



70  
Years

Superior Clamping and Gripping

**SCHUNK** ®

## Product Overview

Clamping Technology



## Superior Clamping and Gripping

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

For more information visit our website:  
[www.gb.schunk.com/Lehmann](http://www.gb.schunk.com/Lehmann)

*J. Lehmann*  
Jens Lehmann





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

## Top Performance in the Team

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

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

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

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

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

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



Heinz-Dieter Schunk



Henrik A. Schunk



Kristina I. Schunk



Superior Clamping and Gripping

# SCHUNK No. 1 Products for higher Productivity ...



... in your Lathe

... for your Automated Machin



**Lathe Chucks**

The whole world of turning. Precise hold at full dynamics.



**Chuck Jaws**

Unique diversity. The world's largest standard chuck jaw program from one source.



**Magnetic Technology**

5-sided machining in one set-up. Deformation-free and within seconds.



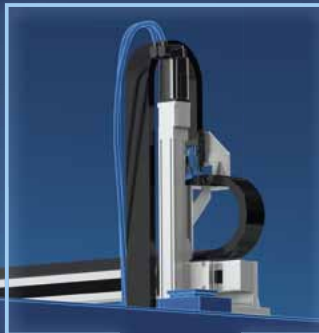
**Stationary Workholding**

The largest modular system for individualists. Pneumatic, hydraulic, or mechanic.



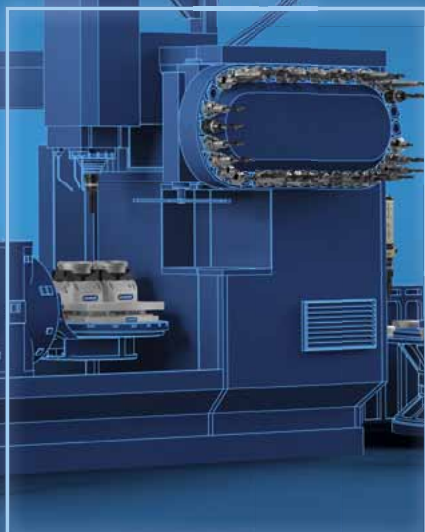
**Toolholders**

The system for perfect tool clamping.



**... in your Automated Handling System**

**... in your**



**... in your Machining Center**



**... in your Automated Assembly**



**... in your Service Robotics Application**

# Chuck Jaws

## Clamping Technology

### Chuck Jaws



Soft top jaws

Jaw blanks

Full grip jaws

Monoblock jaws

Claw jaws

Stepped top jaws

Areas of application	Soft top jaws	Jaw blanks	Full grip jaws	Monoblock jaws	Claw jaws	Stepped top jaws
Clamping of blanks					•	•
Clamping of finished parts	•	•	•	•		•
I.D. clamping	•	•	•	•	•	•
O.D. clamping	•	•	•	•	•	•
Compensation of form tolerances						
Adjustable clamping diameter via turning	•	•	•	•		
Low-deformation clamping			•			
Jaw quick change	•		•	•	•	•
Characteristics						
Jaw interface / type (standard design)	90° fine serration 60° fine serration Tongue and groove	90° fine serration 60° fine serration	90° fine serration 60° fine serration Tongue and groove	Straight and angled wedge-bar serration	90° fine serration 60° fine serration Tongue and groove	90° fine serration 60° fine serration Tongue and groove
Available for lathe chuck sizes (standard design)	80 – 1200 mm	160 – 800 mm	80 – 630 mm	140 – 800 mm	140 – 1000 mm	110 – 1200 mm
Material	Steel 16MnCr5 case-hardenable or high-tensile aluminum	Steel 16MnCr5 case-hardenable	Steel 16MnCr5 case-hardenable or high-tensile aluminum	C 45, tempered, inductive hardenable	Steel 16MnCr5 case-hardenable	Steel 16MnCr5 case-hardenable
Highlights	Depending on the version: ground groove and fine serration or finemilled tongue and groove  Can be turned to the required size of clamping diameter	Available with or without bore holes  Ground groove and fine serration  Can be turned to the required size of clamping diameter	The large locating surface evenly distributes the gripping forces around the workpiece. Thereby the workpiece deformation is decreasing	Inductive hardened serration and guidances permit a longer tool service life of the lathe chuck  Available in various versions	The claw serration allows form-fit clamping, which also enables transmission of very high machining forces  Available for O.D., I.D., and bar clamping	The diamond serration enables first set-up, where the clamping teeth penetrate the workpiece only slightly  May be used for O.D., I.D., and bar clamping  Used for covering large clamping ranges

Stepped block jaws	PRONTO	Pendulum jaws	Quentes fiberglass jaws
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
	•	•	•
	•	•	•
•	•	•	•
Straight and angled wedge-bar serration	90° fine serration 60° fine serration	Available for quick-change chucks and power chucks	Available for quick-change chucks and power chucks
160 – 630 mm	200 – 315 mm	200 – 500 mm	160 – 315 mm
Steel 16MnCr5 case-hardenable or steel 16MnCr5K	Steel, hardened and tempered or case hardened	Diamond-serrated clamping inserts made of steel 16MnCr5	Glass fiber reinforced plastic
May be used for O.D. clamping, I.D. clamping and bar clamping Used for covering large clamping ranges	Various quick-change inserts for pre-machined and finished part clamping available Clamping range expansion of 700% without supporting jaw adaptation in 5 seconds per jaw	For clamping thin-walled and deformation-sensitive workpieces Compensation of deviations in shape via pendulum motion Clamping inserts are available in hardened and unhardened versions	The light and stable design enables minimal loss of clamping force No clamping marks, making it ideal for clamping surfaces that are especially sensitive, already ground or even surface-treated Low-cost system due to quickly changeable clamping inserts

## Chuck Jaw-Quickfinder



The Chuck Jaw-Quickfinder simplifies tracking down the suitable standard chuck jaw. This program comprises lathe chucks of 8 different manufacturers. By putting in the chuck manufacturer, chuck type, size, and details, the user will receive a comprehensive list of all relevant chuck jaws.

SCHUNK offers more than 1,200 chuck jaw types, thus making it the world's largest standardized chuck jaw program. [www.schunk.com/chuck-jaw-quickfinder](http://www.schunk.com/chuck-jaw-quickfinder)



## Customized solutions

More than 30 years of experience in the development and manufacturing of chuck jaws in special design make us a partner in high demand for specialized applications. Whether it is modified standard chuck jaws or sophisticated customized designs, our team of experts will develop the right solution for any application.

Challenge us, and we'll convince you!



## Having trouble finding the right standard product?

Take advantage of the mobile and flexible SCHUNK Chuck Jaw App.

### Everything at a glance – the chuck jaw app






The SCHUNK chuck jaw range is always at hand: You can quickly order with our app directly from your smart phone.

App download is available under **iTunes** or **Android**









# Lathe Chuck Technology

## Clamping Technology







	Manual Chucks		Power Chucks with Quick Jaw Change System		
					
	ROTA-S plus 2.0 ROTA-S plus	ROTA-S flex	ROTA THW plus	ROTA THW	ROTA NCX
<b>Areas of application</b>					
Large spindle bore	●		●	●	●
High RPM	●	●	●	●	●
Modular center sleeve system	●		●		
Large jaw stroke	●	●	●		
Quick jaw change system	●	●	●	●	●
High quick jaw change repeatability	●	●	●	●	●
High repeat accuracy	●	●	●	●	●
Centrifugal force compensation					
Air or coolant feed-through			●		
Clamping of small workpieces	●	●	●		●
Bar machining			●	●	●
Overlap clamping					
Wedge bar lathe chuck	●	●	●		●
Wedge-hook lathe chuck					
Fine serration inch 1/16" x 90° / 3/32" x 90°					
Fine serration metric 1.5 mm x 60° / 3.0 mm x 60°					
Tongue and groove	●	●	●	●	●
Tube ends work					
Lever chuck					
Active pull down					
Hermetically sealed					
<b>Characteristics</b>					
Size	160 – 1400	700 – 1200	165 – 315	400 – 1000	165 – 315
Type	Wedge bar lathe chuck	Wedge bar lathe chuck	Wedge bar lathe chuck	Wedge bar lathe chuck	Wedge bar lathe chuck
Jaw interface	Base jaws with angled serration	Base jaws with straight serration	Base jaws with straight serration	Base jaws with straight serration	Base jaws with straight serration
<b>Highlights</b>					
All lathe chucks can also be used as a stationary chuck!	Quick jaw change system Large through-hole High accuracy Modular center sleeve system (up to size 315) Optionally combineable with expansion arbor (up to size 315)	Quick jaw change system High accuracy Exchangeable, extended guideways Clamping range 15 – 1180 mm	Quick jaw change system Large through-hole High quick jaw change repeatability Modular center sleeve system	Quick jaw change system High quick jaw change repeatability	Quick jaw change system High quick jaw change repeatability



Power Chucks with Through-hole			Power Chucks without Through-hole		
					
ROTA NCD	ROTA NCF ROTA NCF plus 2	ROTA NC ROTA NC plus 2	ROTA NCK plus	ROTA NCO	ROTA 2B
•	•	•	•		
•	•	•	•		
	•	•		•	•
•	•	•	•	•	
	•	•		•	•
•					
•	•	•	•	•	•
•	•	•	•	•	•
•	•	•	•	•	•
				•	•
130 – 630	185 – 315 / 400 – 630	185 – 315 / 400 – 1000	165 – 315	165 – 1000	125 – 500
Wedge bar lathe chuck	Wedge-hook lathe chuck	Wedge-hook lathe chuck	Wedge-hook lathe chuck	Wedge-hook lathe chuck	Wedge-hook lathe chuck
Jaw connection with metric and inch serration	Jaw connection with metric and inch serration	Jaw connection with metric and inch serration	Jaw connection with metric and inch serration	Jaw connection with inch serration or with tongue and groove	Jaw connection with inch serration or tongue and groove
Very large through-hole Patented collet jaw system High accuracy	Integrated centrifugal force compensation Base jaw with double guidance (ROTA NCF plus) Modular center sleeve system (ROTA NCF plus) Special, optimized grease-pump system	Very large through-hole Base jaw with double guidance (ROTA NC plus) Modular center sleeve system (ROTA NC plus) Special, optimized grease-pump system	Jaw connection in metric or inch version Connection dimensions are 100% compatible with the Kitagawa B200 series Integrated blank draw nut	Low chuck height High clamping force and long jaw stroke Additional sealing against contamination	Very large jaw stroke Weight reduced design Fastening thread for workpiece stops

# Lathe Chuck Technology

## Clamping Technology

	Power Chucks without Through-hole		Pneumatic Power Chucks			
						
	ROTA NCR	ROTA NCS 3 or 6 jaws	ROTA TP	ROTA TB / TB-LH ROTA EP / EP-LH	ROTA TB2 ROTA TB2-LH	ROTA P
<b>Areas of application</b>						
Large spindle bore			•	•	•	
High RPM						•
Modular center sleeve system						
Large jaw stroke	•	•		•	•	
Quick jaw change system						
High quick jaw change repeatability						•
High repeat accuracy	•	•				•
Centrifugal force compensation	•					
Air or coolant feed-through	•	•				•
Clamping of small workpieces						•
Bar machining			•	•	•	
Overlap clamping				•	•	
Wedge bar lathe chuck						
Wedge-hook lathe chuck			•	•	•	•
Fine serration inch 1/16" x 90° / 3/32" x 90°	•		•	•	•	
Fine serration metric 1.5 mm x 60° / 3.0 mm x 60°						
Tongue and groove	•	•				•
Tube ends work			•	•	•	
Lever chuck		•				
Active pull down		•				
Hermetically sealed		•				
<b>Characteristics</b>						
Size	165 – 1200	175 – 500	125 – 350	400 – 1200	400 – 1200	100 – 340
Type	6-jaw pendulum compensation power chuck with centric clamping	Lever chuck (ROTA NCS 3 jaws), centric clamping pendulum compensating chuck (ROTA NCS 6 jaws)	Wedge-hook lathe chuck	Wedge-hook lathe chuck	Wedge-hook lathe chuck	Precision chuck
Jaw interface	Jaw connection with inch serration or tongue and groove	Jaw connection with tongue and groove	Jaw connection with inch serration	Jaw connection with inch serration	Jaw connection with inch serration	Jaw connection with precision tongue and groove
<b>Highlights</b>						
All lathe chucks can also be used as a stationary chuck!	Also available with centrifugal force compensation  Deformation sensitive clamping of thin-walled workpieces  Compensating or centric clamping	Active pull down  Integrated pendulum compensation  Hermetically sealed  Low maintenance	With integrated pneumatic cylinder  Very large through-hole  Also for stationary applications	With integrated pneumatic cylinder  Very large through-hole  With fast and clamping stroke (TB-LH / EP-LH)	With integrated pneumatic cylinder  Very large through-hole  With fast and clamping stroke (TB-LH / EP-LH)  Seal of the base jaw guide  Corrosion protection through chemical coating  Wireless clamping pressure monitoring	3/6-jaw precision chuck  With central air supply via rotary distributor  Repeat accuracy appr. 0.003 mm

### Steady rests

Due to optimized lever kinematics, central lubrication, integrated roller, and dirt guard, the new SCHUNK ZENTRICO THL plus steady rests achieve maximum clamping forces per roller and excellent centering and repeat accuracies.



- 1 Steady rest open with retractable lever arm
- 2 Steady rest open (standard)
- 3 Steady rest closed

### ZENTRICO THL plus Equipment and Options

Standard version:

- Cylindrical rollers
- Roller rinsing
- Central lubrication
- Rear and side hydraulic connections at the cylinder
- Mounting dimensions are compatible to competitive products
- Very effective dual chip protection at the rollers
- Non-return valve inside the cylinder
- Air purge connection
- Stroke control (without end switch)

Optional:









- Retractable lever arm
- Spherical rollers (without additional charges)
- Manual lubrication
- Pneumatic version
- Side mounted cylinder
- Adapter plates for fastening the steady rest



# Toolholders

## Clamping Technology

### Hydraulic Expansion Toolholders

								
	TENDO	TENDO E compact	TENDO ES	TENDO LSS	TENDOzero	TENDO SVL	TEND0turn DSE / DKE	TENDO WZS
Areas of application								
Light milling	•	•	•	•	•	•	•	
Medium milling	•	•	•				•	
Rough milling		•						
HPC / HSC machining	•	•	•		•			
Drilling	•	•	•	•	•	•	•	
Reaming	•	•	•	•	•	•	•	
Tapping	•	•	•	•		•	•	
Thread milling	•	•	•					
Grinding								•
Characteristics								
Run-out accuracy [mm]	< 0.003	< 0.003	< 0.003	< 0.006	< 0.003*	< 0.006	< 0.003	< 0.003
Max. speed [rpm]	50000	50000	50000	25000	25000	10000	10000	
Torque [Nm]	min. 650 (Ø 32)	max. 900 (Ø 20)	min. 330 (Ø 20)		min. 330 (Ø 20)	min. 300 (Ø 20)	min. 220 (Ø 20)	min. 250 (Ø 32)
Tool change	Allen key	Allen key	Allen key	Allen key	Allen key	Allen key	Allen key	Allen key
Highlights								
	For tool change within seconds For exact tolerances at the workpiece	Hydraulic expansion technology optimized in price High radial rigidity High clamping forces Multi-purpose precision toolholder	Extremely short design for additional space in the machining area Flexible clamping range due to the use of intermediate sleeves	Less interfering contours – better for your applications Perfect vibration damping	Perfect solution if dimensional accuracy and quality are important Perfect run-out accuracy (adjustable onto 0.000 mm)	Independent from the spindle interface useable for almost every precision toolholder Easy tool change since the clamping screw can be radially operated	Modular use for driven tools Can be used for machining / milling centers Best vibration damping	Can be used on tool sharpening and grinding machines Profound clamping depths for special tools with long shaft lengths

\* adjusted onto 0.000 mm with a Torx Plus key

\*\* Run-out tolerance measured in the clamping bore



### Polygonal Clamping Technology

### Heat Shrinking Technology



TRIBOS-R	TRIBOS-S	TRIBOS-RM	TRIBOS-Mini	TRIBOS SVL	CELSIO
•	•	•	•	•	•
•	•	•	•	•	•
•	•	•	•	•	•
•	•	•	•	•	•
•	•	•	•	•	•
•	•	•	•	•	•
•	•	•	•	•	•
< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003 **
55000	85000	85000	85000	20000	50000
min. 350 (Ø 32)	min. 280 (Ø 32)	min. 50 (Ø 16)	min. 3.5 (Ø 5)	min. 150 (Ø 20)	min. 750 (Ø 32)
Clamping device SVP	Clamping device SVP	Clamping device SVP / SVP-RM	Clamping device SVP / SVP-Mini	Clamping device SVP	Inductive shrinking unit
High radial rigidity at an excellent vibration damping Best dynamic run-out accuracy	Ideal for work-piece contours that are difficult to access High run-out and repeat accuracy	Compact design for micro cutting High radial stiffness	For micro tools as of clamping diameter 0.3 mm Economic solution for filigree machining operations. Special tools are no longer needed	Extension for applications with optimized interfering contours Flexible application possibilities	High radial rigidity

### Mechanical toolholders

The toolholder program from SCHUNK is completed by:

- Precision Collet Chucks
- ER-Collet Chucks
- Weldon Mountings
- Milling Head Mountings
- Face Mill Arbors
- Quick-Change Tapping Chucks
- CNC Short Drill Chuck



### Grippers with shank interface

For fully automatic loading and unloading of machine tools with their axis

- 2- or 3-finger gripper GSW-B for toolholder (Ø 20 mm)
- Compensation Unit GSW AGE for reducing the spindle payload
- Vacuum Gripper GSW-V for handling of 2-dimensional components



### Cleaning Unit RGG











Suitable for cleaning of workpieces and machine interiors

- Automatic cleaning unit (Ø 20 mm)
- Works with air or cooling lubricant
- Reduces idle times
- Increases safety for operator



# Stationary Workholding

## Clamping Technology

	VERO-S Quick-Change Pallet System						TANDEM Clamping Force Blocks			
										
	NSE plus	NSE mini	NSA plus	NSR	NSL	NSL turn	KSP plus KSP-LH plus KSP-F plus	KSF plus KSF-LH plus KSF-F plus	KSH plus KSH-LH plus KSH-F plus	KSA plus KSA-LH plus KSA-F plus
Actuation										
pneumatic	•	•	•	•	•	•	•	•		
hydraulic									•	
mechanical	•	•								•
Characteristics										
Clamping force	2.5 – 40 kN pull-down force	0.5 – 1.5 kN pull-down force	10 – 30 kN pull-down force	4 – 50 kN pull-down force	7.5 – 60 kN pull-down force	75 – 125 kN pull-down force	4.5 – 55 kN	4.5 – 55 kN	4.5 – 60 kN	18 – 45 kN
Clamping width / stroke							2 – 15 mm	2 – 8 mm	2 – 15 mm	2 – 8 mm
Actuating pressure / torque	6 bar	6 bar	6 bar	6 bar	6 bar	6 bar	6 – 9 bar	6 – 9 bar	60 bar	8 – 15 Nm
Sizes	90 bis 176	90	120 – 160	100 – 220	200 bis 800	450, 570	64 bis 250	100 bis 160	64 bis 250	100 bis 160
Highlights										
	Positioning / fixing and clamping in one operation	Positioning / fixing and clamping in one operation	Positioning / fixing and clamping in one operation	Robot inter- face for pallet handling  Completely sealed	Universally suitable, independent from the machine ma- nufacturer  Modules are stationary  Fast and easy installation	Ideal for milling and turning centers  For speeds up to 2000 rpm  Repeat accuracy < 0.01 mm	Compact design allows maximum use of the working area  Best lateral accessibility  2 integrated standard jaw interfaces  High clamping forces for milling operation  Pressure maintenance during machining possible  Due to the square design ideal for 6-sided machining in 2 set-ups  Lubrication of all functional surfaces via 2 lubrication nipples or from the bottom  Electrical monitoring of jaw position optional  Designs: • Pneumatic • Hydraulic • Manual • Spring-actuated			
	Change of workpiece / device within seconds	Very flat design (height 20 mm)	Change of device within seconds	With integrated monitoring modules	High accuracy	Maximum safety through form-fit locking with self-locking function	Each with • Standard stroke • Long stroke • Fixed jaw			
	Uniform in- terface for all machines	For direct workpiece clamping	Repeat accuracy of less than 0.005 mm	Compact and very light design (NSR mini 0.4 kg, NSR 1.6 kg, NSR maxi 21 kg)	High flexibility	For manual lathe chucks up to size 630 mm (ROTA-S plus)				
	Repeat accuracy of less than 0.005 mm	Clamping pin size 20 mm	Possibilities of monitor- ing: • Module open / closed • Pallet is set down	For pallet handling up to 1000 kg (800x800 mm)	Modular system					
	Uniform clamping pin for all module sizes	Version in stainless steel	Cleaning of the work surface	No lubricated air required						
	Version in stainless steel	Ideal for smaller machines and light cutting tasks	Lifting force 120 kg per module							
			Version in stainless steel							

\* applies only for KSM2

### ROTA Stationary Manual and Power Chucks / Jaw Box

### KONTEC Mechanical Clamping Systems



ROTA NCK-S plus    ROTA TPS    ROTA-5 plus 2.0    SPK    KSG / KSD / KSS    KSX    MTC    KSC / KSC2 / KSK / KSO    KSM / KSM2

57 – 144 kN	22 – 80 kN	6 – 18 kN	55 – 75 kN	20 – 40 kN	10 – 40 kN	15 – 25 kN	7 – 20 kN	bis 30 kN
2.75 – 5.3 mm	3 – 5 mm	6.5 – 9.7 mm	75 – 100 mm	0 – 349 mm	22 – 250 mm	40 – 70 mm	0 – 152 mm	8 – 565 mm
120 – 195 bar	6 bar							
165 bis 315	125 bis 315	160 bis 1000	180 bis 260	100 bis 125	125	60 bis 100	40 bis 100	65 bis 90

Very low chuck height	Large through-bore	Quick-jaw change system	Base body made of steel	Quick change mechanism (KSG)	Fast clamping mechanism	Three vises in one housing	Easy handling	Multi-part clamping possible
Integrated hydraulic cylinder	Available with adapter plate or cylindrical recess	Available with adapter plate or cylindrical recess	Resistant to dirt	Can be used as centric clamping vise or double clamping vise (KSD)	Optimal for 5 axis machining	· Centric clamping vise	100% encapsulated	Quick jaw adjustment
One-piece hardened chuck body	With integrated pneumatic cylinder	Low height	Variable track width	Machine vise with high clamping forces	Wide standard chuck jaw program available	· Clamping vise with fixed jaw	Multi-purpose chuck jaw program	Moveable jaws with integrated pull-down effect
Long guidances in pistons and base jaws	Also available as a 2-jaw-chuck	High clamping forces	Base jaws with tongue and groove or fine serration for the use of standard top jaws	Standard chuck jaw program available	Encapsulated drive protected against dirt	· Double clamping vise	High clamping force	Rigid base body
High clamping forces	High clamping forces	Vast chuck jaw program	High clamping forces	For clamping of raw and machined parts	Tool-free preadjustable clamping force	Sealed, low maintenance	Suitable for pallets	Maximum flexibility during clamping operation
High repeat accuracy	High clamping forces	Easy assembly	Easy handling	Clamping force pre-adjustment	Combinable with VERO-S quick-change pallet system	One-piece, rigid chuck body	Clamping width adjustment without change-over of chuck jaws	Vast top jaw program
						High repeat accuracy	Very long guidance of the chuck jaw, due to lower lift-off	Standardized interface for the SCHUNK modular system*
							May be combined to a multi clamping system	Very high load capacity

## Tombstones

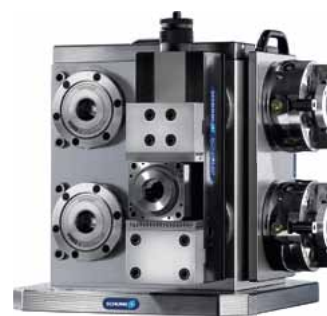
Very compact designed tombstones, excellently adjusted to the chosen SCHUNK clamping module. The tombstone is made of cast iron or aluminum on request.

### Basic data

- Three different shapes (rectangular, triangular, octagonal)
- For pallets measuring 400 mm and 500 mm

### Designs

- Fine machined, with grid plates with evenly distributed bore holes 50 mm
- Fine machined, grid plate with a reduced number of bore holes, particularly for SCHUNK clamping units
- Raw clamping surface without bore holes, can be finish machined by the customer



### Optimal accessibility of the machine spindle








Adjusted and optimized to many horizontal machining centers.

### Product-optimized designs

Ideal tombstone solutions for every SCHUNK clamping unit, including SCHUNK VERO-S Quick-Change Pallet System. Universal application possibilities, independent from the currently used clamping unit.

# Magnetic Technology / Vacuum Clamping Technology

## Clamping Technology

	MAGNOS Magnetic Technology				PLANOS Vacuum Clamping Technology		
							
	Square Pole Technology	Parallel Pole Technology	Radial Pole Technology	ROTA NCM	Lifting Technology	PLANOS	Unit
Actuation							
mechanical		•	•	•	•		
pneumatic				•	•	•	
electrical	•	•	•	•	•		
Vacuum pump						•	
Characteristics							
Clamping / Lifting Force	24 kN – 555 kN*	up to 100 N/cm <sup>2</sup>	up to 160 N/cm <sup>2</sup>	on request	up to 2000 kg	up to 8 N/cm <sup>2</sup>	
Actuation pressure / Supply voltage	400 V / 50 Hz	400 V / 50 Hz	400 V / 50 Hz	on request		400 V / 50 Hz (vacuum unit)	
Sizes	Pole size 32 x 32 / 50 x 50 / 75 x 75 and round design	Rectangular or round design	∅ 150 – 4000 mm	∅ 400 – 2500 mm	5 sizes	300 x 200, 400 x 300, 600 x 400	
Highlights							
	<p>For high-precision milling and grinding</p> <p>Energy-efficient clamping</p> <p>Deformation-free clamping</p> <p>No loss of clamping force in case of power outage</p> <p>Compensates unevenness with variable pole extensions</p> <p>5-sided-machining</p> <p>Minimum set-up times and increase in productivity</p>	<p>For high precision grinding</p> <p>Energy-efficient clamping</p> <p>No loss of clamping force in case of power outage</p> <p>Various pole extension variants for different machining types</p> <p>Minimum set-up times and increase in productivity</p> <p>Multi-level holding force regulation</p> <p>Demagnetization cycle to reduce permanent magnetism in workpiece</p>	<p>For circular grinding and turning</p> <p>Energy-efficient clamping</p> <p>Deformation-free clamping</p> <p>No loss of clamping force in case of power outage</p> <p>Minimum set-up times and increase in productivity</p> <p>Deformation-free set-up due to the use of fixed and variable pole extensions</p> <p>Demagnetization cycle to reduce residual magnetism in workpiece</p>	<p>Large jaw stroke</p> <p>High jaw quick change repeatability</p> <p>High clamping repeat accuracy</p> <p>Centrifugal force compensation</p> <p>Media feed-through</p> <p>Active pull down (magnet)</p>	<p>One-hand operation possible</p> <p>Maintenance-free</p> <p>Low weight at highest lifting performance</p> <p>Minimum on / off magnetization times</p> <p>No external energy supply</p>	<p>5-sided machining and workpiece cut-outs with adapter plate and cups possible</p> <p>Up to 30% higher shear force absorption with patented friction islands</p> <p>Powerful vacuum unit</p> <p>Easy handling</p> <p>Modular design</p>	<p>Automatic emergency-off function (coupled to the machine)</p> <p>Integrated pressure gauge, vacuum switch, and alarm device</p> <p>Sight glass with electronic float switch and alarm device</p> <p>Additional digital output warns of loss of the operating vacuum or a critical fill level during machining</p> <p>Mobile use is possible</p> <p>Energy saving device in automatic mode (at 80% vacuum)</p>

\* Provided that all poles are covered and at an air gap of 0 mm



## Greifsysteme | Gripping Systems



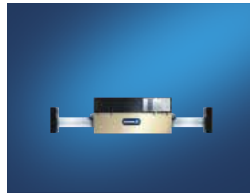
Gesamtprogramm Greifsysteme  
Complete Program Gripping Systems



Greifer  
Grippers



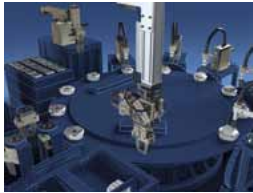
Drehmodule  
Rotary Modules



Linearmodule  
Linear Modules



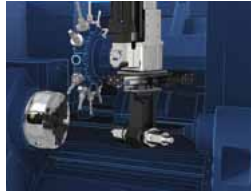
Roboterzubehör  
Robot Accessories



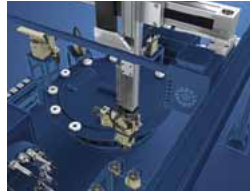
Produktübersicht  
Product Overview



Highlights  
Neuheiten | New Products



Mechatronik  
Mechatronics



Produktübersicht Linear-  
module | Product Overview  
Linear Modules



Produktübersicht Roboter-  
zubehör | Product Overview  
Robot Accessories

## Spanntechnik | Clamping Technology



Gesamtprogramm Spanntechnik  
Complete Program Clamping  
Technology



Werkzeughalter  
Toolholders



Stationäre Spanntechnik  
Stationary Workholding



Drehfutter  
Lathe Chucks



Spannbacken  
Chuck Jaws



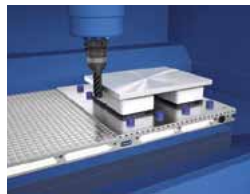
Magnetspanntechnik  
Magnetic Clamping  
Technology



Produktübersicht  
Product Overview



Kundenspezifische Lösungen  
Hydro-Dehnspanntechnik  
Hydraulic Expansion  
Technology Special Solutions



Vakuumsanntechnik  
Vacuum Clamping  
Technology



Highlights  
Neuheiten | New Products

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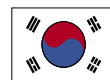
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