole with long stroke and high clamping force at the same time. Ideally suited for workpieces with large interfering contours.	125 – 400	2000 – 5300	26 – 85	10 – 18		2
	ROTA NCR		6-jaw compensation chuck for deformation-sensitive clamping of thin-walled workpieces.	165 – 200	3500 – 4000	36 – 50	6	±1	6
	ROTA NCR-A		Sealed 6-jaw compensation chuck for deformation-sensitive clamping of thin-walled workpieces. The sealing system ensures constant clamping forces, minimal maintenance costs and an even wider range of applications.	190 – 1000	600 – 4000	36 – 300	6 – 25	±1 – ±6	6
	ROTA TB2		Milling chuck with integrated pneumatic cylinder and very large chuck bore especially for machining large tubes.	470 – 1000	500 – 1700	115 – 240	7 – 12.8		3
	ROTA TB2-LH		Milling chuck with integrated pneumatic cylinder and very large chuck bore especially for machining large tubes. Rapid stroke and clamping stroke enable collision-free loading of pipes with large interfering contours.	470 – 1000	500 – 1300	115 – 240	20 – 38.5		3

	Type		Description	Sizes	Max. speed of rotation [RPM]	Clamping force range, axial [kN]	Clamping force range, radial [kN]	Max. expansion in diameter [mm]
Precise	ROTA MEM		Membrane chucks for exceptional requirements in run-out accuracy, dimensional stability and surface quality in the µm range, particularly for thin-walled and delicate workpieces.	150 – 300	3000 – 5000	2 – 20	3.1 – 31	2.2

ROTA

	Type		Description	Sizes	Max. speed of rotation [RPM]	Max. clamping force [kN]	Stroke/jaw [mm]	Number of jaws
Flexible (quick-change systems)	**ROTA-S plus 2.0**		Manual lathe chuck with jaw quick-change system and diagonally serrated base jaw interface. Can be used even more flexibly in combination with center sleeves or arbors. Also available as a 2-jaw chuck.	160 – 315	3400 – 5400	40 – 180	6.5 – 9.9	2/3
	ROTA-S plus		Manual lathe chuck with jaw quick-change system and diagonally serrated base jaw interface.	400 – 1000	900 – 2200	230 – 270	12 – 15	3
	ROTA-S flex		Weight-reduced manual lathe chuck for mill/turn centers. Very fast conversions from small to large workpiece diameters due to jaw quick-change system.	550 – 1400	400 – 1000	100 – 270	7 – 15	3
	ROTA THW3		Sealed milling chuck with jaw quick-change system with straight serrated base jaw interface. A patented sealing system with permanent grease lubrication ensures constant clamping forces, minimal maintenance effort and an even wider range of applications.	200 – 630	1700 – 6000	64 – 240	6.7 – 10.5	3
	ROTA THW3 2+2		Sealed 2+2 compensation chuck with jaw quick-change system and straight serrated base jaw interface. Due to the large compensation stroke, round, cubic, and geometrically unshaped workpieces can be clamped without any problems.	230 – 315	3000 – 4200	41 – 80	7	4
	ROTA THW plus		Milling chuck with jaw quick-change system and straight serrated base jaw interface.	165 – 315	3600 – 6000	45 – 160	5.9 – 8.6	3
	RAPIDO-A2		Milling chuck with innovative jaw quick-change system. The tool-free jaw change can be done either manually or fully automatically with a robot.	210 – 400	1700 – 4000	85 – 187	5.3 – 15	3
Conventional (Universal)	**ROTA NC plus 2**		Power lathe chuck with through-hole in 2, 3 and 4-jaw design for universal use. This wide range means that virtually all customer requirements can be catered for.	185 – 315	2000 – 500	48 – 160	5.3	2/3/4
	ROTA NC		Power lathe chuck with through-hole in 3-jaw design for universal use.	400 – 630	700 – 2500	187 – 410	8 – 16	3
	ROTA TP		Milling chuck with integrated pneumatic cylinder as an alternative if no hydraulics are available on the lathe.	125 – 350	2200 – 4000	22 – 90	3 – 15	3
	ROTA SPK		Dirt-resistant jaw boxes for individual clamping solutions on face plates with T-slots running in parallel.	180 – 260		55 – 75	75 – 100	1

	Type		Description	Sizes	Clamping range [mm]	Max. clamping force [kN]	Centering accuracy [mm]	Repeat accuracy [mm]
Steady rests	**ZENTRICO THL plus**		Hydraulically actuated, self-centering steady rests with high clamping forces to support long workpieces on lathes. For a quick change, these can also be combined with a steady rest quick change.	100 – 510	4 – 350	1 – 15	0.02 – 0.06	0.005 – 0.02

Stationary workholding

Increasing variance, ever-smaller batch sizes, fluctuating demand, and growing global competitive pressure are among the key challenges that companies face. Added to this are issues such as a shortage of skilled workers resulting from demographic changes, as well as the ongoing optimization of processes using the latest technologies. These factors are just a few of the reasons why companies are increasingly having to consider automated machine tool loading and unloading.

With the range of stationary clamping devices, SCHUNK is the right partner for increasing the productivity of machine tools.

Whether pneumatic, hydraulic, manual, electric or magnetic – the SCHUNK product line offers you flexible and versatile options from one source for the machining of different workpiece geometries in a wide variety of processes.

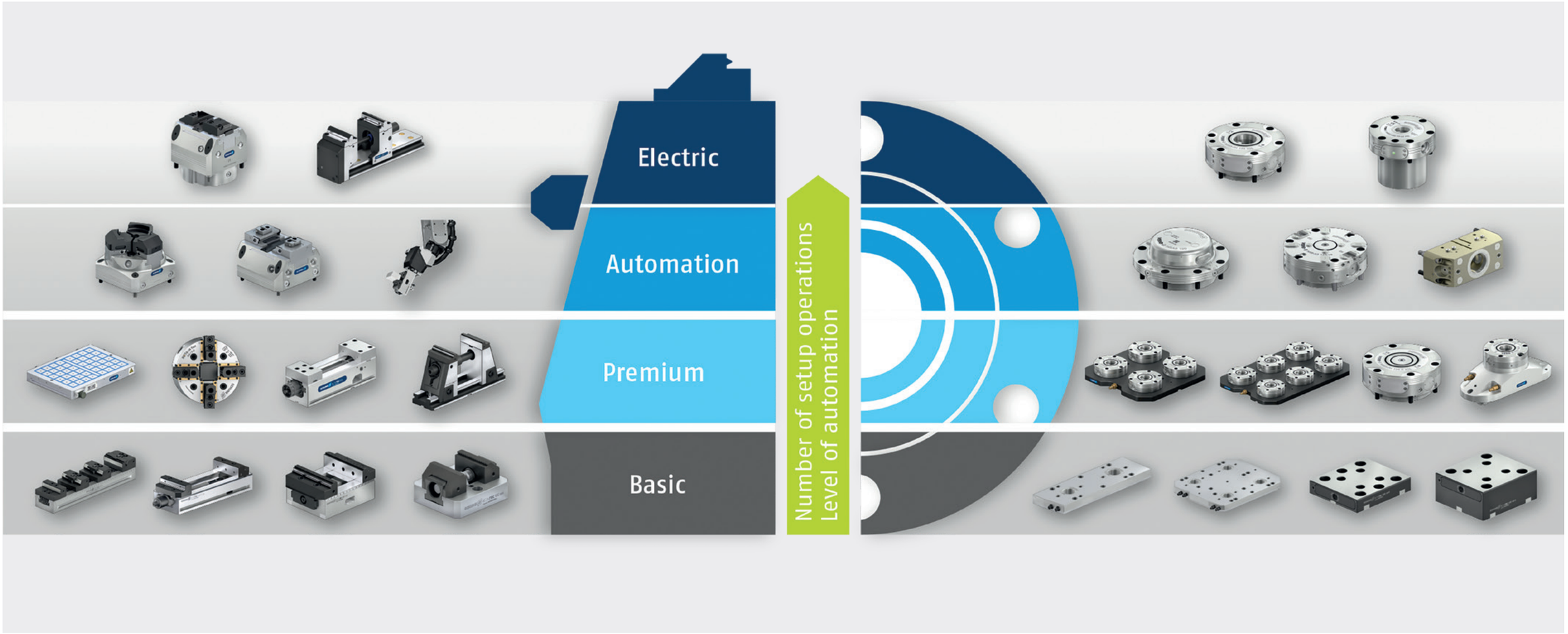
With our broad product portfolio and our process understanding, we enable different ways to increase the output and machine running times of machine tools while automating machine tools. We are guided by the specific customer requirements and can create the optimal solution from the segments shown below.

Clamping system configurator

Configure complete clamping solutions yourself as desired

With our clamping system configurator, you can assemble your custom clamping system in just a few steps. Select the right components, configure your overall system, and download the 3D data directly. You will also receive a parts list and can conveniently request your configuration.

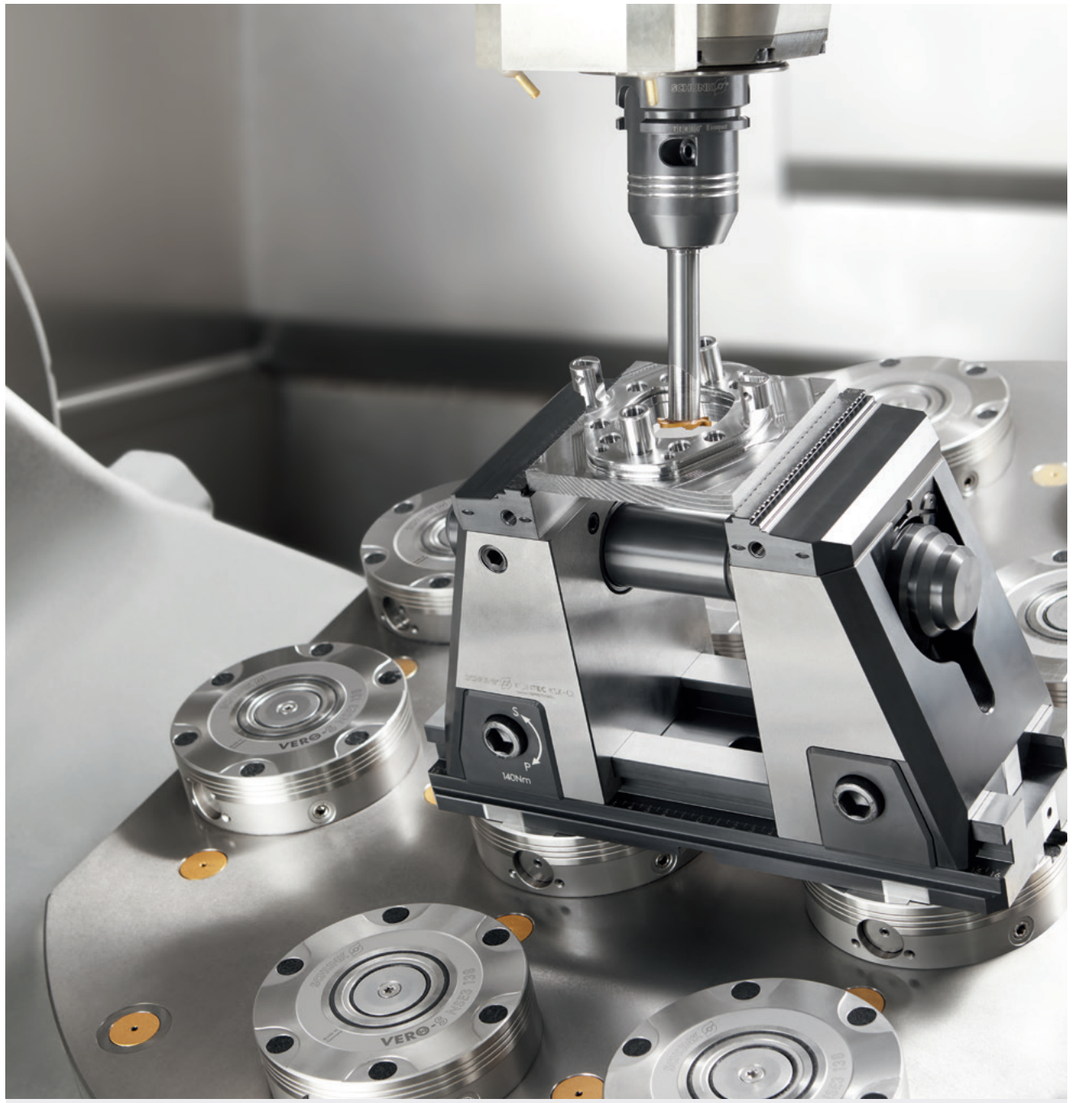
Clamping system configurator
schunk.com/clamping-system-configurator



Clamping modules

The modular system is based on the VERO-S quick-change pallet modules, which are either installed directly in the machine table, or attached to them as clamping stations. With the help of clamping pallets, pallet couplings and robot modules, the clamping devices can be automatically inserted and removed by a robot.

The connection between the clamping module and the clamping device or clamping pallet is achieved via clamping pins or clamping rings. With SCHUNK's large portfolio, all mounting screws can currently be replaced by clamping pins, significantly reducing set-up times.



NEW

KVS cone seal

All quick-change pallet modules from the NSE3 and NSE3 mini series are equipped for integrating a cone seal as standard. The standard plug can easily be replaced by a cone seal at a later point. The cone seal prevents chips or cooling lubricants from entering the clamping pin interface during a clamping device or pallet change. This is particularly crucial when it comes to automated machine loading.

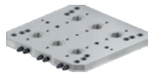
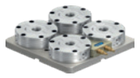
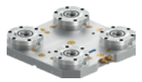
VERO-S

Pneumatic

Type		Description	Clamping pin type/clamping ring type	Automated machine loading	Manual machine loading	Module height above table [mm]	Weight [kg]	Pull-down force without/with turbo [kN]
NSE mikro – innovative technology in the smallest spaces with the smallest quick-change pallet modules								
NSE mikro 49		Micro clamping module for universal applications in micro-cutting. Quick-change pallet module with drive via drive ring and three flat clamping slides with patented drive concept.	SPx mikro 10	Yes	Yes	12	0.2	0.15 0.4
NSE mikro 49-13		Micro clamping module for universal applications in micro-cutting with significantly increased pull-down force for more power. Quick-change pallet modules with drive via axial pistons and two round clamping slides with patented drive concept.	SPx mikro 10	Yes	Yes	13	0.2	0.5 1.5
NSE mini – powerful modules for small variable gauges								
NSE mini 90		Miniature clamping module for applications with light force application such as machining of aluminum or plastic or for use on measuring devices. Quick-change pallet module with drive via drive ring and three flat clamping slides with patented drive concept.	SPx mini 20	Yes	Yes	20	1	0.5 1.5
NSE3 mini 90-25		Miniature clamping module with significantly higher pull-down force for light milling machining. Quick-change pallet modules with drive via axial pistons and two round clamping slides with patented drive concept. Optionally available with cone seal.	SPx mini 20	Yes	Yes	25	1.3	1.5 6
NSE-HT mini 88-20		Miniature clamping module specially designed for high-temperature applications up to 200 °C. The material, drive concept and seals are specially adapted to these temperatures.	SPx mini 20	Yes	Yes	20	1	0.5 2.5
NSE3 – the high-performance quick-change pallet system for universal milling								
NSE3 99		Powerful clamping module with high pull-down forces for small gauges. Optionally available with cone seal.	SPx 40	Yes	Yes	56	2.4	5 18
NSE3 138		The most powerful quick-change pallet module. This premium module serves as the basis for the VERO-S modular system and can be expanded by a unique variety of different equipment. Optionally available with cone seal.	SPx 40	Yes	Yes	39	4.4	8 28
NSE3-T3 138		Powerful quick-change pallet module in tombstone design. Its slim design is particularly suitable for applications with tombstones and swiveling tables. Optionally available with cone seal.	SPx 40	Yes	Yes	11	3.5	7 24
NSE3 138-P		Powerful quick-change pallet module with integrated media transfer units. These media transfer units allow to transfer pneumatics or hydraulics to the clamping device directly through the module with a max. transfer pressure of 300 bar. Optionally available with cone seal.	SPx 40	Yes	Yes	39	4.4	8 28
NSE3 176		High-performance quick-change pallet module with high pull-down force and a 40 kN turbo. Optionally available with cone seal.	SPx 40	Yes	Yes	39	8	9 40
VERO-S Automation – powerful quick-change pallet technology for high-end palletizing								
NSE-A3		Fully equipped automation module for automated machine tool loading as well as for applications in handling, assembly and automation technology.	SPx 40	Yes	Yes	39	4.4	8 28
NSA3		Extremely flat automation module for high-end palletizing. A pallet lift-off function ensures maximum process reliability in interaction with robots.	SRx 120	Yes	Yes	32	2	3 10
			SRx 160	Yes	Yes	40	5.8	5 15

VERO-S

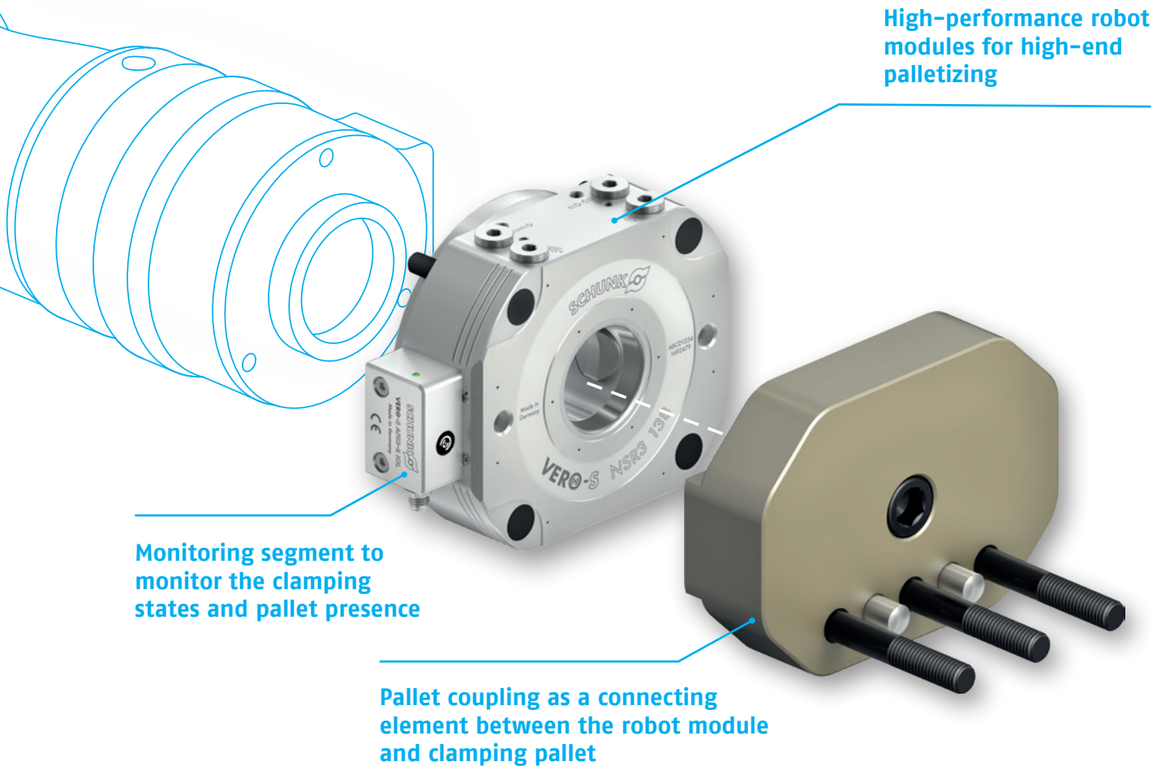
Clamping stations
Quick-change pallet systems

	Type		Description	Clamping pin type/ clamping ring type	Automated machine loading	Manual machine loading	Height above table [mm]	Weight [kg]	Pull-down force without/with turbo [kN]
Premium	**GFD**		Very flat manual set-up stations with standardized pins. The set-up stations are available as 2-, 3-, 4-, 6-, and 10-way set-up stations.	GFD-SP 40	No	Yes	30	0.2	40 – 200
	GFD mini		Very flat manual set-up stations with 4-way clamping pins. The set-up stations are available as single set-up stations, 5-axis set-up stations, pyramid brackets, and tombstones.	GFD-SP mini	No	Yes	27 – 171	0.2	17
	NSL micro								
	NSL micro 50-13		Micro clamping stations based on the NSE micro 49-13 modules. The clamping stations are available as 1-way clamping stations with anti-rotation protection and as 2-way clamping stations.	SPx mikro 10	Yes	Yes	26	0.5 – 0.8	0.4 – 0.8 1.5 – 3
	NSL mini								
	NSL mini 100		Mini clamping stations based on the NSE mini 90 modules. The clamping stations are available as 1-way clamping stations with anti-rotation protection and as 2-way and 4-way clamping stations.	SPx mini 20	Yes	Yes	30	1.7 – 7	0.5 – 2 1.5 – 6
	NSL3 mini 100-25		Mini clamping stations based on the new NSE3 mini 90-25 modules. The clamping stations are available as 1-way clamping stations with anti-rotation protection and as 2-way and 4-way clamping stations.	SPx mini 20	Yes	Yes	40	3.3 – 9.3	1.5 – 6 6 – 24
	NSL3								
	NSL3		Premium clamping stations based on the NSE3 138 modules. The clamping stations are available as 1-way and 2-way clamping stations with anti-rotation protection, as well as 4-way, 6-way, and 8-way clamping stations.	SPx 40	Yes	Yes	60	7.1 – 73.2	8 – 64 28 – 56
	NSL3 turn		Premium clamping stations designed specifically for mill/turn centers. Reliable clamping of clamping devices for rotational speeds up to 2000 RPM.	SPx 40	Yes	Yes	75 – 79	52.4 – 93.7	84 – 140
	NST3		Clamping stations specifically designed for tombstones based on NSE3 138. These are available for the two tombstone dimensions 400 x 400 mm or 500 x 500 mm.	SPx 40	Yes	Yes	74	52 – 76	32 112

Robot modules

The SCHUNK pallet couplings VERO-S NSR series have become an integral part of automated machine loading. Whether slim and light due to hard-anodized aluminum alloy or robust and powerful in the two large sizes – there is a suitable module for every application.

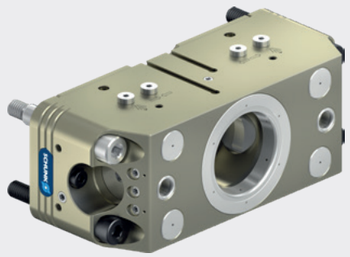
The clamping pin is self-lockingly clamped through two clamping slides via an integrated spring assembly, so that the pull-down force is fully maintained even in the event of a pressure drop. A cleaning function that is integrated into the standard ensures optimal cleaning of the flat work surface, the centering cone, the center bore and the anti-twist protection.



NEW

VERO-S NSR3 160

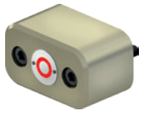
Redesigned robot coupling for high-end palletizing close to the machine table: In the new generation, the module's rigidity has been significantly increased and component optimizations have been made. This now makes it possible to increase the maximum moments to 700 Nm, allowing heavier pallets to be handled.



VERO-S

	Type		Description	Types of clamping pins	Automated machine loading	Module width [mm]	Weight [kg]	Pull-down force with/without turbo [kN]	Max. moment Mx / Mz [Nm]
Robot modules	NSR mikro 60		Very slim robot coupling made of hard-anodized aluminum alloy for handling small pallets with maximum moments of up to 15 Nm.	SPA mikro 10	Yes	29	0.15	0.5 1.5	15 32
	NSR mini 100		Very slim robot coupling made of hard-anodized aluminum alloy for handling small pallets with maximum moments of up to 75 Nm.	SPA mini 20	Yes	39.5	0.4	1 4	75 200
	NSR3 160		Very slim robot coupling made of hard-anodized aluminum alloy for handling pallets with maximum moments of up to 700 Nm.	SPA 40	Yes	60	1.5	4 15	700 1600
	NSR3 138		Robust robot coupling for handling heavy pallets with maximum moments of up to 1,500 Nm.	SPA 40	Yes	112	3.8	8 28	1500 1600
	NSR maxi 220		Robust robot coupling for handling heavy pallets with maximum moments of up to 4,000 Nm.	SPA 80	Yes	176	21	12 50	4000 4000

Accessories media coupling

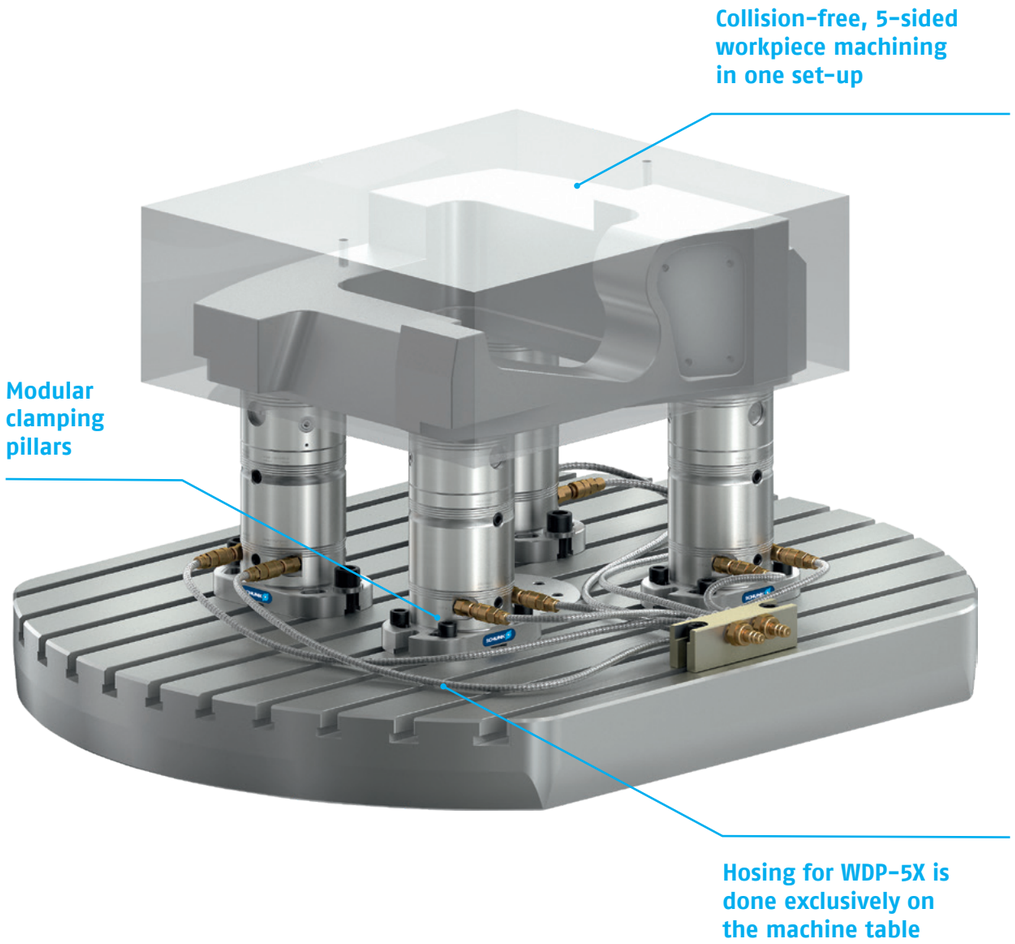
	Type		Description	ID
1x mounting	MDR-NRS-1		**Coupling nipple for robot module** With one-way media transfer unit for actuating clamping stations and clamping devices via the appropriate coupling strip.	1350336
	MDR-PAL-1		**Coupling strip for clamping pallet** With one-way mounting for the transmission of compressed air from the robot module to the clamping device.	1440495
	MDR-NSL-1		**Coupling strip for clamping station** With one-way mounting for the transmission of compressed air from the robot module to the clamping station.	1350331

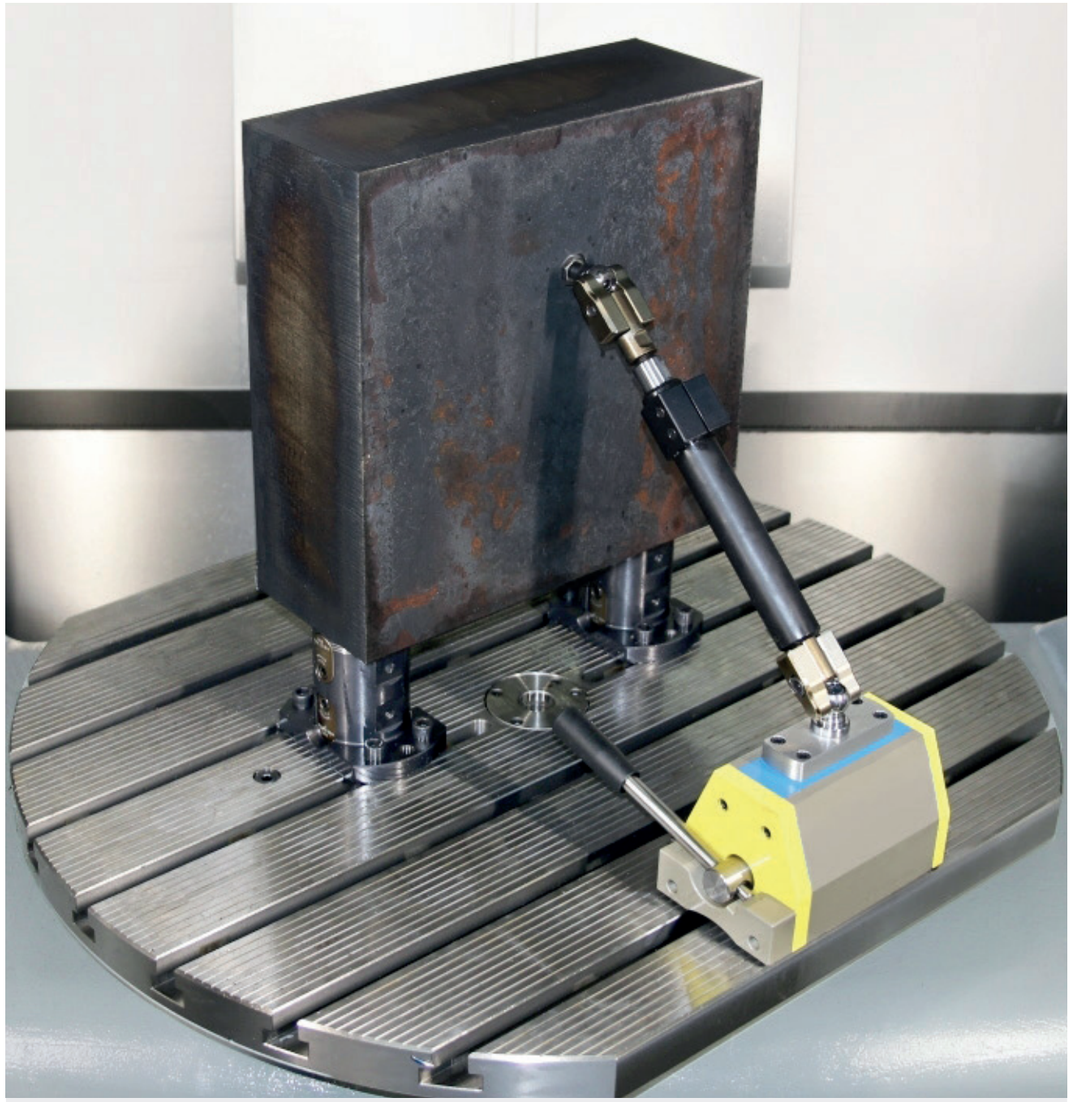
	Type		Description	ID
Two-way mounting	MDR-NSR-2		**Coupling nipple for robot module** With two-way media transfer unit for actuating clamping stations and clamping devices via the appropriate coupling strip.	1350334
	MDR-PAL-2		**Coupling strip for clamping pallet** With two-way mounting for the transmission of compressed air from the robot module to the clamping device.	1426829
	MDR-NSL-2		**Coupling strip for clamping station** With two-way mounting for the transmission of compressed air from the robot module to the clamping station.	1350323

Modular clamping system for direct workpiece clamping

Collision-free clamping without a large interfering contour is increasingly becoming the standard, even for small batches and individual parts. Due to the two modular systems VERO-S WDP-5X (pneumatically actuated) and WDM-5X (manually actuated), workpieces of all types can be directly clamped in seconds without an interfering contour.

With the aid of modular clamping pillars, the workpieces can be lifted off the machine table and secured in a defined clamping situation. Thanks to the extremely large range of clamping pins, the clamping pillars can be adapted to suit all customer requirements.





NEW

Positioning mandrel

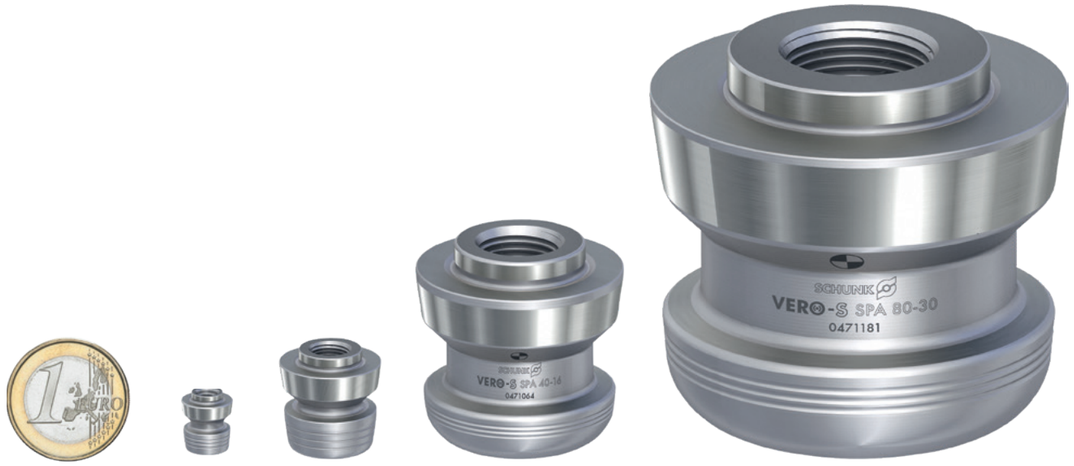
Using the positioning mandrel, clamped in the machine spindle, the clamping pillars can be positioned quickly, easily and precisely on the machine table or grid plates. The modules do not even have to be opened for this.

VERO-S

	Module type		Description	Pull-down force/ holding force [kN]	Pull-down force/ holding force with turbo [kN]	Module diameter [mm]	Module height [mm]	Height compensation [mm]	Repeat accuracy module interface [mm]
Pneumatic workpiece direct clamping system WDP-5X	**Basic modules**		Basic modules serve as the basis of the clamping pillars. Depending on the machine table interface, there are different basic modules available.	10 – 25		Ø 99	60		<0.005
	Stacking modules		Stacking modules are used to preset the height of the clamping pillars. The modules are available in five standardized heights.	10 – 25		Ø 99	30 – 160		<0.005
	Clamping modules		Clamping modules serve as an interface to the workpiece in combination with VERO-S clamping pins. They are available in pneumatic or manual versions.	4 – 15	15	Ø 99	70		<0.005
	Compensation modules		In combination with compensation bolts, compensation modules can continuously compensate for height differences of up to 11 mm. They are available in pneumatic or manual versions.	0.8	4	Ø 99	70	11	<0.005
Manual workpiece direct clamping system WDM-5X	**Basic modules**		Basic modules serve as the basis of the clamping pillars. Depending on the machine table, there are different basic modules available.	15		Ø 80	75 – 175		<0.005
	DUO basic modules		Robust module with three VERO-S interfaces for superstructures of heavy workpieces and fixtures with wide lateral support.	15		Ø 80	75 – 150		<0.005
	VARIO basic modules		Versatile clamping modules with two clamping areas for mounting a VERO-S clamping pin from above and below.	15		Ø 80	100 – 125		<0.005
	Stacking modules		Stacking modules are used to preset the height of the clamping pillars. The modules are available in three standardized heights.	15		Ø 80	125 – 175		<0.005
	Compensation module		Compensation module to correct height, radial and angular inaccuracies.	1.5	1	Ø 80	75		<0.005

Clamping pins

Clamping pins with short taper for form-fit connection between workpieces, clamping palettes or devices and the clamping modules. Depending on the series, there are different sizes and designs available – the right solution for any application.



SPA mikro 10 SPA mini 20 SPA 40 SPA 80

Pull-down and holding forces

Pull-down force [N] F Holding force [N] F

	Without turbo function	With turbo function	SPx mikro 10		SPx mini 20		SPx 40		
			M3	M4	M6	M8	M10	M12	M16
NSE mikro 49	150	400	3000	5000					
NSE mikro 49-13	400	1500	3000	5000					
NSE mini 90	500	1500			15000	25000			
NSE mini 90-25	1500	6000			15000	25000			
NSE-HT mini 88	500	2500			15000	25000			
NSE3 99	5000	18000					35000	50000	75000
NSE3 138	8000	28000					35000	50000	75000
NSE3 176	9000	40000					35000	50000	75000
NSE-A3 138	8000	28000					35000	50000	75000

	Type		Description	Version	ID	Suitable for
SPx mikro 10	SPA mikro 10		**Standard clamping pins** Standard clamping pins for form-fit connection between workpieces or devices with clamping modules.	Centering pins	0436610	NSE mikro NSR mikro
	SPB mikro 10			Positioning pins	0436620	
	SPC mikro 10			Holding pins	0436630	
SPx mini 20	SPA mikro 20		**Standard clamping pins** Standard clamping pins for form-fit connection between workpieces or devices with clamping modules.	Centering pins	0435610	NSE mini NSR mini
	SPB mikro 20			Positioning pins	0435620	
	SPC mikro 20			Holding pins	0435630	
SPx 40	SPA 40		**Standard clamping pins** Standard clamping pins for form-fit connection between workpieces or devices with clamping modules.	Centering pins	0471151	NSE3 NSE-A3 NSR3 138 NSR3 160
	SPB 40			Positioning pins	0471152	
	SPC 40			Holding pins	0471153	
	SPA-X 40		**Compensation pins** Clamping pins for compensating fluctuations of the bore hole gauges. SPA-X 40 = compensation in one direction of ±1 mm. SPA-XY 40 = compensation in all directions of ±1 mm.	Compensation pins	0471155	NSE3 NSE-A3
	SPA-XY 40			Compensation pins	0471156	
	SPG 40		**Accuracy pins** Clamping pins with patented flex taper with a repeat accuracy <0.002 mm	Centering pins	0471154	NSE3 NSE-A3
	SPA-S 40		**Dove tail pins** Standard clamping pins for form-fit connection between workpieces or devices with clamping modules.	Centering pins	1310630	NSE3 NSE-A3
	SPB-S 40			Positioning pins	1323856	
	SPC-S 40			Holding pins	1323857	
	SPA-OB 40		**Clamping pins without centering collar** The clamping pin is screwed into the workpiece using a fitting screw.	Centering pins	0471631	NSE3 NSE-A3
	SPB-OB 40			Positioning pins	1316935	
	SPC-OB 40			Holding pins	1316936	
	SPA-F 40		**Heavy duty pins** Clamping pins with a holding force of 75 kN.	Centering pins	0471171	NSE3 NSE-A3
	SPC-F 40			Holding pins	0471172	
SPx 80	SPA 80-30		**Clamping pins for NSR maxi** Clamping pins for form-fit connections of the NSR maxi robot coupling to the associated pallet coupling.	Centering pins	0471181	NSR maxi

Intelligent clamping technology

With the electromechanical clamping systems, SCHUNK provides an energy-efficient alternative to pneumatic and hydraulic clamping systems that can replace them 1:1. The clamping devices have a high degree of efficiency. They are always supplied from the bottom side, so the line requirement is minimal. The integrated electronics allow all main parameters such as clamping force, clamping position and opening position to be controlled.

SCHUNK's sensory clamping devices are suitable interim solutions for this purpose. Although these clamping devices are operated conventionally – either pneumatically or hydraulically – they have been enhanced with a fully integrated sensor system. With this sensor system, all clamping parameters can be monitored in real time and transmitted directly to the machine control via an IO-Link interface. The result: maximum process reliability, end-to-end transparency and smart automation.

Monitoring of pallet presence

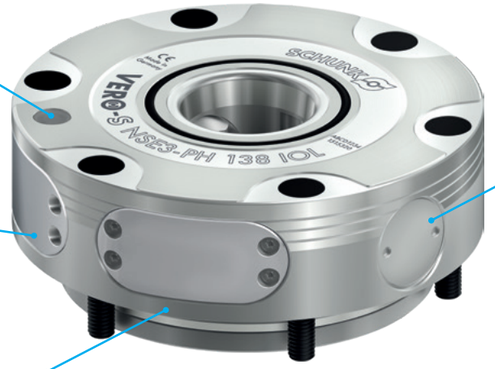
Possible via inductive proximity switches

Integrated sensor system

No additional interfering contour

Control via IO-Link

For simple integration in commonly used field bus systems



Monitoring of the clamping slide positions

For the statuses "Open status", "Locked status" and "Locked status without clamping pin"

Pre-positioning of the jaws

For fast loading and unloading of different workpieces

Control via IO-Link

For simple integration in commonly used field bus systems

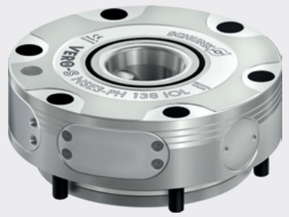
Integrated electronics and actuators

Signal processing is done exclusively in the clamping device

NEW

VERO-S NSE3-PH IOL

VERO-S NSE3-PH IOL is the most innovative clamping device in the field of electromechanical clamping devices – with an unbeatable performance. The piezo-hydraulic drive achieves almost the same pull-down forces with an electromechanical quick-change pallet system as the fluid-actuated clamping device in the same installation space. The entire control and sensor system is fully integrated in the module, so that no additional interfering contours are created. In addition to the innovative drive, both the monitoring of the clamping slide position and the pallet presence are fully integrated in the module. All data is transferred via an IO-Link interface, allowing the module to be easily integrated into all common fieldbus systems.



NEW

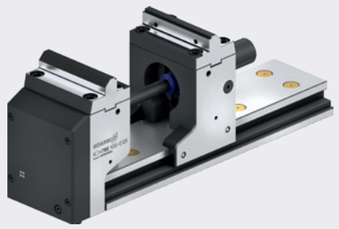
TANDEM KSE3 IOL/KRE3 IOL

Electromechanical clamping devices with IO-Link interface are also essential for TANDEM clamping force blocks. The SCHUNK KSE3 IOL and KRE3 IOL vises are electrically controlled and driven by a motor-gearbox combination. Due to the fully integrated electronics and actuators, signal processing takes place exclusively in the clamping device. The special feature of the clamping force blocks is that they have jaw pre-positioning and a variable clamping force in the range of 30 – 100%. In addition, the clamping devices signal when lubrication is required.

NEW

KONTEC KSX-E

With the KONTEC KSX-E IOL, SCHUNK is consistently advancing the development of electromechanically driven clamping devices in the vise sector. Activated by 24 V DC, the new vise can be used to program and continuously adjust the clamping force up to 40 kN per jaw. The large clamping range of up to 420 mm with jaw pre-positioning makes the KONTEC KSX-E IOL a very flexible clamping device, especially in this field of application. All programmable parameters can also be transferred to the machine control and evaluated via the integrated IO-Link interface.



VERO-S

Intelligent clamping technology
Quick-change pallet systems, clamping force blocks

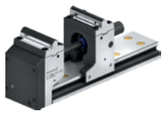
Electromagnetic quick-change pallet module

Type		Description	Types of clamping pins	Automated machine loading	Manual machine loading	Module height above table [mm]	Weight [kg]	Pull-down force [kN]
NSE3-PH 138 IOL		Piezo-hydraulic quick-change pallet module with the same performance values in the same installation space as the current NSE3 138. Drive and data transfer via IO-Link interface.	SPx 40	Yes	Yes	39	4.5	20
NSE-E mini 90-25 IOL		Electromechanically actuated quick-change pallet module with integrated electronics. Control and data transmission via IO-Link interface.	SPx mini 20	Yes	Yes	25	1.5	6
NSE-E mini 90		Electromechanically actuated quick-change pallet module with integrated electronics. Control via a 4-PIN connector on the side. Monitoring of clamping slide positions via two external inductive proximity switches.	SPx mini 20	Yes	Yes	20	1.7	1.5

Electromechanical clamping force blocks

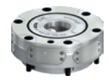
Type		Description		Size [mm]	Clamping force [kN]	Stroke per jaw [mm]	Travel speed jaws [mm/s]	Average current consumption [mA]	Max. current input [mA]	Operating voltage [V DC]
KSE3 IOL		Electromechanically driven 2-jaw clamping force blocks with integrated electronics for jaw positioning.	**Advantage of standard stroke version:** High clamping forces due to the small wedge angle.	100	5.4 – 18	2	0.3	800	5000	24
				140	9 – 30	3	0.4	800	5000	24
				160	10.5 – 35	3	0.4	800	5000	24
			Advantage of long stroke version: Long jaw stroke for collision-free loading of workpieces with large interfering contours.	100	2.4 – 8	6	0.7	800	5000	24
				140	4.5 – 15	7	0.8	800	5000	24
				160	4.5 – 15	8	0.8	800	5000	24
KRE3 IOL		Electromechanically driven 3-jaw clamping force blocks with integrated electronics for jaw positioning.	**Advantage of standard stroke version:** High clamping forces due to the small wedge angle.	100	5.4 – 18	2	0.3	800	5000	24
				160	10.5 – 35	3	0.4	800	5000	24
			Advantage of long stroke version: Long jaw stroke for collision-free loading of workpieces with large interfering contours.	100	2.4 – 8	6	0.7	800	5000	24
				160	4.5 – 15	8	0.8	800	5000	24

Electromechanical vises

Type		Description	Clamping width [mm]	Base body length [mm]	Clamping force [kN]	IO interface	Operating voltage control unit [V DC]	Operating voltage actuator [V DC]
KSX-E IOL		Electromechanically driven 5-axis vise with continuously programmable clamping stroke. Data transmission via the IO-Link interface.	125	430	6 – 40	Spring contacts Fixed cable connection	24	48

VERO-S

Intelligent clamping technology
Quick-change pallet systems, clamping force blocks

	Type		Description	Types of clamping pins	Automated machine loading	Manual machine loading	Module height above table [mm]	Weight [kg]	Operating voltage [V DC]	Pull-down force [kN]
Sensory quick-change pallet modules	NSE-S3 138 IOL		Pneumatically actuated quick-change pallet modules based on NSE3 138 with fully integrated sensor system and IO-Link interface with identical dimensions.	SPx 40	Yes	Yes	39	4.1	24	8 28
	NSE-S mini 90-25 IOL		Pneumatically actuated quick-change pallet modules based on NSE3 mini 90-25 with fully integrated sensor system and IO-Link interface with identical dimensions.	SPx mini 20	Yes	Yes	25	1.1	24	1.5 6

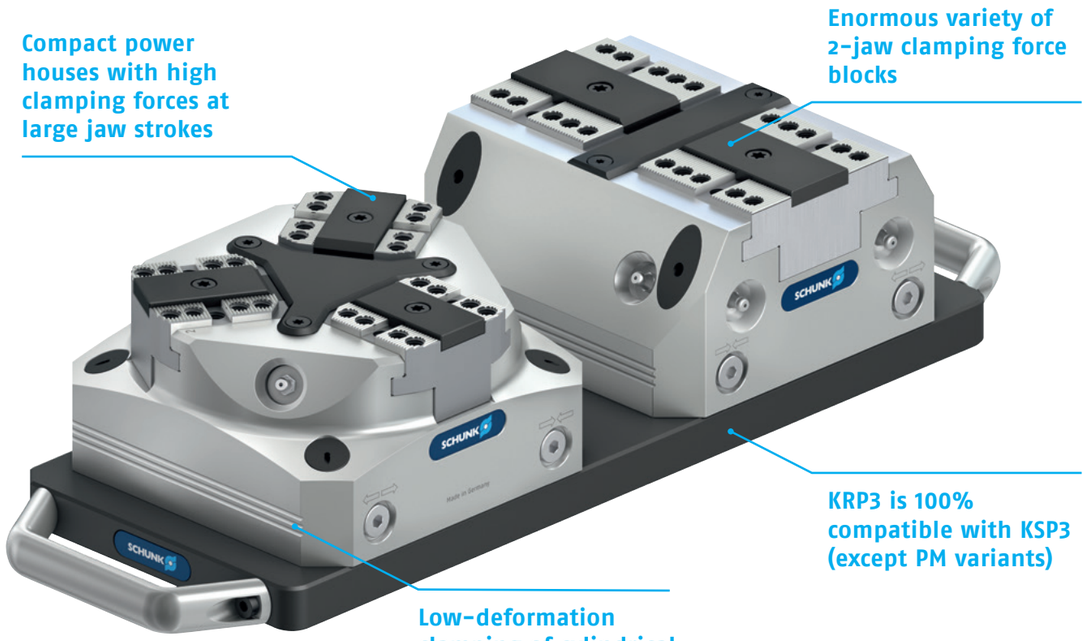
	Type		Description		Size [mm]	Clamping force at max. Operating pressure [kN]	Additional clamping force from Spring assembly [kN]	Stroke per jaw [mm]	Max. jaw height [mm]	Operating voltage [V DC]	Operating pressure [bar]
Sensory clamping force blocks	KSP3-SM IOL		Pneumatically actuated 2-jaw clamping force blocks with integrated sensory monitoring unit and IO-Link interface.	**Advantage of standard stroke version:** High clamping forces due to the small wedge angle. **Advantage of long stroke version:** Long jaw stroke for collision-free loading of workpieces with large interfering contours. **Advantage of fixed jaw version:** Fixed zero point and therefore no offset of the reference point.	100	18	2.5 – 6.5	2	60	24	2 – 9
					160	45	5.5 – 11	3	60	24	2 – 9
					100	8	1 – 2.5	6	150	24	2 – 9
					160	20	2 – 4.5	8	200	24	2 – 9
					100	18	2.5 – 6.5	4	60	24	2 – 9
					160	45	5.5 – 11	6	60	24	2 – 9
	KSH3-SM IOL		Hydraulically actuated 2-jaw clamping force blocks with integrated sensory monitoring unit and IO-Link interface.	**Advantage of standard stroke version:** High clamping forces due to the small wedge angle. **Advantage of long stroke version:** Long jaw stroke for collision-free loading of workpieces with large interfering contours. **Advantage of fixed jaw version:** Fixed zero point and therefore no offset of the reference point.	100	18		2	60	24	2 – 9
					160	45		3	60	24	2 – 9
					100	16		6	60	24	2 – 9
					160	40		8	60	24	2 – 9
					100	18		4	60	24	2 – 9
					160	45		6	60	24	2 – 9

	Type		Description	Interface	Mains voltage [V DC]	Weight [kg]	Suitable for
Monitoring segments	AFS3 IOL		For easy retrofitting to all existing NSE3 modules. Data transfer via IO-Link interface. Monitoring of clamping slide positions and pallet presence.	IO-Link	24	0.1	NSE3 modules
	AFS3-R IOL		For easy retrofitting to the new NSR3 138 robot module. Data transfer via IO-Link interface. Monitoring of clamping slide positions and pallet presence.	IO-Link	24	0.1	NSR3 138

Clamping force blocks

TANDEM3, the current modular system from the pioneer in clamping force blocks. The current series not only replaced the TANDEM plus modular system, but also added numerous new sizes and variants to the portfolio, as well as supplementing the modular system with the 3-jaw clamping force blocks. This means that SCHUNK can offer more solutions and services for workpiece clamping in its standard range than any other company, paving the way for use in automated machine loading.

The clamping force blocks of the current generation are 100% compatible with the TANDEM plus vises, so that they can be replaced 1:1. The entire program is supplemented with a variety of system jaws and top jaws, as well as base plates and adapter plates for direct mounting of the clamping force blocks on the VERO-S quick-change pallet system or the machine table. Benefit from SCHUNK's decades of know-how in the development of clamping force blocks.



Compact. Intelligent. All in.
The art of engineering from SCHUNK.

"When breaking new ground, it is important to be brave enough to try out something new."

Philipp Schräder, Head of Development Toolholding and Workholding

Pneumatic clamping force blocks
Clamping force blocks

	Type		Axes 3	Axes 4	Axes 5	Description	Size [mm]	Clamping force at max. operating pressure [kN]	Additional clamping force resulting from spring assembly [kN]	Stroke per jaw [mm]	Max. jaw height [mm]	Repeat accuracy [mm]	Closing/opening time [s]	Operating pressure [bar]
2-jaw clamping force blocks	**Standard stroke**													
	KSP3		x	x	x	Pneumatically actuated clamping force blocks with standard stroke for any type of clamping task – whenever pneumatics are available on the machine. **Advantage of standard stroke version:** High clamping forces due to the small wedge angle.	64	4.5	0.5 – 1.5	2	60	0.01	0.1	2 – 9
							100	18	2.5 – 6.5	2	60	0.01	0.2	2 – 9
							140	30	4.5 – 9	3	60	0.01	0.3	2 – 9
							160	45	5.5 – 11	3	60	0.01	0.4	2 – 9
							200	55	8.5 – 16	4	100	0.02	0.6	2 – 9
							250	55	10.5 – 20	5	150	0.02	1.6	2 – 6
							315	100	16.5 – 32.5	6.5	200	0.02	2	2 – 6
	Long stroke													
	KSP3-LH		x	x	x	Pneumatically actuated clamping force blocks with long stroke for any type of clamping task – whenever pneumatics are available on the machine. **Advantage of long stroke version:** Long jaw stroke for collision-free loading of workpieces with large interfering contours.	64	2.3	0.4 – 0.8	4	120	0.01	0.1	2 – 9
							100	8	1 – 2.5	6	150	0.01	0.2	2 – 9
							140	15	2 – 4	7	120	0.01	0.3	2 – 9
							160	20	2 – 4.5	8	200	0.01	0.4	2 – 9
							200	25	3.5 – 7	10	200	0.02	0.6	2 – 9
							250	20	3.5 – 7	15	500	0.02	1.6	2 – 6
							315	40	6.5 – 12.5	18	500	0.02	2	2 – 6
	With fixed jaw													
	KSP3-F		x	x	x	Pneumatically actuated clamping force blocks with fixed jaw for any type of clamping task – whenever pneumatics are available on the machine. **Advantage of fixed jaw version:** Fixed zero point and therefore no offset of the reference point.	64	4.5	0.5 – 1.5	4	60	0.01	0.1	2 – 9
							100	18	2.5 – 6.5	4	60	0.01	0.2	2 – 9
							140	30	4.5 – 9	6	60	0.01	0.3	2 – 9
							160	45	5.5 – 11	6	60	0.01	0.4	2 – 9
							200	55	8.5 – 16	8	100	0.01	0.6	2 – 9
							250	55	10.5 – 20	10	150	0.01	1.6	2 – 6
							315	100	16.5 – 32.5	13	200	0.01	2	2 – 6
3-jaw clamping force blocks	**Standard stroke**													
	KRP3		x	x	x	Pneumatically actuated clamping force blocks with standard stroke for any type of clamping task – whenever pneumatics are available on the machine. **Advantage of standard stroke version:** High clamping forces due to the small wedge angle.	100	18	2 – 5	2	60	0.01	0.2	2 – 9
							160	45	4 – 8	3	60	0.01	0.4	2 – 9
							200	55	6.5 – 12	4	100	0.02	1	2 – 9
							250	55	9 – 15	5	150	0.02	1.6	2 – 6
	Long stroke													
	KRP3-LH		x	x	x	Pneumatically actuated clamping force blocks with long stroke for any type of clamping task – whenever pneumatics are available on the machine. **Advantage of long stroke version:** Long jaw stroke for collision-free loading of workpieces with large interfering contours.	100	8	0.75 – 2	6	150	0.01	0.2	2 – 9
							160	20	2 – 3.5	8	200	0.01	0.4	2 – 9
							200	25	3 – 5.5	10	200	0.02	1	2 – 9
							250	20	3 – 5.5	15	500	0.02	1.6	2 – 6
Lean automation vise	**Standard stroke**													
	PGS3		x	x	x	Pneumatically actuated clamping force blocks with standard stroke for automated machining of small workpieces. **Advantage of standard stroke version:** High clamping forces due to the small wedge angle.	100	10		2	30	0.02	0.2	2 – 6
							140	17		3	30	0.02	0.3	2 – 6
	Long stroke													
	PGS3-LH		x	x	x	Pneumatically actuated clamping force blocks with long stroke for automated machining of small workpieces. **Advantage of long stroke version:** Long jaw stroke for collision-free loading of workpieces with large interfering contours.	100	4.5		6	45	0.02	0.2	2 – 6
							140	8.5		7	45	0.03	0.3	2 – 6

Hydraulic clamping force blocks
Clamping force blocks

	Type		Axes 3	Axes 4	Axes 5	Description	Size [mm]	Clamping force at max. operating pressure [kN]	Stroke per jaw [mm]	Max. jaw height [mm]	Repeat accuracy [mm]	Closing/opening time [s]	Operating pressure [bar]
2-jaw clamping force blocks	**Standard stroke**												
	KSH3		x	x	x	Hydraulically actuated clamping force blocks with standard stroke especially in the field of series production – whenever hydraulics are available on the machine. **Advantage of standard stroke version:** High clamping forces due to the small wedge angle.	64	4.5	2	60	0.01	0.5	10 – 60
							100	18	2	60	0.01	1	10 – 60
							140	30	3	60	0.01	1	10 – 60
							160	45	3	60	0.01	1.5	10 – 60
							200	60	4	100	0.02	1.8	10 – 60
	Long stroke												
	KSH3-LH		x	x	x	Hydraulically actuated clamping force blocks with long stroke especially in the field of series production – whenever hydraulics are available on the machine. **Advantage of long stroke version:** Long jaw stroke for collision-free loading of workpieces with large interfering contours.	64	4.5	4	60	0.01	0.1	10 – 120
							100	16	6	60	0.01	1	10 – 120
							140	30	7	60	0.01	1	10 – 120
							160	40	8	60	0.01	1.5	10 – 120
							200	53	10	200	0.02	1.8	10 – 120
							250	50	15	150	0.02	2.5	10 – 60
							315	95	18	200	0.02	3.5	10 – 120
	With fixed jaw												
	KSH3-F		x	x	x	Hydraulically actuated clamping force blocks with fixed jaw especially in the field of series production – whenever hydraulics are available on the machine. **Advantage of fixed jaw version:** Fixed zero point and therefore no offset of the reference point.	64	4	4	60	0.01	0.1	10 – 60
							100	18	4	60	0.01	1	10 – 60
							140	30	6	60	0.01	1	10 – 60
							160	45	6	60	0.01	1.5	10 – 60
							200	60	8	100	0.01	1.8	10 – 60
3-jaw clamping force blocks	**Standard stroke**												
	KRH3		x	x	x	Hydraulically actuated clamping force blocks with standard stroke especially in the field of series production – whenever hydraulics are available on the machine. **Advantage of standard stroke version:** High clamping forces due to the small wedge angle.	100	18	2	60	0.01	1	10 – 60
							160	45	3	60	0.01	1.5	10 – 60
							200	60	4	100	0.02	1.8	10 – 60
	Long stroke												
	KRH3-LH		x	x	x	Hydraulically actuated clamping force blocks with long stroke especially in the field of series production – whenever hydraulics are available on the machine. **Advantage of long stroke version:** Long jaw stroke for collision-free loading of workpieces with large interfering contours.	100	16	6	60	0.01	1	10 – 120
							160	40	8	60	0.01	1.5	10 – 120
							200	53	10	100	0.02	1.8	10 – 120
							250	50	15	150	0.02	2.5	10 – 60
Long-stroke clamps	**Long stroke**												
	KS-H-LH		x	x	x	Long-stroke clamp with a hydraulic clamping stroke of 110 mm and an integrated path measuring system.	125	80	55	60			10 – 250

Spring-packaged clamping force blocks
Clamping force blocks

	Type		Axes 3	Axes 4	Axes 5	Description	Size [mm]	Clamping force range [kN]	Clamping force range with turbo [kN]	Stroke per jaw [mm]	Max. jaw height [mm]	Repeat accuracy [mm]	Closing/ opening time [s]	Opening pressure [bar]	Max. turbo pressure [bar]
2-jaw clamping force blocks	**Standard stroke**														
	KSF3		x	x	x	Spring-loaded clamping force blocks with standard stroke especially for tombstone and storage solutions. Clamping force is fully maintained even after compressed air is removed. **Advantage of standard stroke version:** High clamping forces due to the small wedge angle.	64	2 – 2.5		2	60	0.01	0.1	6 – 9	
							100	7 – 12		2	60	0.01	0.2	6 – 9	
							140	13.5 – 18.5		3	60	0.01	0.6	6 – 9	
							160	20 – 30		3	60	0.01	0.8	6 – 9	
							200	26 – 35		4	100	0.02	1.2	6 – 9	
							250	37 – 50		5	150	0.02	1.5	6 – 9	
							315	69 – 95		6.5	200	0.02	2	6 – 9	
	Long stroke														
	KSF3-LH		x	x	x	Spring-loaded clamping force blocks with long stroke especially for tombstone and storage solutions. Clamping force is fully maintained even after compressed air is removed. **Advantage of long stroke version:** Long jaw stroke for collision-free loading of workpieces with large interfering contours.	64	1 – 1.5	2.5 – 3	4	120	0.01	0.1	6 – 9	6
							100	3 – 5	9 – 11	6	150	0.01	0.2	6 – 9	6
							140	6.5 – 9	16.5 – 24	7	120	0.01	0.6	6 – 9	6
							160	10 – 15	29 – 34	8	200	0.01	0.4	6 – 9	6
							200	12 – 17	31 – 36	10	200	0.02	1.2	6 – 9	6
							250	15 – 21	40 – 46	15	500	0.02	1.5	6 – 9	6
							315	27 – 37	67 – 77	18	500	0.02	2	6 – 9	6
	With fixed jaw														
	KSF3-F		x	x	x	Spring-loaded clamping force blocks with fixed jaw especially for tombstone and storage solutions. Clamping force is fully maintained even after compressed air is removed. **Advantage of fixed jaw version:** Fixed zero point and therefore no offset of the reference point.	64	2 – 2.5		4	60	0.01	0.1	6 – 9	
							100	7 – 12		4	60	0.01	0.2	6 – 9	
							140	13.5 – 18.5		6	60	0.01	0.6	6 – 9	
							160	20 – 30		6	60	0.01	0.4	6 – 9	
							200	26 – 35		8	100	0.01	1.2	6 – 9	
							250	37 – 50		10	150	0.01	1.5	6 – 9	
							315	69 – 95		13	200	0.01	2	6 – 9	
3-jaw clamping force blocks	**Standard stroke**														
	KRF3		x	x	x	Spring-loaded clamping force blocks with standard stroke for tombstone and storage solutions. Due to the clamping via spring force, the clamping force is fully maintained even after removal of the compressed air. **Advantage of standard stroke version:** High clamping forces due to the small wedge angle.	100	7 – 12		2	60	0.01	0.2	6 – 9	
							160	20 – 30		3	60	0.01	0.8	6 – 9	
							200	26 – 35		4	100	0.02	1.2	6 – 9	
							250	37 – 50		5	150	0.02	1.8	6 – 9	
	Long stroke														
	KRF3-LH		x	x	x	Spring-loaded clamping force blocks with long stroke for tombstone and storage solutions. Due to the clamping via spring force, the clamping force is fully maintained even after removal of the compressed air. **Advantage of long stroke version:** Long jaw stroke for collision-free loading of workpieces with large interfering contours.	100	3 – 5	9 – 11	6	150	0.01	0.2	6 – 9	6
							160	10 – 15	29 – 34	8	200	0.01	0.8	6 – 9	6
							200	12 – 17	31 – 36	10	200	0.02	1.2	6 – 9	6
							250	15 – 21	40 – 46	15	500	0.02	1.6	6 – 9	6

Pneumatic clamping force blocks with jaw quick-change system
Clamping force blocks

	Type		Axes 3	Axes 4	Axes 5	Description	Size [mm]	Clamping force at max. operating pressure [kN]	Additional clamping force from spring assembly [kN]	Stroke per jaw [mm]	Max. jaw height [mm]	Repeat precision [mm]	Closing/ opening time [s]	Operating pressure [bar]
2-jaw clamping force block	**Standard stroke**													
	KSP3 BWA		x	x	x	Pneumatically actuated clamping force blocks with standard stroke and jaw quick-change system for manual or fully automated jaw change without tools. Preferably for cubic workpieces. **Advantage of standard stroke version:** High clamping forces due to the small wedge angle.	100	18	2.5 – 6.5	2	27	0.01	0.2	2 – 9
							140	30	4.5 – 9	3	33	0.01	0.3	2 – 9
							160	45	5.5 – 11	3	41	0.01	0.4	2 – 9
							250	55	10.5 – 20	5	52	0.02	1.6	2 – 9
	Long stroke													
	KSP3-LH BWA		x	x	x	Pneumatically actuated clamping force blocks with long stroke and jaw quick change for manual or fully automated jaw change without tools. Preferably for cubic workpieces. **Advantage of long stroke version:** Long jaw stroke for collision-free loading of workpieces with large interfering contours.	100	8	1 – 2.5	6	27	0.01	0.2	2 – 9
							140	15	2 – 4	7	33	0.01	0.3	2 – 9
							160	20	2 – 4.5	8	41	0.01	0.4	2 – 9
							250	20	3.5 – 7	15	52	0.02	1.6	2 – 9
3-jaw clamping force block	**Standard stroke**													
	KRP3 BWA		x	x	x	Pneumatically actuated clamping force blocks with standard stroke and jaw quick-change system for manual or fully automated jaw change without tools. Preferably for cylindrical workpieces. **Advantage of standard stroke version:** High clamping forces due to the small wedge angle.	160	45	4 – 8	3	33	0.01	0.4	2 – 9
							250	55	9 – 15	5	41	0.02	1.6	2 – 6
	Long stroke													
	KRP3 BWA		x	x	x	Pneumatically actuated clamping force blocks with long stroke and jaw quick change for manual or fully automated jaw change without tools. Preferably for cylindrical workpieces. **Advantage of long stroke version:** Long jaw stroke for collision-free loading of workpieces with large interfering contours.	160	20	2 – 3.5	8	33	0.01	0.4	3 – 9
							250	20	3 – 5.5	15	41	0.02	1.6	2 – 6

Hydraulic clamping force blocks with jaw quick-change system
Clamping force blocks

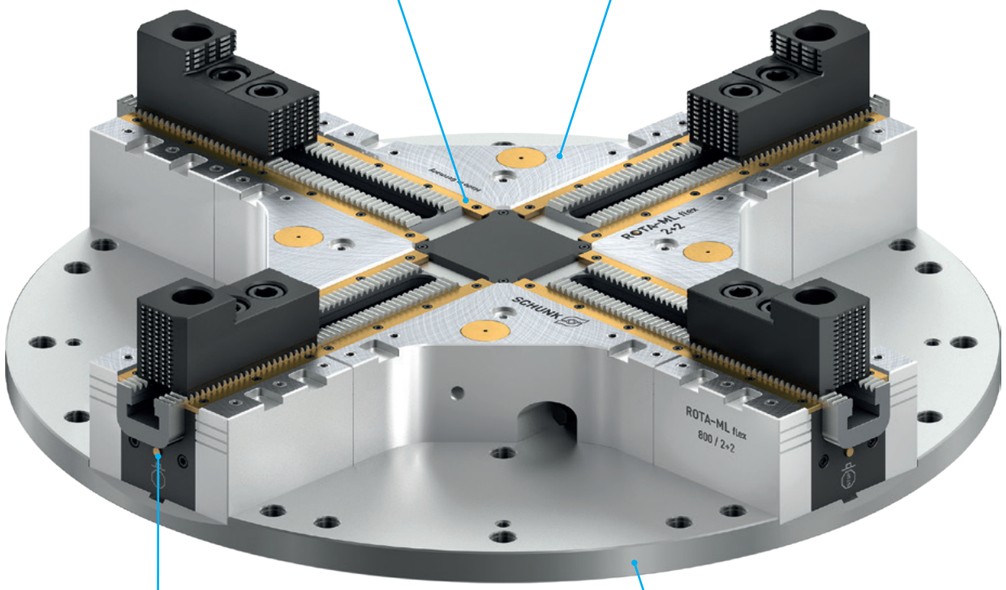
	Type		Axes 3	Axes 4	Axes 5	Description	Size [mm]	Clamping force at max. operating pressure [kN]	Stroke per jaw [mm]	Max. jaw height [mm]	Repeat precision [mm]	Closing/ opening time [s]	Operating pressure [bar]
2-jaw clamping force block	**Standard stroke**												
	KSH3 BWA		x	x	x	Hydraulically actuated clamping force blocks with standard stroke and jaw quick-change system for manual or fully automated jaw change without tools. Preferably for cubic workpieces. **Advantage of standard stroke version:** High clamping forces due to the small wedge angle.	100	18	2	27	0.01	1	10 – 60
							140	30	3	33	0.01	1	10 – 60
							160	45	3	41	0.01	1.5	10 – 60
	Long stroke												
	KSH3-LH BWA		x	x	x	Hydraulically actuated clamping force blocks with long stroke and jaw quick change for manual or fully automated jaw change without tools. Preferably for cubic workpieces. **Advantage of long stroke version:** Long jaw stroke for collision-free loading of workpieces with large interfering contours.	100	16	6	27	0.01	1	10 – 120
							140	30	7	33	0.01	1	10 – 120
							160	40	8	41	0.01	1.5	10 – 120
							250	50	15	52	0.02	2.5	10 – 60
3-jaw clamping force block	**Standard stroke**												
	KRH3 BWA		x	x	x	Hydraulically actuated clamping force blocks with standard stroke and jaw quick-change system for manual or fully automated jaw change without tools. Preferably for cylindrical workpieces. **Advantage of standard stroke version:** High clamping forces due to the small wedge angle.	160	45	3	33	0.01	1.5	10 – 60
	Long stroke												
	KRH3-LH BWA		x	x	x	Hydraulically actuated clamping force blocks with long stroke and jaw quick change for manual or fully automated jaw change without tools. Preferably for cylindrical workpieces. **Advantage of long stroke version:** Long jaw stroke for collision-free loading of workpieces with large interfering contours.	160	40	8	33	0.01	1.5	10 – 120
							250	50	15	41	0.02	2.5	10 – 60

Stationary lathe chucks

Modern machining centers increasingly require large workpieces to be machined at high speeds of rotation. With its manually, hydraulically or pneumatically actuated lathe chucks, SCHUNK combines high clamping forces with large jaw strokes. Due to their compact design, integrated actuating cylinder, and console plates, these lathe chucks can be mounted directly on the machine table and are ready for use in next to no time.

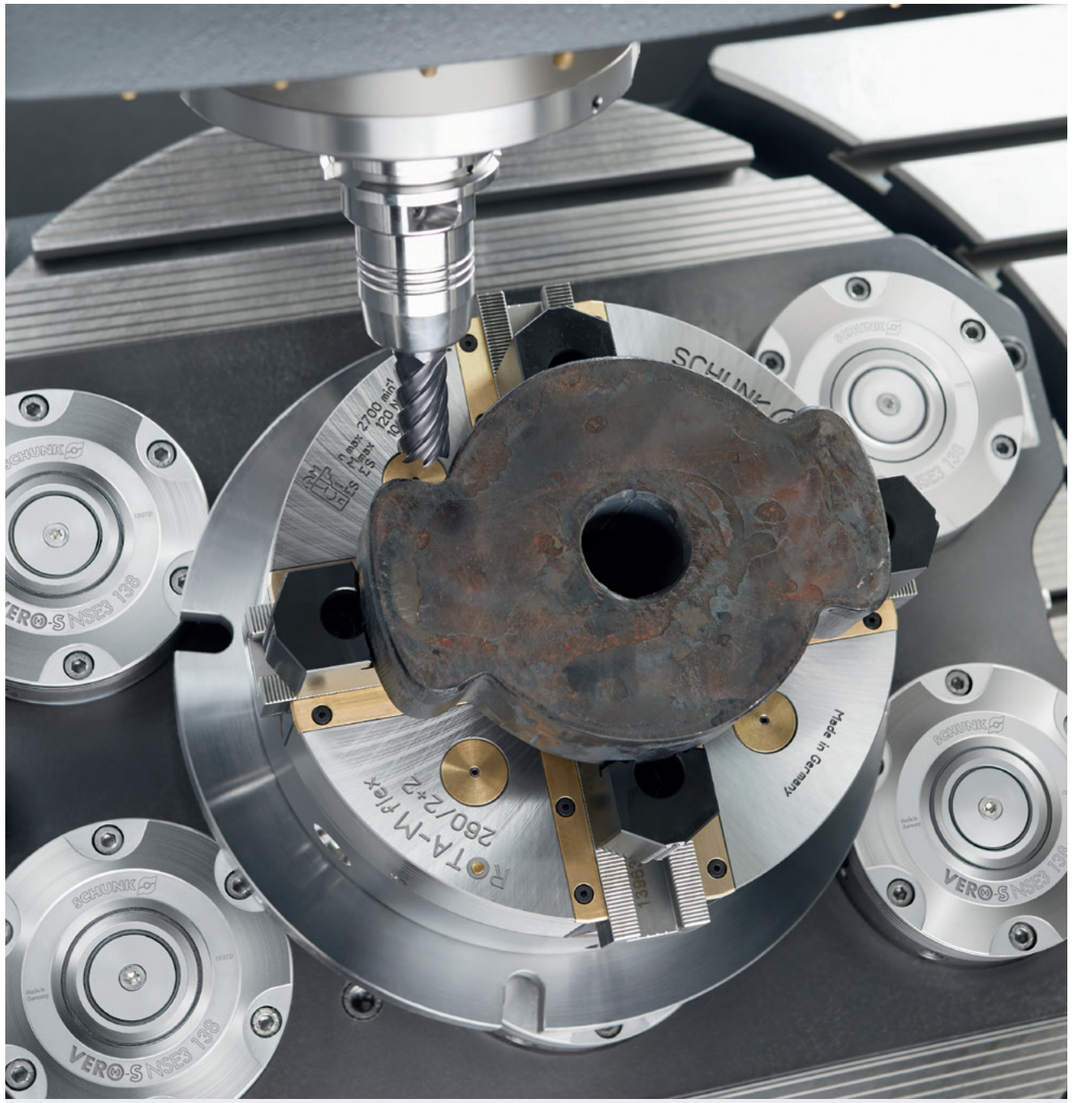
Weight-optimized models designed specifically for pallet magazines

High clamping forces for machining raw and finished parts



Visual clamping confirmations for reliable clamping operations

Base plate with versatile mounting options



NEW

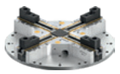
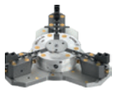
ROTA-ML flex 2+2

Clamping of round, cubic and geometrically unshaped parts – no problem for the compensating 4-jaw ROTA-ML flex 2+2 manual lathe chuck. Due to the patented drive concept with coupled jaw pairs, any workpiece geometry can be clamped centrically and without overdetermination. The chucks are used, in particular, in storage solutions and on mill/turn machines, but can also be used on lathes.

ROTA

ROTA

Stationary lathe chucks
Lathe chucks

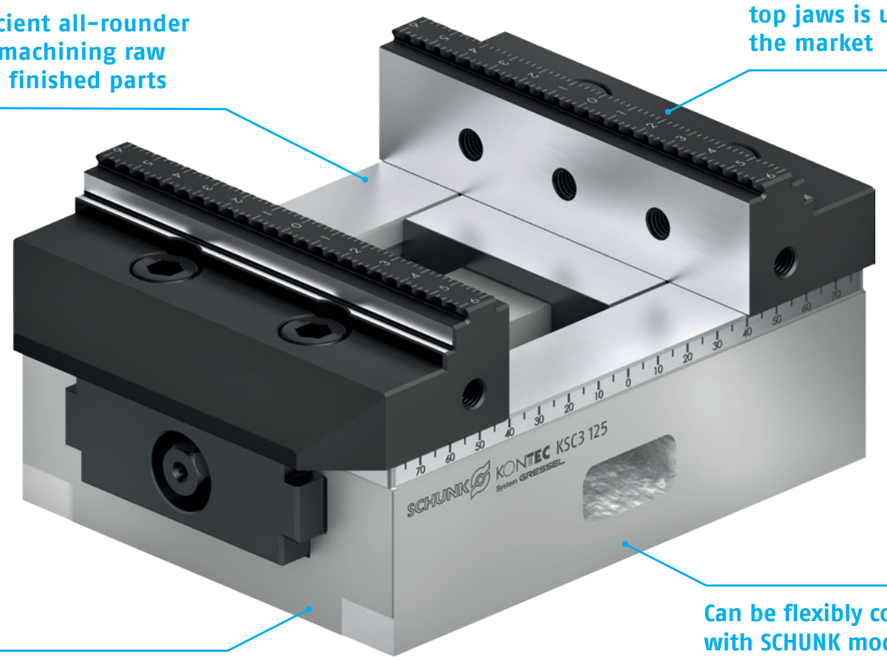
	Type		Description	Sizes	Max. clamping force [kN]	Stroke/jaw [mm]	Compensation stroke/jaw [mm]	Number of jaws
Manual	ROTA-M flex 2+2		Flexible 4-jaw manual lathe chuck with patented drive concept. Due to the large compensation stroke, round, cubic and geometrically unshaped workpieces can be clamped without any problems.	260 – 400	100 – 150	9.5 – 14.5	5.1 – 14.5	4
	ROTA-ML flex 2+2			500 – 1800	180	17.3	12	4
	ROTA-S flex		Weight-optimized manual lathe chuck for mill/turn centers. Fast conversions from small to large workpiece diameters due to jaw quick-change system.	550 – 1400	100 – 270	7 – 15		3
	ROTA-S plus 2.0		Manual lathe chuck with jaw quick-change system and diagonally serrated base jaw interface. Can be set up very quickly on mill/turn machines thanks to special console plates.	160 – 315	65 – 180	6.5 – 9.9		3
	ROTA-S plus			400 – 500	230 – 270	12		3
	SPK		Dirt-resistant jaw boxes for individual clamping solutions on face plates with T-slots running in parallel.	180 – 260	55 – 75	75 – 100		1
Hydraulic	ROTA NCK-S plus		Very low-profile stationary milling chucks with an integrated hydraulic cylinder and an excellent price-performance ratio.	165 – 315	57 – 144	2.75 – 5.3		3
Pneumatic	ROTA TPS		Stationary milling chuck with integrated pneumatic cylinder as an alternative if no hydraulics are available on the milling machine.	125 – 315	22 – 140	3 – 5		3

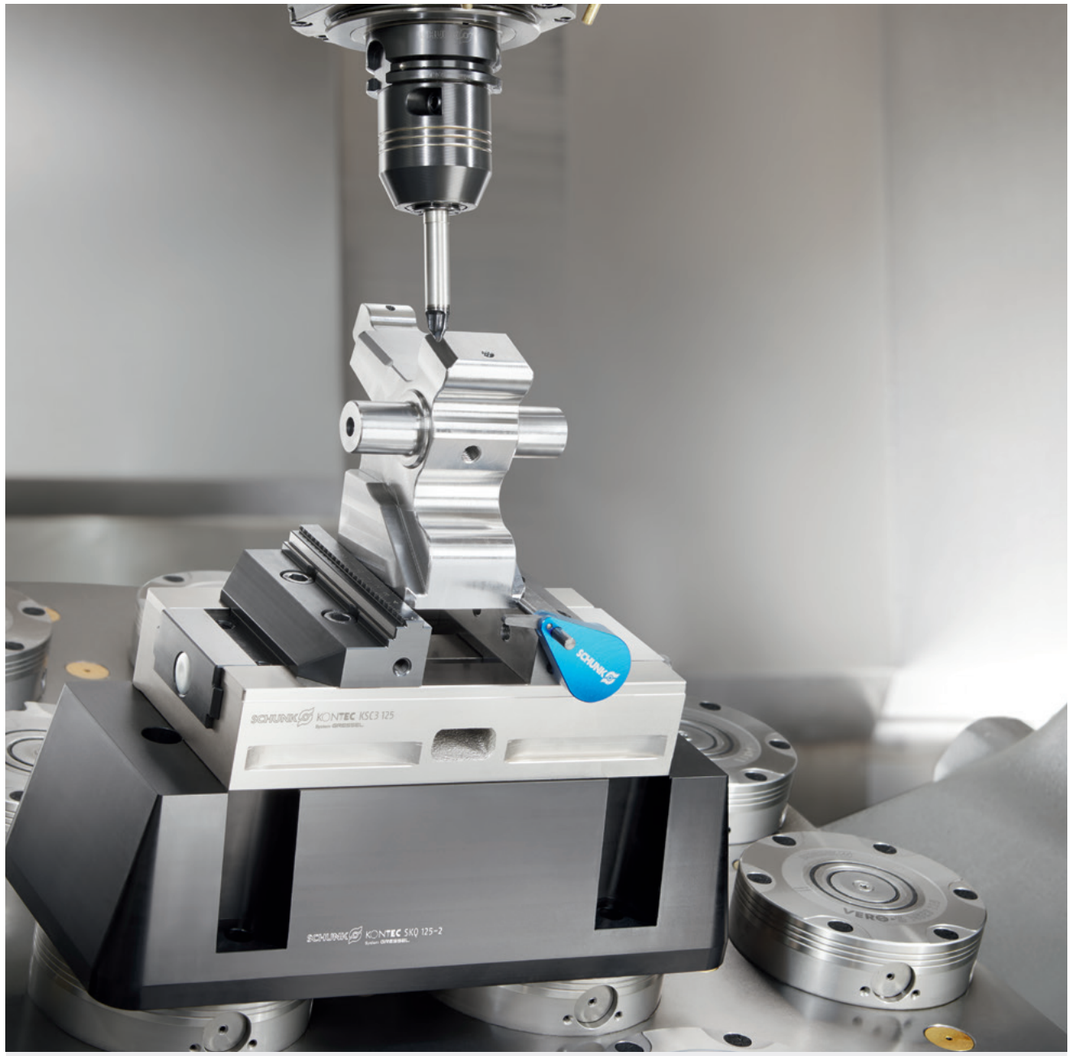
SCHUNK

Manual clamping systems

KONTEC manual clamping systems make any manufacturing on semi/fully automated universal milling machines and machining centers even more efficient. Whether 5-axis vise, single-acting vise, centric clamping vise, or multi clamping vise – the right choice is available for every requirement!

A range of system and top jaws that is unique on the market means that the clamping devices can be adapted to individual customer requirements. The clamping by tension in combination with the integrated VERO-S interface allows the vises to be changed quickly and easily on the SCHUNK quick-change pallet system – with the maximum level of repeat accuracy.

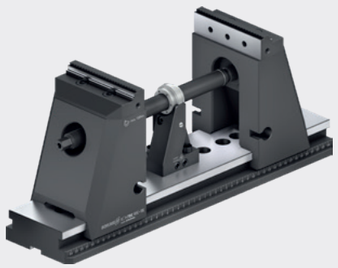




NEW

KONTEC KSC-5X

The new KSC-5X expands the proven range of 5-axis vises with a powerful centric clamping vise for complex requirements. The long base jaws are available in three different heights and ensure excellent accessibility to the machine spindle. This allows precise machining, even of complex workpieces. A truly unique selling point: The range of system and top jaws of the KSC3 family, which is unique on the market and provides the KSC-5X flexibility. The vise can be quickly and easily adapted to new clamping tasks by being combined with a spindle quick-change system.



KONTEC

	Type		Axes 3	Axes 4	Axes 5	Description	Width of the clamping vise [mm]	Base body length [mm]	Max. clamping range [mm]	Cubic workpieces	Bulky workpieces	Round workpieces	Max. clamping force [kN]
5-axis vises	**The 5-axis vise**												
	KSX		x	x	x	5-axis vises with continuously adjustable clamping force and quick clamping lever. Due to its high design, excellent accessibility of the machine spindle to the workpiece is ensured.	125	265	236	x	x	x	40
							125	300	274				40
							125	815	749				40
	The 5-axis vise for 6-sided machining												
	KSX-C2		x	x	x	5-axis vise with jaw quick-change system and adjustable clamping center. A standard integrated pull-down enables complete and precise machining of the sixth side.	125	330	218	x	x	x	40
							125	430	318				40
							125	500	388				40
							125	630	518				40
							125	800	688				40
	The 5-axis centric clamping vise												
	KSC-5X		x	x	x	5-axis centric clamping vise with unique range of system and top jaws for flexibility. A spindle quick-change system allows the clamping device to be quickly adjusted to new workpieces.	125	320	214	x	x	x	40
							125	400	294				40
							125	500	394				40
							125	600	494				40
							125	800	694				40
Single-acting clamping vises	**The machine vise**												
	KSG		x	x	x	Modular machine vise with continuously adjustable clamping force and quick clamping lever.	100	305	245	x	x	x	30
							125	390	343				40
							160	530	506				40
	The single-acting vise												
	KSC-F		x	x	x	Flat single-acting vise with quick adjustment of the clamping range and low weight. Ideally suited for use in pallet storage units.	80	214	192	x	x	x	25
							125	362	308				40
							125	740	697				40
							160	480	463				50
	The console clamping module												
	KSC3-K		x	x	x	Very compact, flat console clamping module with high clamping forces for precise machining of the sixth side. Because of its compact design, it is particularly well-suited for use on tombstones and pyramids.	80	130	111	x	x	x	25
							80	190	171				25
							125	160	145				35
							125	235	215				35
							125	300	286				35
							160	280	245				50
							160	480	447				50
Centric clamping vises	**The centric clamping vise**												
	KSC3		x	x	x	Flat centric clamping vise with high clamping forces and a program of system and top jaws that is unique on the market for a flexible range of applications. A nickel-plated base body for protection against corrosion broadens the range of applications significantly.	80	130	121	x	x	x	25
							80	190	185				25
							125	160	163				40
							125	235	226				40
							125	300	303				40
							160	280	251				50
							160	480	465				50
	The centric vise for small components												
	KSC mini		x	x	x	Centric clamping vise with jaw quick-change system and high clamping forces with compact dimensions.	70	80	57	x	x	x	16
							70	100	77				16

KONTEC

Multi clamping vises
Manual clamping systems and tombstones

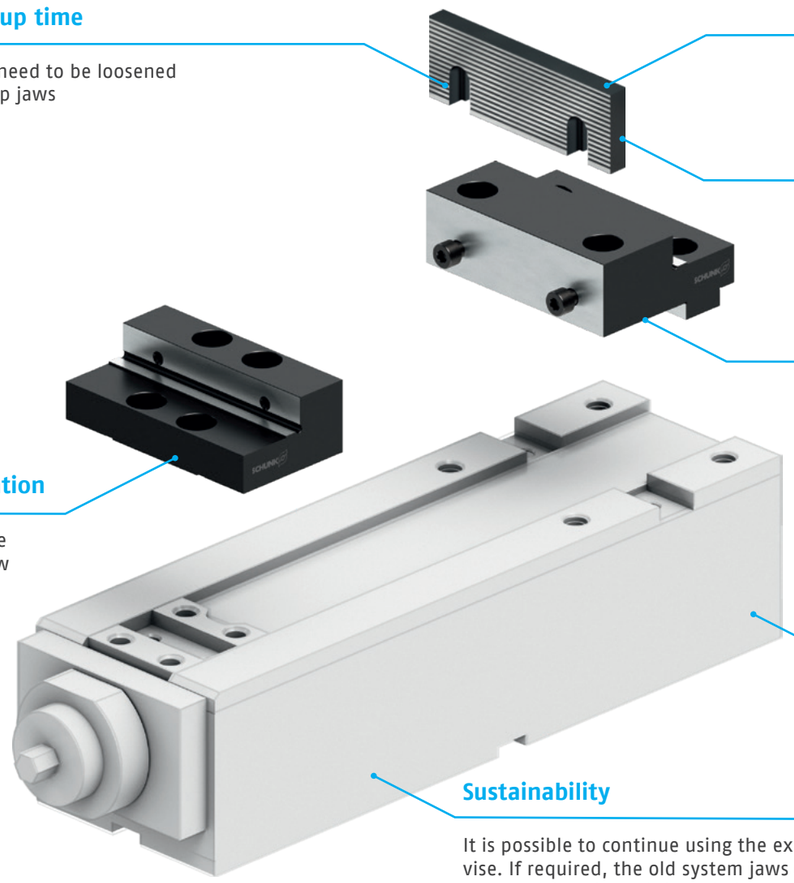
	Type		Axes 3	Axes 4	Axes 5	Description	Width of the clamping vise [mm]	Base body length [mm]	Max. clamping range [mm]	Cubic workpieces	Bulky workpieces	Round workpieces	Max. clamping force [kN]
Multi clamping vises	**The double vise**												
	KSC-D		x	x	x	Flat double vise with nickel-plated base body and convenient third-hand function – also available as single-acting vise. The third-hand function can be used to insert two workpieces one after the other, and then to fix and securely clamp them.	80	300	122	x	x	x	25
							125	320	114				40
							125	390	149				40
							125	460	184				40
							125	530	219				40
							125	600	254				40
							125	670	289				40
							125	740	324				40
	The flexible multiple clamping system												
	KSM2		x	x	x	Clamping rails with innovative jaw quick-change system for clamping densely arranged parts density on only one clamping device.	90	260	134	x	x	x	30
							90	400	274				30
							90	500	374				30
							90	600	474				30
							90	650	524				30

Adapter jaws for machine vises

With the SCHUNK adapter jaws, you no longer have to rely on expensive, system-specific top jaws. With the new adapter jaws for your machine vise from Allmatic, Atorn, Garant, Kesel, Röhm or Roemheld Hilma, we offer compatibility with the extensive SCHUNK jaw portfolio.

Optimize set-up time

Only the screws need to be loosened to change the top jaws



Fast amortization

Thanks to a more favorable top jaw portfolio

Sustainability

It is possible to continue using the existing machine vise. If required, the old system jaws can also be unscrewed again and the existing top jaws can be reused.

Extensive standard portfolio

More clamping options due to modular attachments

Available from stock

SCHUNK top jaws are available from stock

Versatile range of clamping options

You benefit from short delivery times for top jaws from the SCHUNK portfolio

Compatibility

SCHUNK adapter jaws are available for Allmatic, Atorn, Garant, Kesel, Röhm and Roemheld Hilma.

Adapt-R

Adapter jaws
Manual clamping systems and tombstones

Type	Designation	ID	Jaw width	Type	Suitable for
	SGAB-F 125-A	1511698	125	Fixed	Almatic NC8 125M/L Garant HipoClamp125/LC 125 Kesel NCA 125
	SGAB-B 125-A	1511699	125	Mobile	
	SGAB-F 125-B	1522411	125	Fixed	Röhm RKE 125 Atorn MM-G 125
	SGAB-B 125-B	1522412	125	Mobile	
	SGAB-F 125-C	1541878	125	Fixed	Roemheld Hilma KNC 125
	SGAB-B 125-C	1541879	125	Mobile	

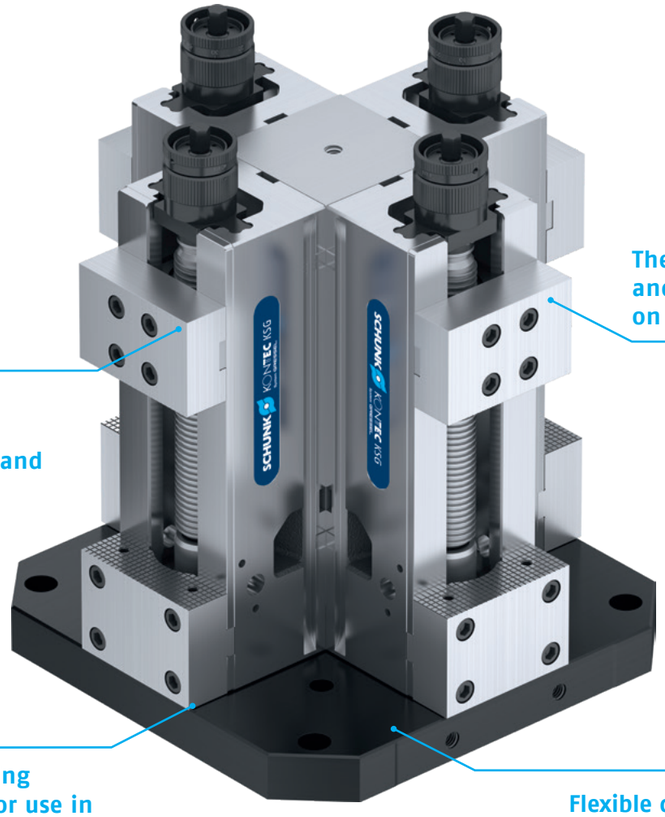
SCHUNK GRESSEL

Large variety of suitable top jaws

Tombstones

Horizontal machining centers do not achieve optimum performance unless combined with the suitable tombstones in combination with the right clamping devices. Due to the enormous range of clamping options and loading densities, machine running times are significantly increased. SCHUNK tombstones also offer optimal accessibility and machining of your workpieces.

The tombstones are available in different tombstone designs with more than 50 standard versions. The stable hollow body design provides for high rigidity as well as good vibration damping. The base plates with the dimensions 400 x 400 mm and 500 x 500 mm are suitable for standard machine pallets of the type DIN 55201 and JIS 6337-1980.



The range of system and top jaws is unique on the market

Highly efficient all-rounder for machining raw and finished parts

Compact clamping devices, ideal for use in pallet magazines

Flexible combination with SCHUNK modular system due to the integrated standard VERO-S interface

VAT/SAT
Manual clamping systems and tombstones

VERO-S tombstones

	Type		Description	Version	Pallet size [mm]	Tombstone heights [mm]	Installed clamping devices
VERO-S	VAT		Tombstones with integrated VERO-S NSE-T3 138-V1 quick-change pallet modules. This means that clamping devices with a VERO-S interface can be quickly and easily installed and removed from the tombstones.	Double angle	400 x 400 500 x 500	713	NSE-T3 138-V1
				Triangle	400 x 400 500 x 500	713	NSE-T3 138-V1
				Octagon	400 x 400 500 x 500	713	NSE-T3 138-V1

Tombstones with clamping devices

	Type		Description	Version	Pallet size [mm]	Tombstone heights [mm]	Installed clamping devices
Tombstones	SAT		Pre-configured tombstones with SCHUNK clamping devices.	SAT-KSG	400 x 400 500 x 500	490	KSG 125
				SAT-KSC-F	400 x 400 500 x 500	462	KSC-F 125-362
				SAT-KSC-D	400 x 400 500 x 500	390 490 560 630	KSC-D 80-300 KSC-D 125-390 KSC-D 125-460 KSC-D 125-530
				SAT-KSM2	400 x 400 500 x 500	500 600	KSM2 90-400 KSM2 90-500
				SAT-KSF3	400 x 400 500 x 500	523 663	KSF3 100 KSF3 160
Clamping pillars	SAT		Pre-configured clamping solution with a special interface for all conventional dividing heads.	SAT-KSC-D	Ø 260 Ø 320	390 630	KSC-D 80-300 KSC-D 125-530
				SAT-KSM2	Ø 280 Ø 320	430 600	KSM2 90-400 KSM2 90-500

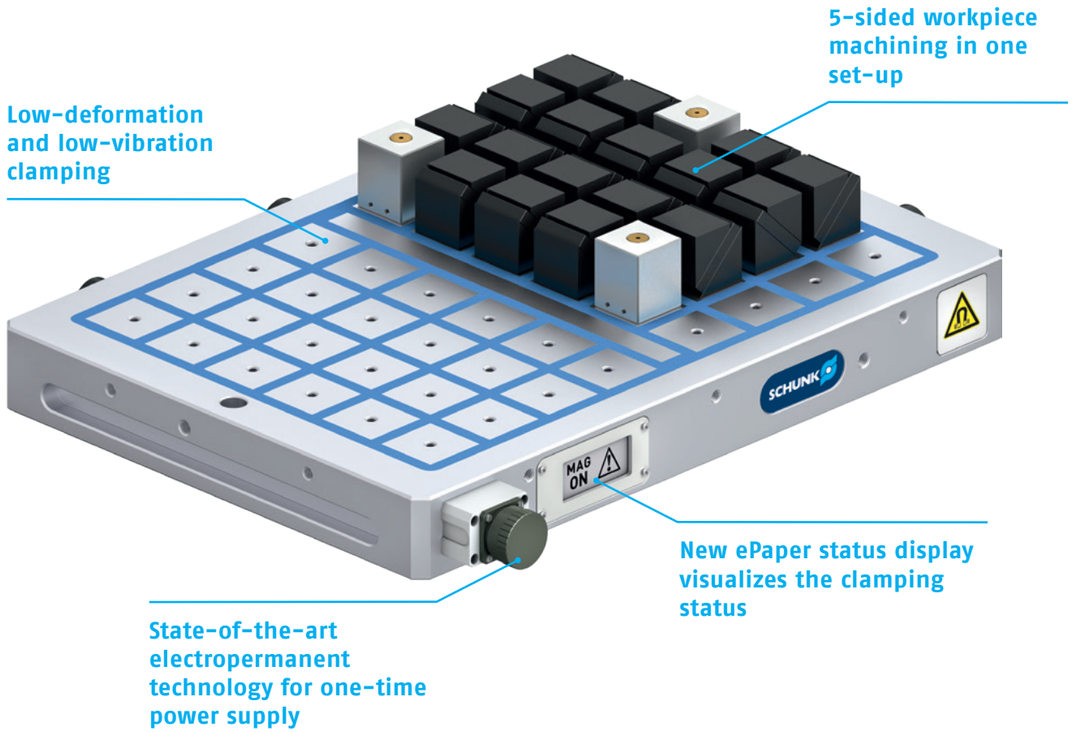
Tombstones without clamping devices

	Type		Description	Version	Pallet size [mm]	Tombstone heights [mm]	Clamping surfaces
Tombstones	SAT		Standardized tombstones with different clamping surfaces. The tombstones are available with: · raw clamping surfaces · 50 mm bore hole grid · reduced drilling grid for SCHUNK clamping devices	Double angle	400 x 400 500 x 500	710 1000	Raw continuous bore hole grids SCHUNK bore hole grids
				Triangle	400 x 400 500 x 500	710 1000	Raw continuous bore hole grids SCHUNK bore hole grids
				Cube	400 x 400 500 x 500	600 800 1000	Raw continuous bore hole grids SCHUNK bore hole grids
				Octagon	400 x 400 500 x 500	710 1000	Raw continuous bore hole grids SCHUNK bore hole grids

Magnetic clamping technology

Modern machine tools and machining centers are designed for complex machining operations carried out during a single set-up. As the workpieces can be placed flat onto the MAGNOS magnetic chucks, all sides of the workpiece can be easily accessed. The permanent magnetic clamping force is uniformly applied across the entire workpiece, thereby effectively minimizing vibrations.

The patented status display for the operating condition of the square pole plates allows users to see, at a glance, whether the MAGNOS magnetic chucks are active or not. This allows accidents to be avoided. The continuous display of the magnetizing state enables reliable clamping and does not depend on the power supply.



Test the MAGNOS app. Available for iOS, Android or web-based.

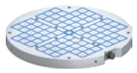
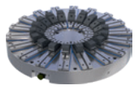
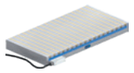
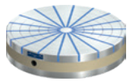
The app makes everyday work with MAGNOS magnetic chucks easier with the simple calculation of holding forces.

If you are interested, please send an email to magnetspanntechnik@de.schunk.com

Our performance promise. Your benefits.

- Simple calculation of holding forces on the PC (web-based version) or via the app
- Optimization of the manufacturing process through prior estimation of the machining data
- For SCHUNK MFRS2, MFPS, MGT and MTR magnetic chucks

MAGNOS
Magnetic clamping technology

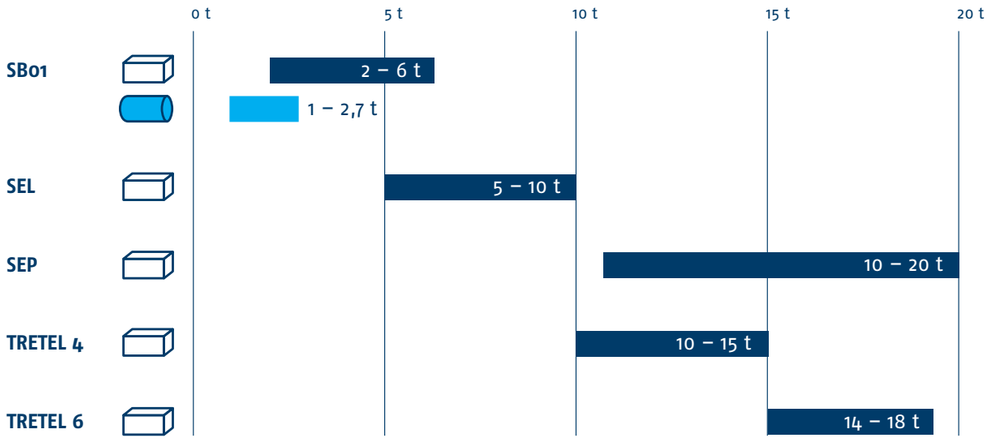
	Type		Description	Pole size/pole pitch [mm]	Mains voltage [V]	Max. clamping force [kN/* N/cm²]	Min. material thickness [mm]	Min. workpiece size [mm]	Connection
Milling applications	**MFRS**		Magnetic chucks with high holding forces for milling applications as an ideal clamping solution for powerful metal cutting processes with simultaneous 5-sided workpiece machining in a single set-up.	50 x 50 70 x 70	400/460	39 – 1162	8 – 20	230 x 170	Fast connection
Milling applications	**MFPS**		Electropermanent magnetic chucks due to parallel poles with high lateral holding forces. These are particularly suitable as an ideal clamping solution for powerful metal cutting processes with narrow and long workpieces.	30 + 10	400/460	160*	7	230 x 170	Fast connection
Milling applications	**MFRR**		Magnetic chucks in round design, specially designed for milling machining of workpieces on round machine tables. The high holding forces of the magnetic chucks enable secure clamping of the workpiece with optimal accessibility.	50 x 50	400/460	39 – 1162	8	230 x 170	Fast connection
Milling applications	**MFRS-DM**		Flexible double magnets for large machines with integrated rollers on the machine table side for easy positioning on the machine table.	50 x 50	400/460	24 – 48	8	230 x 170	Fast connection
Turning applications	**MGT**		Electropermanent magnetic lathe chuck with demagnetization cycle for an almost deformation-free finishing, precision turning or grinding of rings or discs.		400/460	160*	8	Ø 150 – Ø 610	Fast connection
Grinding applications	**MSC-PM60D**		Electropermanent magnetic chucks with parallel poles and large pole pitches for medium and large workpieces.	3 + 5	400/460	75*	4	40 x 40	Fixed cable connection
Grinding applications	**MSC-PM62F**		Electropermanent magnetic chucks with parallel poles and fine pole pitches for small and thin workpieces.	3 + 0.8	400/460	75*	2	40 x 40	Fixed cable connection
Grinding applications	**MSC-PM15**		Manual magnetic chucks with parallel poles and fine pole pitches for small and thin workpieces.	1.5 x 0.8		75*	1.5	20 x 20	Hexagon
Grinding applications	**MSC-PM35**		Manual magnetic chucks for machining rings and washers.			80*		Ø 24 – Ø 58	Hexagon
EDM applications	**MEF-F-A1**		Electropermanent magnetic modules with high holding forces specifically for EDM applications		200/220	75*		20 x 20	Fast connection

Magnetic lifting technology

MAGNOS magnetic lifting technology from SCHUNK is the perfect option for high lifting and safe holding capacity without the need of external power supply. With a wide range of simple lifting magnets up to high-performance, electropermanent lifting devices, MAGNOS provides for easy handling of ferromagnetic workpieces up to 20 tons. Reliably and deformation-free in no time at all.

Magnets for easy lifting

Magnets for heavy lifting



Electropermanent magnetic lifting technology

The electropermanent magnetic lifter ensures absolute process reliability even in the event of a power failure. No additional buffer batteries are required. The load remains on the magnetic lifter indefinitely, without changing the clamping force. This system also saves energy, as it only requires the power supply during the MAG and DEMAG cycles.

Self-sufficient

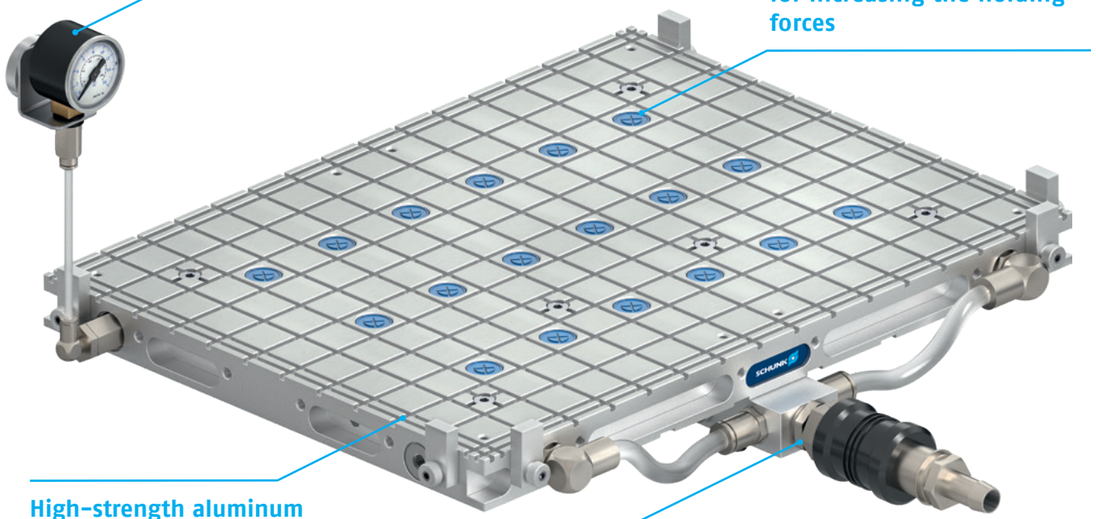
Electropermanent lifting magnets from SCHUNK are self-sufficient, i.e. they only require a short electrical pulse for the MAG/DEMAG process.

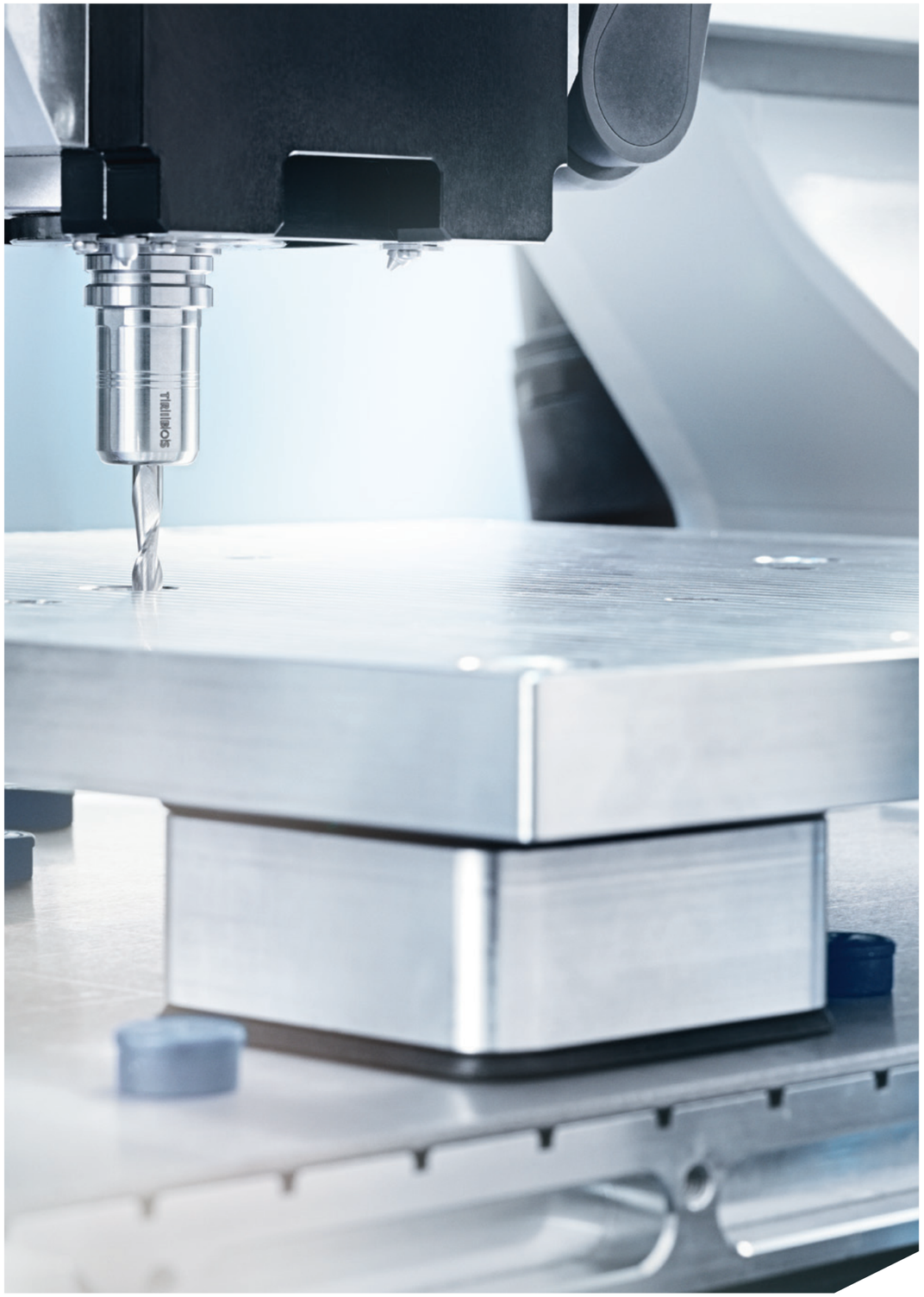
Reliable

The magnet still holds the workpiece reliably even in the event of an interrupted power connection.

Vacuum clamping technology

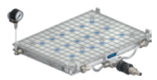
Vacuum clamping technology from SCHUNK has a modular design and is particularly suitable for clamping workpieces made of aluminum and non-ferromagnetic workpieces. The matrix plates ensure short set-up times. Even components that are difficult to be mechanically clamped can be fixed quickly, precisely, and without deformation using the vacuum clamping system. For the required vacuum generation, SCHUNK offers special vacuum units that ensure high flexibility and process reliability. Even 5-sided machining are no problem.





PLANOS

Matrix plates

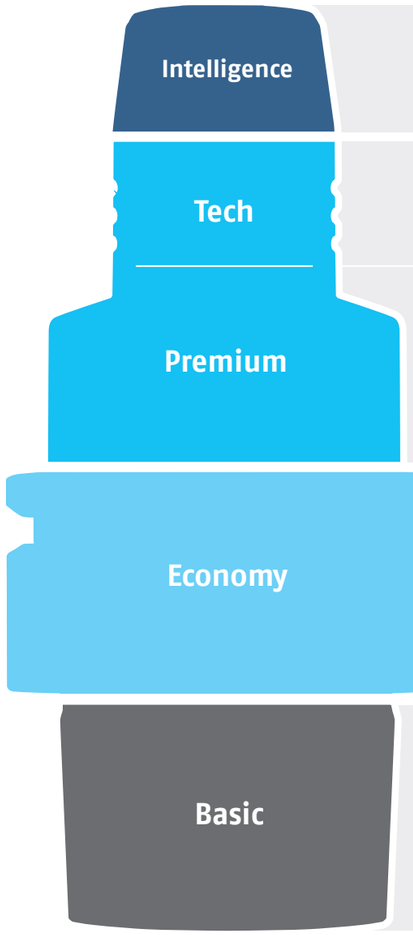
	Type		Description	Size [mm]	Grid spacing [mm]	Slot width/slot depth [kN]	Number of vacuum openings	Min. suction capacity Vacuum unit [m3/h]	Friction islands	To match VERO-S
Matrix plates	SMPL		Matrix plates for full-surface clamping of non-ferromagnetic workpieces. Patented friction islands can be integrated additionally to increase the holding forces.	300 x 200	12.5 x 12.5	3 x 3	4	6		
				400 x 300	12.5 x 12.5 25 x 25	3 x 3	8	12	x	x
				600 x 400	12.5 x 12.5 25 x 25	3 x 3	12	12	x	x

Vacuum generator

	Type		Description	Size [mm]	Max. suction capacity [m³/h]	Storage volume [l]	Max. vacuum [mbar]	Sound level [dB(A)]	Connection diameter [mm]
Vacuum generator	SVAGG2		Powerful vacuum units for generating the required vacuum. The connected matrix plates can be used in both dry and wet machining.	10	10	30	-980	58.5	25
				21	21	30	-980	64	32
				40	40	50	-980	64	32
				63	63	100	-980	64	38
				100	100	100	-980	65	38
	SCVU		Compact pneumatic vacuum generator for a cost-effective entry into vacuum clamping technology.	15	142	2	-850	65	10

High-performance toolholders from SCHUNK for any application and any cutting edge

Every specific application has other demands on the toolholder. Particularly when it comes to precision, there can be no compromise. This is where SCHUNK technologies come into play. The innovative and high-precision toolholders cover a unique range of customer requirements. From micro to finest processing, to heavy-duty and volume machining: We focus on special applications, and find the optimum toolholder for your machining task.



In the segment **Intelligence,** you will find intelligent toolholders to optimize your processes.

You can find our specialists for special applications in the **Tech segment.**

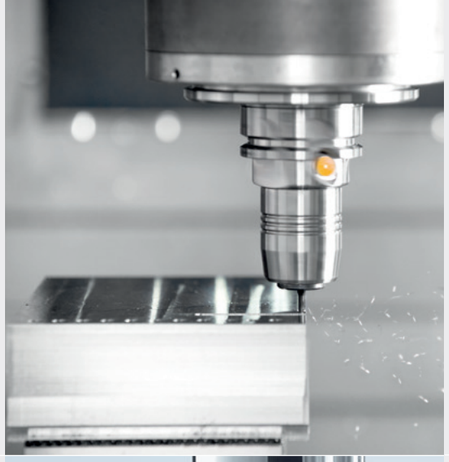
The **Premium range** offers a particularly large selection of interfaces and hydraulic expansion technology with heat-shrinking contours.

For an entry into the durable hydraulic expansion technology, you can find robust toolholders with a good price-performance ratio in the **Economy range**.

For standard applications, the **Basic segment** offers a large selection of mechanical toolholders and heat shrinking toolholders.

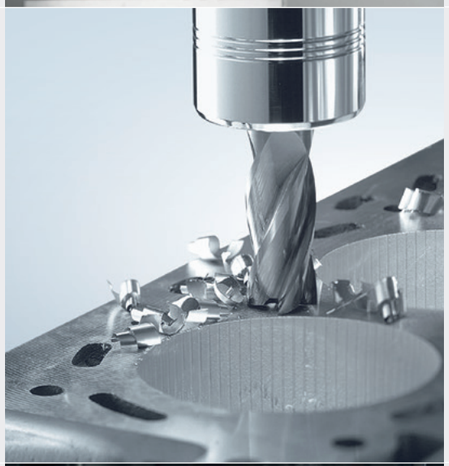
Hydraulic expansion toolholder

The durable toolholders for powerful, challenging and precise applications



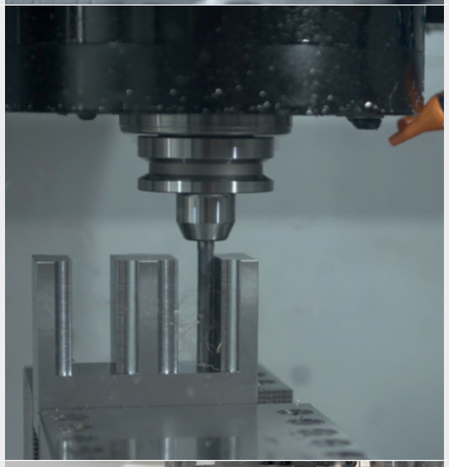
Polygonal toolholders and expansion toolholders

Toolholders for a flexible and broad spectrum of use



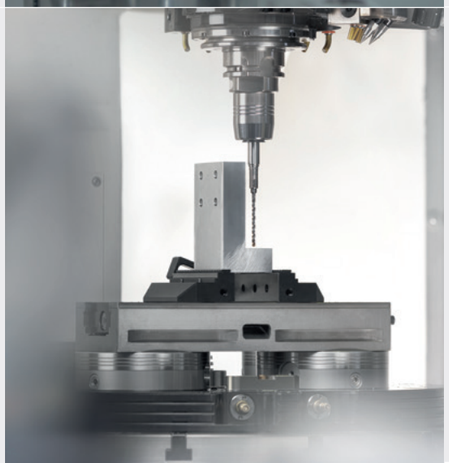
Heat shrinking and mechanical toolholders

Toolholders from the BASIC segment for standard use



Toolholder accessories

Extensions and intermediate sleeves for maximum flexibility in special applications



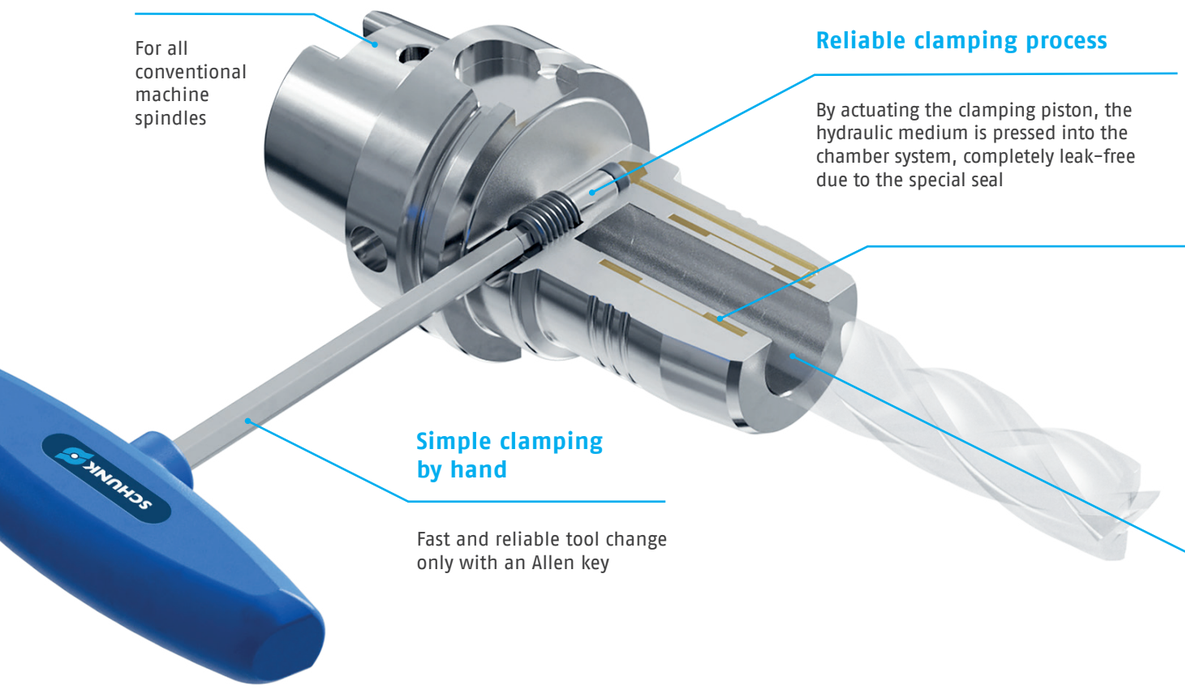
Hydraulic expansion toolholder

TENDO has been a synonym for highly precise shank tool clamping for many decades. With its continual developments, this forward-looking clamping technology meets the constantly increasing requirements of demanding, universal precision machining. TENDO is suitable for all common shank types. The large selection of products ensures that the right solution for almost any application can be found.

Master every challenge with TENDO:

- **Less reworking thanks to high run-out and repeat accuracy**
- **Greater process stability due to outstanding vibration damping**
- **Longer service life thanks to tool changes in a matter of seconds**

Interfaces



For all conventional machine spindles

Reliable clamping process

By actuating the clamping piston, the hydraulic medium is pressed into the chamber system, completely leak-free due to the special seal

Vibration dampening

When the chamber system is filled with hydraulic fluid, it has a damping effect on the clamped tool and reduces tool wear

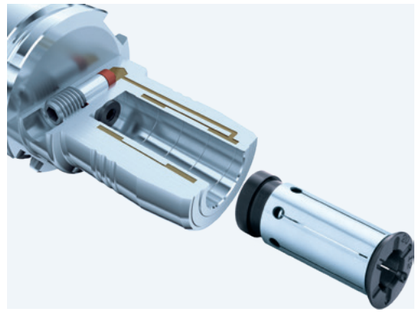
Simple clamping by hand

Fast and reliable tool change only with an Allen key

Process reliable Tool clamping

The tool shank is centered and then clamped powerfully and uniformly across the entire surface due to this expansion sleeve

Vibration damping



Variable due to intermediate sleeves

Dirt grooves for reliable torque transmission

Resistant to dirt and cooling lubricants

Available for any application

Precision is ensured – be it in milling, reaming, boring, countersinking, thread milling/tapping, or high-speed cutting.

All commercially available shank types can be clamped for process-reliable clamping. In a TENDO hydraulic expansion toolholder, tools with both smooth cylindrical shanks in accordance with DIN 6535, Type HA up to Ø 32 mm, and those with recesses in accordance with:
- DIN 1835 Form B, E
- DIN 6535 Form HA, HB, HE

can be clamped directly and flexibly with an intermediate sleeve.

Learn more
schunk.com/tendo

Intelligent toolholders

With our new iTENDO² we have taken the idea of intelligent toolholders to the next level. Speeds of rotation up to 30,000 RPM and an interfering contour that corresponds 1:1 to that of a SCHUNK standard toolholder make it ideal for use in a wide range of tasks without any of the time-consuming adjustment work. This also makes it a straightforward option to optimize machining processes and monitor them in real time.

Speeds of rotation of up to 30,000 RPM

Make a wide range of applications possible

Intelligent real-time sensor system

For easy process monitoring and maximum tool service life

Aluminum case

For optimal protection and flexible use

Intelligence for every application

iTENDO² seismo

iTENDO² HSK-A63
Ø20x90

iTENDO² Slim
4ax HSK-A 63 Ø12x120

iTENDO² adapter
Ø32-Ø20x69

iTENDO² interfaces

Description	ID	Toolholder interface	Clamping diameter D1	Projecting length L1
iTENDO² Slim 4ax HSK-A 63 Ø12 x 120	1517499	HSK-A 63	12 mm	120.0 mm
iTENDO² HSK-A63 Ø20 x 90	1484050	HSK-A 63	20 mm	90.0 mm
iTENDO² HSK-A63 Ø32 x 125	1519203	HSK-A 63	32 mm	125.0 mm
iTENDO² HSK-A100 Ø32 x 115	1509955	HSK-A 100	32 mm	115.0 mm
iTENDO² JIS-BT30 Ø20 x 90	1495389	JIS-BT 30	20 mm	90.0 mm
iTENDO² JIS-BT40 Ø20 x 110	1509899	JIS-BT 40	20 mm	110.0 mm
iTENDO² SK40 Ø20 x 110	1484710	SK 40	20 mm	110.0 mm
iTENDO² SK50 Ø32 x 103.2	1509960	SK 50	32 mm	103.2 mm
iTENDO² CAT40 Ø3/4x4"	1495390	CAT 40	3/4□	101.6 mm
iTENDO² Capto C6 Ø32 x 110	1509962	SCHUNK CAPTO C6	32 mm	110.0 mm
iTENDO² adapter Ø32-Ø20 x 69	1484703	universal	20 mm	
iTENDO² seismo	1511806	-		

TENDO
Hydraulic expansion toolholder

Find your matching toolholder in just a few clicks:

schunk.com/toolholder-quickfinder

	Hydraulic expansion toolholder				
	Premium			Economy	
	TENDO Platinum	TENDO Slim 4ax	TENDO Slim 4ax Cool Flow	TENDO Silver	TENDO E compact
Advantages					
	Precision all-rounder	Ideally suited for axial machining and radial fine machining	Enables peripheral cooling by means of cooling channels in the wall; the coolant is fed directly to the cutting edge of the tool	Low-cost entry into hydraulic expansion technology with DIN contour	High dimensional accuracy without the need for reworking of the workpiece, due to high radial stiffness
	Compatible for use in any machine tool spindle	Heat-shrinking contour in accordance with DIN 69882-8	Heat-shrinking contour in accordance with DIN 69882-8	Best price-performance ratio for direct clamping	High material removal rates with a reliable machining process
	Versatile clamping range due to the use of intermediate sleeves	Application option also with minimum quantity lubrication	Application option also with minimum quantity lubrication	Versatile clamping range due to the use of intermediate sleeves	Flexible clamping using intermediate sleeves and extensions
Field of application					
General milling machining	◑	◑	◑	◑	●
Drilling/countersinking	●	●	●	●	●
Reaming	◑	◑	◑	◑	◑
Thread cutting	◑	◑	◑	◑	●
Roughing					●
Finishing	●	●	●	●	●
Technical data					
Number of interfaces	22	8	8	9	15
Run-out accuracy [µm]	<3	<3	<6	<3	<3
Repeat accuracy [µm]	<3	<3	<6	<3	<3
Damping	●	●	●	●	●
Radial rigidity	◑	○	○	◑	●
Torque	◑	◑	◑	◑	●
Contour according to DIN ISO 12164-1	●			●	
Optimized interfering contours		●	●		
MQL applications (Minimum Quantity Lubrication)		●	●		
Warranty [months]	36	24	24	12	12
Interfaces					
HSK-A	40, 50, 63, 80, 100	63, 100	63, 100	63, 100	50, 63, 100
HSK-C	32, 40, 50, 63				
HSK-E	40, 63				
SK	30, 40, 50	40, 50	40, 50	40, 50	40, 50
JIS-BT	30, 40, 50	30, 40	30, 40	30, 40, 50	30, 40, 50
BT-DC					30, 40, 50
CAT	40, 50	40	40	40, 50	
CAT-DC					40
SCHUNK Capto	C4, C5, C6	C6	C6		C4, C5, C6
VDI					

● = Excellently (suitable) ◑ = Good (suitable) ○ = Suitable

TENDO
Hydraulic expansion toolholder

Find your matching toolholder in just a few clicks:

schunk.com/toolholder-quickfinder

	Hydraulic expansion toolholder					
	Intelligence	Tech				
	iTENDO²	TENDO Zero	TENDO ES	TENDO LSS	TENDO RLA	TENDO Turn
Advantages						
	Combining TENDO hydraulic expansion technology with the capabilities of digital process monitoring	The professional toolholder for tight tolerances during drilling, reaming and finish boring	Extremely short toolholder with zero interfering contour	Super-slim toolholder with high stability and high radial rigidity	The sensitive adjusting gear set ensures micron-precise positioning of the tool length	The professional quality option for excellent workpiece surfaces
	Wide range of uses in many applications due to speeds of rotation up to 30,000 RPM	This enables even minimal run-out errors with tools, mountings, and the machine spindles to be individually compensated	For applications where every centimeter in the machine room counts	Takes care of the trickiest of tasks when machining at the narrowest of angles or where workpieces are difficult to access	Length adjustment screw equipped with front and back stop	Unique vibration damping as well as run-out accuracy and repeat accuracy of <0.003 mm due to DSE double clamping insert
	1:1 interchangeable with standard TENDO or heat shrinking technology toolholder due to the same interfering contour	Long service life and low maintenance due to the closed system	Perfectly suited for machining large workpieces and for deep-hole drilling	Ideally suited for boring, reaming, and finish milling machining operations	No position change of the tool due to self-locking adjustment screw	Versatile clamping range due to intermediate sleeves and simple handling
Field of application						
General milling machining	◑	◑	◑	○	◑	◑
Drilling/countersinking	●	●	●	●	●	◑
Reaming	◑	●	◑	◑	◑	◑
Thread cutting	◑	◑	◑		◑	
Roughing	○		◑			
Finishing	●	●	●	◑	●	◑
Technical data						
Number of interfaces	10	8	4	2	3	5
Run-out accuracy [µm]	3	0	6	6	3	<3**
Repeat accuracy [µm]	<3	<3*	6	6	3	<3
Damping	●	●	●	●	●	●
Radial rigidity	◑	◑	●	○	◑	◑
Torque	◑	◑	◑	◑	◑	◑
Contour according to DIN ISO 12164-1	●	●				
Optimized interfering contours	○	◑	●	●	◑	◑
MQL applications (Minimum Quantity Lubrication)						
Interfaces						
HSK-A	63, 100	63, 100		63	50, 63, 100	
HSK-C						
HSK-E						
SK	40, 50	40, 50	40, 50	40		
JIS-BT	30, 40	30, 40	40			
BT-DC						
CAT	40	40	40			
CAT-DC						
SCHUNK Capto	C6	C6				
VDI						25, 30, 40

● = Excellently (suitable) ◑ = Good (suitable) ○ = Suitable

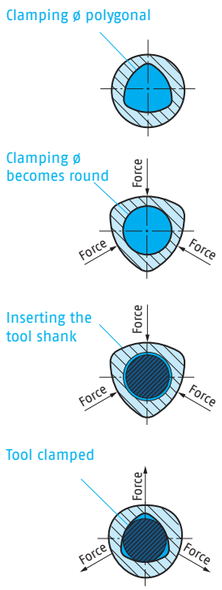
* Without zero function ** Only in the DSE version

Polygonal toolholder

Precise micro-cutting and machining of extremely narrow and difficult-to-access workpieces are the strengths of TRIBOS. The patented TRIBOS polygonal clamping technology is available for any conventional machine interface. It is used in the automotive, aviation and watchmaking industries as well as for tool and mold making, medical technology and mechanical and plant engineering. The one-piece mountings are durable and mechanically insensitive and guarantee clamping that is almost completely maintenance and wear-free.

From micro to macro – TRIBOS at a glance:

- **Longer service life and the best surface finishes thanks to high run-out accuracy**
- **Designed for machining at the highest rotation speeds and maintenance-free due to its one-piece construction**
- **Flexibility thanks to a wide clamping range – 0.3 to 32 mm**



How polygonal clamping technology works

Pressure makes the polygonal clamping diameter of the toolholder to run true and the tool shank can be easily inserted. When the pressure is released, it returns to its polygonal shape and clamps the tool reliably.

TRIBOS SVP

The clamping device TRIBOS SVP from SCHUNK can be used to clamp tools quickly and easily by manual actuation. With the new SVP-5, the clamping procedure is automated, enabling reliable and fast clamping at the push of a button.

Expansion toolholder

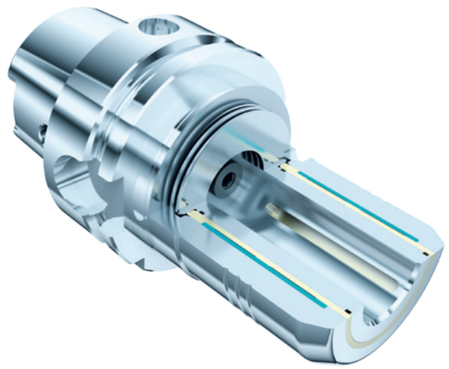
With SINO-R, SCHUNK is offering an expansion toolholder on the basis of expansion technology. Three features make the SINO-R series unbeatable in terms of quality and productivity for thread milling: the high radial rigidity, which prevents the tool from deflecting, the higher torque transmission for full utilization of the tool's performance and the outstanding vibration damping for the best thread surfaces without chatter marks.

With SINO-R, you not only master thread milling:

- **Monoblock design of the base body for greater stability and rigidity**
- **Outstanding vibration damping**
- **Reinforced expansion sleeve for greater radial rigidity for the toughest machining tasks with the highest radial forces**

Easy tool change

With the SINO-R C-spanner or spanner wrench, the tool is quickly and securely clamped.



How expansion technology works

In the clamping procedure, the elastic pressure material stretches in the direction of the expansion sleeve and the tool is clamped centrically.

Find your matching toolholder in just a few clicks:

schunk.com/toolholder-quickfinder

Polygonal toolholders & expansion toolholders

Tech

TRIBOS-S	TRIBOS-RM	TRIBOS-Mini	SINO-R

	TRIBOS-S	TRIBOS-RM	TRIBOS-Mini	SINO-R
Advantages				
	Slim design for the tightest machining conditions	Compact toolholder mounting for powerful HSC cutting in micro-cutting processes up to over 85,000 RPM	For delicate machining of housings, molds, electrodes and engravings	Proven expansion toolholder based on expansion technology
	The uniform cutting action improves tool service life	Precise and reliable metal cutting due to the best run-out accuracy of ≤0.003 mm and stability thanks to the anchor structure	Clamping of very small shanks is possible, which means the time-consuming and cost-intensive manufacturing of special tools is no longer needed	Impressive quality and productivity in thread milling
	Ideal for difficult-to-access workpieces	Perfectly suited for use with small, highly dynamic machining centers due to the different sizes	Especially for micro-cutting in medical and electrical engineering as well as in the watch industry or in precision die construction	High radial rigidity, high torque transmission and first-class vibration damping
Field of application				
General milling machining	◑	●		◑
Drilling/countersinking	●	●	●	◑
Reaming	◑	◑	◑	
Thread cutting	◑	◑		●
Roughing	○			●
Finishing	●	●	◑	
Technical data				
Number of interfaces	11	8	10	7
Run-out accuracy [µm]	3	3	3	5
Repeat accuracy [µm]	3	3	3	5
Damping	●	●	◑	●
Radial rigidity	○	○	○	●
Torque	◑	◑	◑	◑
Contour according to DIN ISO 12164-1				
Optimized interfering contours	●	◑	●	○
MQL applications (Minimum Quantity Lubrication)				
Interfaces				
HSK-A	32, 40, 63	25, 32, 40	25, 32, 40	63, 100
HSK-C				
HSK-E	25, 32, 40	25, 32, 40	20, 25, 32, 40	
SK	30, 40	30	30	40, 50
JIS-BT	30, 40		30	40
BT-DC				
CAT	40			40, 50
CAT-DC				
SCHUNK Capto		C4	C5	
VDI				

● = Excellently (suitable) ◑ = Good (suitable) ○ = Suitable

Heat shrinking and mechanical toolholders

With CELSIO heat shrinking toolholders and extensions, you will have a cost-effective clamping system for individual machining cases which which convinces with its optimum ratio between radial rigidity, interfering contour, and holding torque. SCHUNK also offers an extensive range of mechanical toolholders with ER collet chucks, Weldon toolholders, combination shell end mill adapters, face mill arbors, as well as CNC short drill chucks.

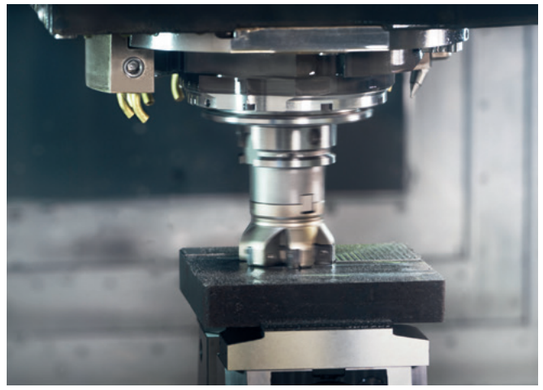
Advantages of CELSIO:

- **Secure and frictionless clamping for transmission of high torques**
- **Very good ratio between radial rigidity and interfering contour**
- **Universally applicable**

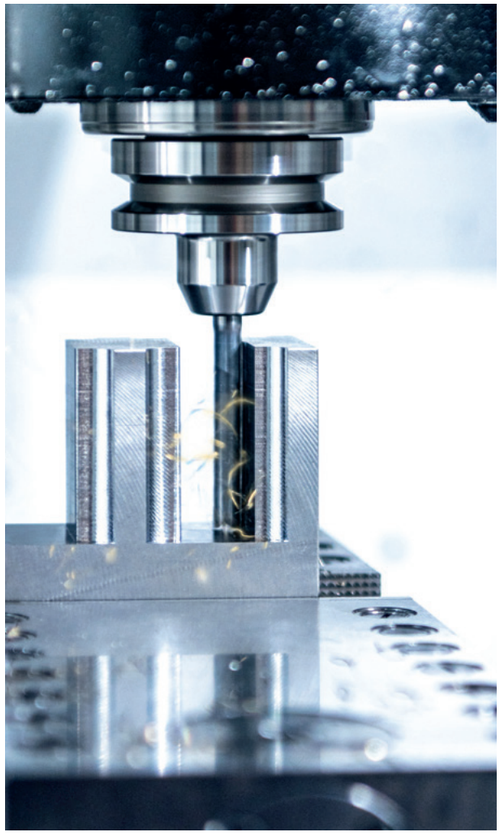
Advantages of mechanical toolholders:

- **The right toolholder is available for any tool shank**
- **No power consumption required for the clamping process**

Full-slot milling with CELSIO heat shrinking toolholder



Roughing with face mill arbors



Full-slot milling with WELDON end mill holder

Find your matching toolholder in just a few clicks:

schunk.com/toolholder-quickfinder

	Heat shrinking and mechanical toolholders		
	CELSIO	**ER collet chucks**	**ER precision collet chuck**
Advantages			
	Economical heat shrinking clamping system for individual processing applications	For clamping tools with cylindrical shanks in collets in accordance with DIN ISO 15488-B	For clamping tools with cylindrical shanks in collets in accordance with DIN ISO 15488-B
	Secure and friction-locked clamping for transmission of high torques	The large clamping range of the collets makes it possible for various shank tolerances to be clamped	The large clamping range of the collets makes it possible for various shank tolerances to be clamped
	Good ratio between radial rigidity and interfering contour		Using a precision collet, high run-out accuracies of 3 microns can be attained
Field of application			
General milling machining	◑	◑	◑
Drilling/countersinking	●	○	●
Reaming	◑	○	◑
Thread cutting	○	◑	◑
Roughing	◑		○
Finishing	◑	○	◑
Technical data			
Number of interfaces	20 in the standard	20 in the standard	10 in the standard
Run-out accuracy [µm]	3	8	3
Repeat accuracy [µm]	3		
Damping	○	◑	◑
Radial rigidity	◑	◑	●
Torque	●		●
Contour according to DIN ISO 12164-1			
Optimized interfering contours	●	◑	○
MQL applications (Minimum Quantity Lubrication)	on request	no	no
Interfaces			
HSK-A	40, 50, 63, 80, 100	40, 50, 63, 80, 100	63, 100
HSK-C			
HSK-E	32, 40	32, 40	40
SK	40, 50	40, 50	40, 50
JIS-BT	30, 40, 50	30, 40, 50	30, 40, 50
BT-DC	30, 40	30, 40	
CAT	40, 50	40, 50	40
CAT-DC			
SCHUNK Capto	C4, C5, C6, C8	C4, C5, C6, C8	C6
VDI			

● = Excellent (suitable) ◑ = Good (suitable) ○ = Suitable

Mechanical toolholders
Heat shrinking and mechanical toolholders

Find your matching toolholder in just a few clicks:

schunk.com/toolholder-quickfinder

Mechanical toolholders

	WELDON end mill holders	Whistle Notch mounting		Face mill arbor	Combination shell and end mill adapter	CNC short drill chuck
Advantages						
	For safe clamping of tools with lateral clamping surface on the cylindrical shank	Safe clamping of tools with lateral clamping surface on the cylindrical shank		For clamping end face mills and face mills, with crosswise slot in accordance with DIN 1880, from clamping diameter Ø 40 in accordance with DIN 2079 (four threaded holes)	Mechanical toolholder for fast clamping of milling cutters with a longitudinal or crosswise slot	For clamping tools with a cylindrical shank in machining centers or CNC machines
	No twisting or pulling out of the tool due to the clamping screw	No twisting or pulling out of the tool due to the clamping screw		Due to the enlarged contact surface milling cutters with a crosswise slot can be clamped quickly		Seamless and quick tool changes possible in the machine for tools with 1 mm to 16 mm shank diameters
	For tools with cylindrical shanks in accordance with DIN 1835E and DIN 6535E	For tools with cylindrical shanks in accordance with DIN 1835E and DIN 6535E				Also suitable for tools with inner coolant supply
Field of application						
General milling machining	◑	◑		◑	◑	
Drilling/countersinking						◑
Reaming						
Thread cutting	○	○				
Roughing	◑	◑		●	●	
Finishing				○	○	
Technical data						
Number of interfaces	14	3		15	5	6
Run-out accuracy [µm]	3	3		6	6	N/A
Repeat accuracy [µm]	3			6		
Damping	○	○				○
Radial rigidity	●	◑		●	●	
Torque	●	●				○
Contour according to DIN ISO 12164-1						
Optimized interfering contours	○	○				○
MQL applications (Minimum Quantity Lubrication)						
Interfaces						
HSK-A	40, 50, 63, 80, 100	63, 100		40, 50, 63, 80, 100	63, 100	63, 100
HSK-C						
HSK-E						
SK	40, 50			40, 50	40, 50	40, 50
JIS-BT	40, 50			40, 50	40	40, 50
BT-DC	40			30, 40		
CAT						
CAT-DC						
SCHUNK Capto	C4, C5, C6, C8	C6		C4, C5, C6, C8		
VDI						

● = Excellently (suitable) ◑ = Good (suitable) ○ = Suitable

Toolholder accessories

The extensive SCHUNK range of accessories such as extensions, intermediate sleeves and clamping devices extends the versatility of our toolholders. Maximum flexibility, reliability, and absolute process reliability is ensured.

TRIBOS-SVL

The use of TRIBOS SVL extensions makes it possible to use standard cutting tools instead of expensive special tools.

CELSIO SVL / ER Mini SVL

CELSIO heat shrink extensions with optimized interfering contours and ER collet chuck extensions offer a universal solution for the individual, hard-to-access type of machining cases.

GZB-S KD / PK

SCHUNK intermediate sleeves allow clamping of several, different shank diameters with just one toolholder. The universal intermediate sleeves GZB-S are available in two versions: proven coolant-proof and with innovative peripheral coolant channels. And both can be used in the SCHUNK toolholding systems TENDO, TRIBOS, SINO-R, and all standard hydraulic expansion toolholding systems.

NEW TOOLGUARD

The Tool Guard intermediate sleeve for demanding machining operations. The active clamping system increases clamping force and reduces micro-movements. The double pull-out lock secures the sleeve and the tool and prevents the tool from being pulled out. Compatible with SCHUNK TENDO as well as standard hydraulic expansion toolholders and milling chucks.

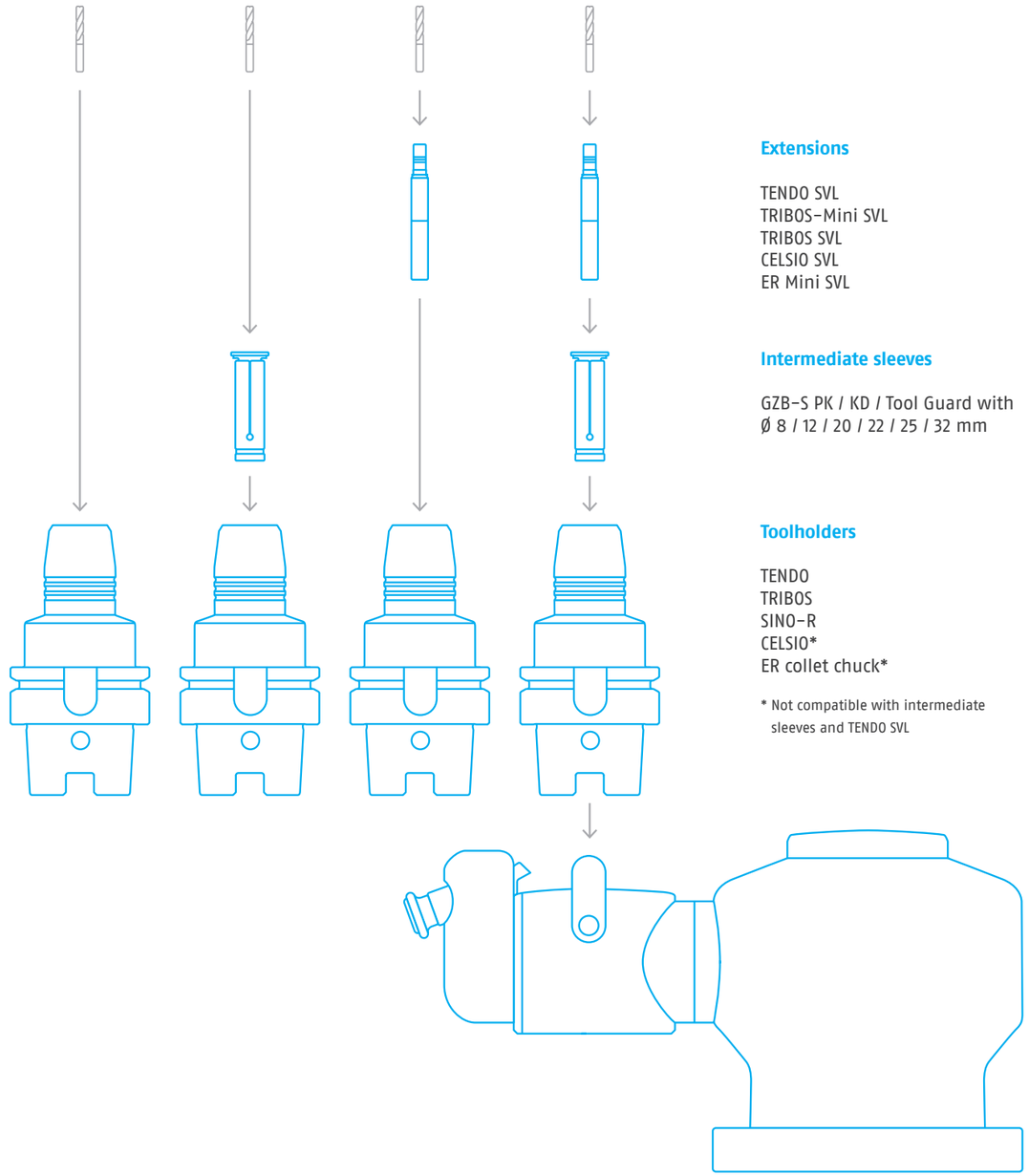
TENDO SVL

The tool extension TENDO SVL is designed for precise machining of difficult-to-access areas where low interfering contours are required.

TOOLFIX Mono WMS-M and TOOLFIX Vario WMS-V

TOOLFIX Mono and Vario are assembly systems for all standard machine interfaces. The toolholder is automatically secured when it is inserted into the adapter. Locking bolts and automatic engagement can be used to find the ideal set-up position for ergonomic operation.

Combine the right solution



Extensions

TENDO SVL
TRIBOS-Mini SVL
TRIBOS SVL
CELSIO SVL
ER Mini SVL

Intermediate sleeves

GZB-S PK / KD / Tool Guard with
Ø 8 / 12 / 20 / 22 / 25 / 32 mm

Toolholders

TENDO
TRIBOS
SINO-R
CELSIO*
ER collet chuck*

* Not compatible with intermediate sleeves and TENDO SVL

Toolfix

Toolholders from SCHUNK and third-party manufacturers

Wherever you are located – SCHUNK is close to you!

Headquarters Lauffen/Neckar
SCHUNK SE & Co. KG
Spanntechnik
Greiftechnik
Automatisierungstechnik
Bahnhofstr. 106 – 134
D-74348 Lauffen/Neckar
Tel. +49-7133-103-0
Fax +49-7133-103-2399
info@de.schunk.com

Plant Brackenheim-Hausen
SCHUNK SE & Co. KG
Spanntechnik
Greiftechnik
Automatisierungstechnik
Robert-Bosch-Str. 12
D-74336 Brackenheim-Hausen
Tel. +49-7133-103-0
Fax +49-7133-103-2399
info@de.schunk.com

Plant Mengen
H.-D. SCHUNK GmbH & Co.
Spanntechnik KG
Lothringer Str. 23
D-88512 Mengen
Tel. +49-7572-7614-0
Fax +49-7572-7614-1039
customercentermengen@de.schunk.com

Plant St. Georgen
SCHUNK Electronic Solutions GmbH
Am Tannwald 17
D-78112 St. Georgen
Tel. +49-7725-9166-0
Fax +49-7725-9166-5055
electronic-solutions@de.schunk.com

Plant Shanghai, China
SCHUNK Intec Precision Machinery
Trading (Shanghai) Co., Ltd.
No. 4189 Yindu Road, Minhang District,
Shanghai, 201108, PRC
Tel: +86-21-54420007
info@cn.schunk.com

Plant Aadorf, Switzerland
GRESSEL AG
Schützenstr. 25
CH-8355 Aadorf
Tel. +41-52-368-16-16
Fax +41-52-368-16-17

Plant Morrisville, USA
SCHUNK Intec Inc.
211 Kitty Hawk Drive
Morrisville, NC 27560, USA
Tel. +1-919-572-2705
info@us.schunk.com

Plant Querétaro, Mexico
SCHUNK Intec S.A. de C.V.
Parque Tecnológico Innovación,
Lateral Carretera Estatal 431
km 2+200. Int. 47. C.P. 76246,
El Marqués, Querétaro, México
Tel: +52-442 211 7800
info@mx.schunk.com

Plant Eberhardt Cleebronn
Eberhardt GmbH & Co. KG
Maybachstr. 2
D-74389 Cleebronn
Member of SCHUNK Lauffen
Tel. +49-7135-9862-0
Fax +49-7135-9862-299
info@eberhardt-stanztechnik.com

Plant Caravaggio, Italy
S.P.D. S.p.A.
Via Galileo Galilei 2/4
IT-24043 Caravaggio (BG), Italy
Tel. +39-0363-546511
Fax +39-0363-52578

Here are the locations

Our subsidiaries and distribution partners are available for you.

schunk.com/locations

Commissioning

With expert installation and commissioning, your SCHUNK products will be up and running in no time, ensuring that your production start goes smoothly.

schunk.com/commissioning

Maintenance, repairs & service

With regular maintenance and prompt repairs by qualified service technicians, your SCHUNK product will remain reliably available and perform at its best.

schunk.com/maintenance-repair-service

Spare parts, accessories

With genuine parts and compatible accessories, all from a single source, your SCHUNK product is back in service quickly and can be expanded as needed.

schunk.com/spare-parts-accessories

Trainings

Through hands-on training courses, you can equip your staff with the skills needed to ensure that your SCHUNK product is used efficiently, safely, and with a long service life.

schunk.com/training-courses

SCHUNK SE & Co. KG
Spanntechnik
Greiftechnik
Automatisierungstechnik

Bahnhofstr. 106 – 134
D-74348 Lauffen/Neckar
Tel. +49-7133-103-0
info@de.schunk.com
schunk.com

Follow us

We print sustainably

Druckprodukt
CO_2 kompensiert
Mehr Informationen unter:
klima-druck.de/ID
ID-Nr. 26221129
VDM+

9961517-7M-08/2026