



# TANDEM KSF3

Spring-loaded powerhouses for tower and storage solutions

Superior Clamping and Gripping



Gripping Systems

Clamping Technology



Chuck Jaws



Lathe Chucks



Stationary Workholding



Toolholders



Hydraulic Expansion Technology



VERO-S



TANDEM



ROTA



KONTEC



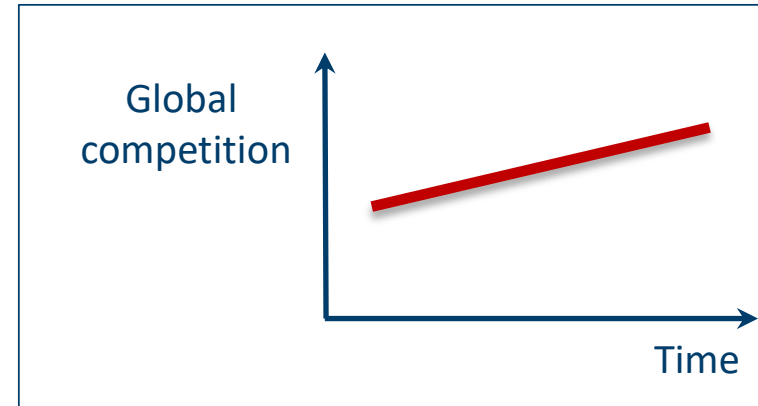
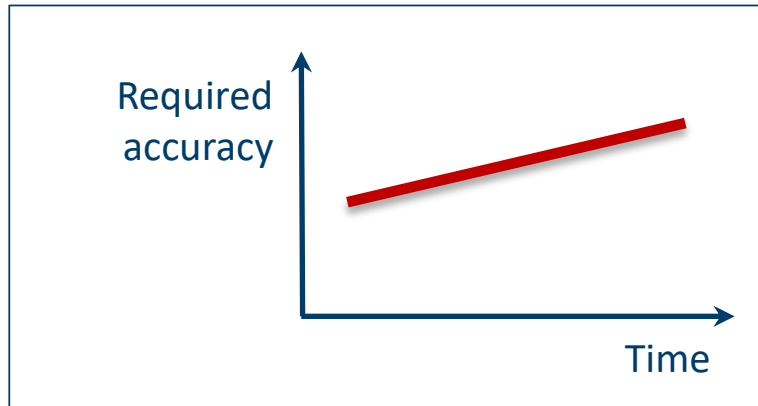
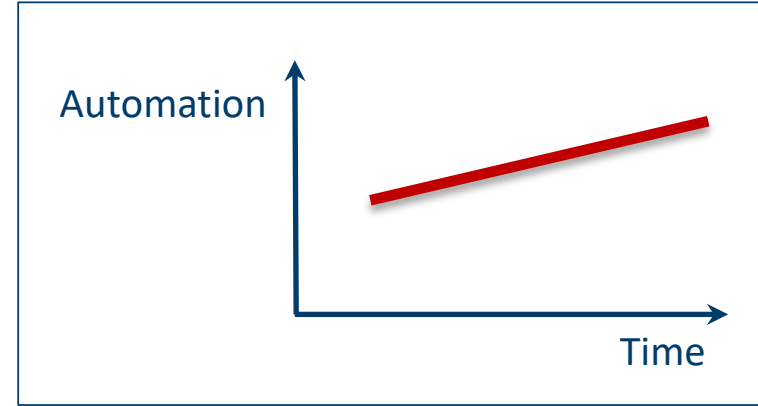
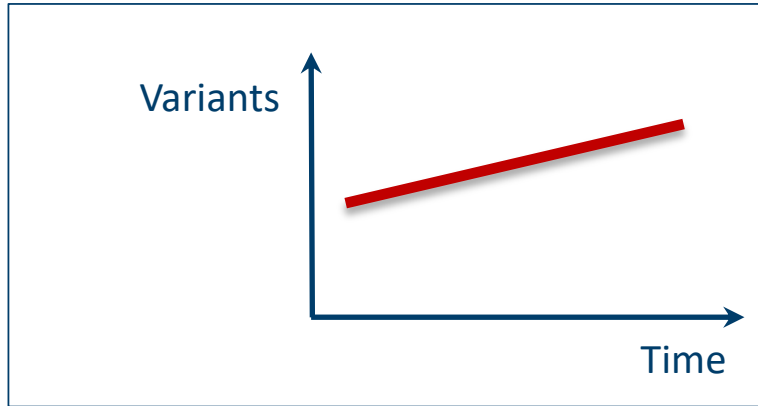
Tombstones



MAGNOS

# TANDEM 3

## Challenges



Increasing relevance of the set-up process

# TANDEM KSF3


## Advantages – Your benefits


- Spring-packaged clamping force blocks
- Patented monitoring of the base jaw position via dynamic pressure
- Workpiece presence control through the base jaw
- Precision wedge hook clamping force block for top-quality demands
- Square design with ideal outside contour
- High efficiency of the wedge hook system
- Base jaws with tongue and groove or fine serration as standard
- Optimal jaw support due to the use of a very long base jaw guidance
- All functional parts are ground and hardened




# TANDEM 3 Lead Vises

Way above 300 standard versions

Spring force KSF3				
Standard stroke				
	<b>KSF3</b>			
	Size	100	160	250
	Jaw stroke (mm)	2	3	5
Number of versions	4	4	4	

Spring force KSF3-LH				
Long stroke				
	<b>KSF3-LH</b>			
	Size	100	160	250
	Jaw stroke (mm)	6	8	15
Number of Versions	4	4	4	

Spring force KSF3-F				
With fixed jaw				
	<b>KSF3-F</b>			
	Size	100	160	250
	Jaw stroke (mm)	4	6	10
Number of versions	4	4	4	

# TANDEM 3

## Variants



### Standard stroke

For the standard stroke, a high force transmission is achieved via a small wedge angle.

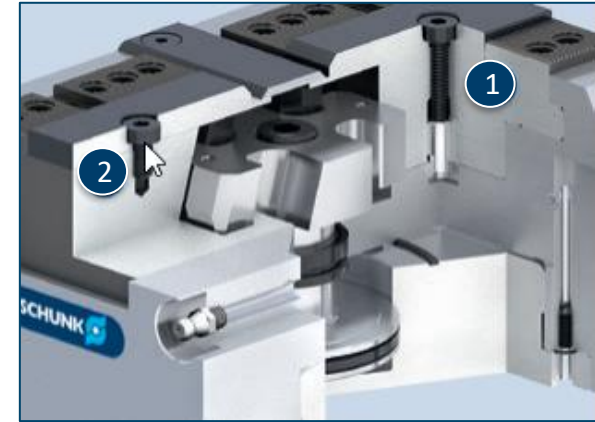
Advantage: High clamping forces.



### Long stroke (-LH)

For a long stroke, a larger jaw stroke is achieved via an increased wedge angle. Due to the enlarged angle, however, the LH version achieves a lower clamping force than the standard stroke version.

Advantage: Longer jaw stroke.



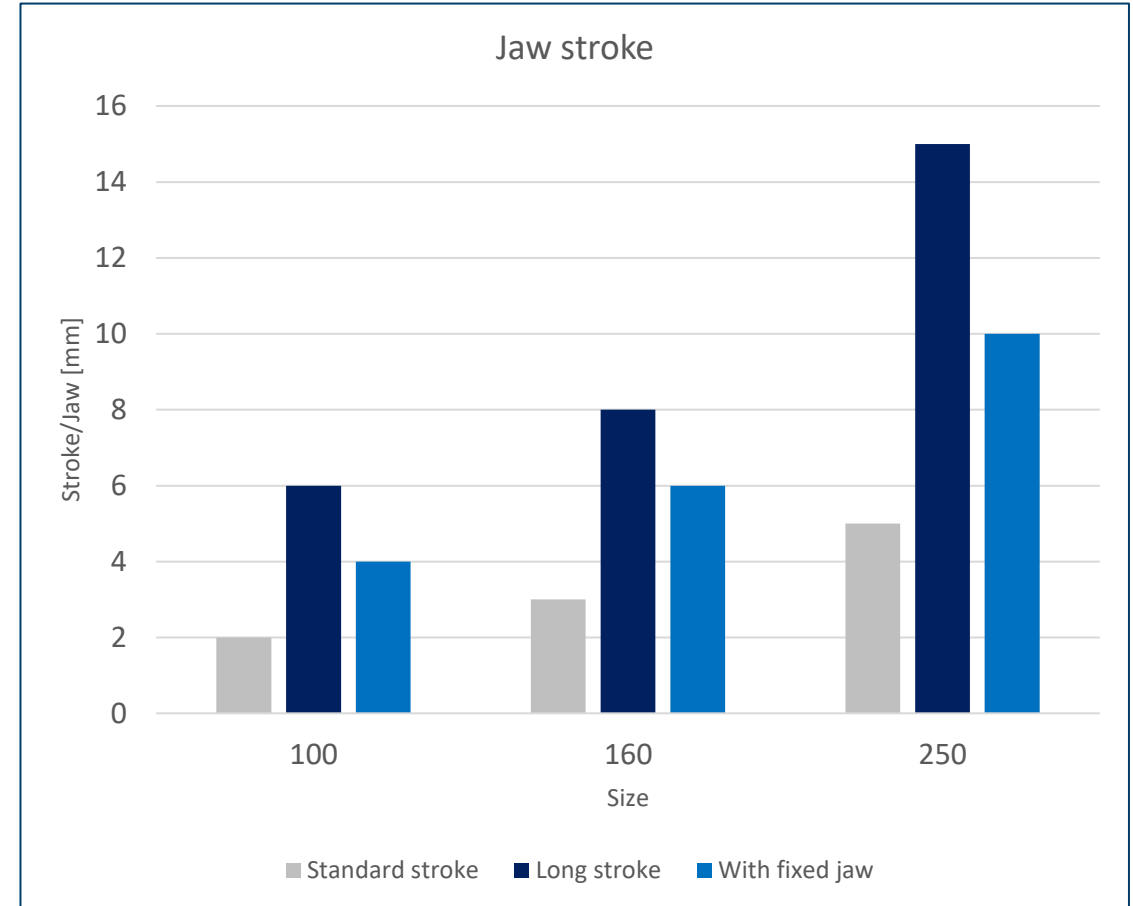
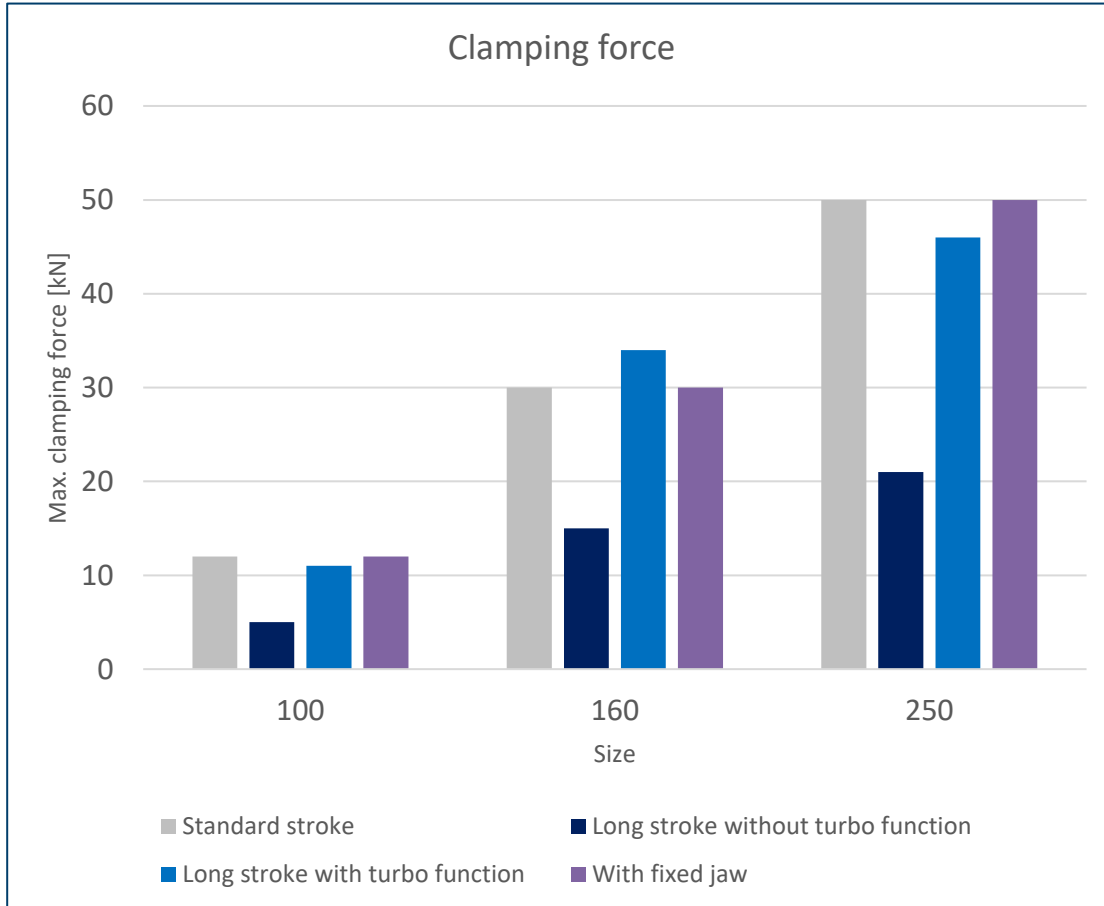
### With fixed jaw (-F)

One chuck jaw is screwed immovably to the body. The force transmission takes place via the movable jaw.

- ① Fixed clamping jaw
- ② Movable clamping jaws

# TANDEM KSF3

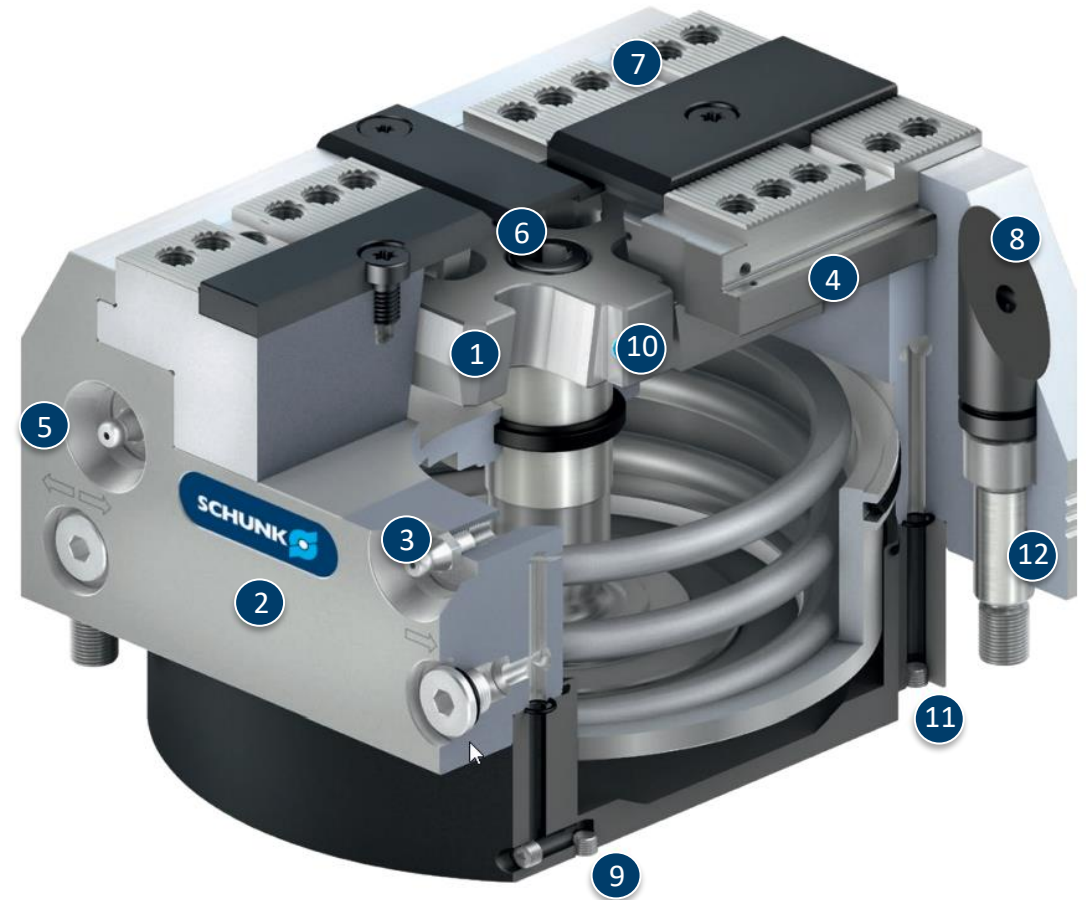
## Clamping force and jaw stroke



# TANDEM KSF3

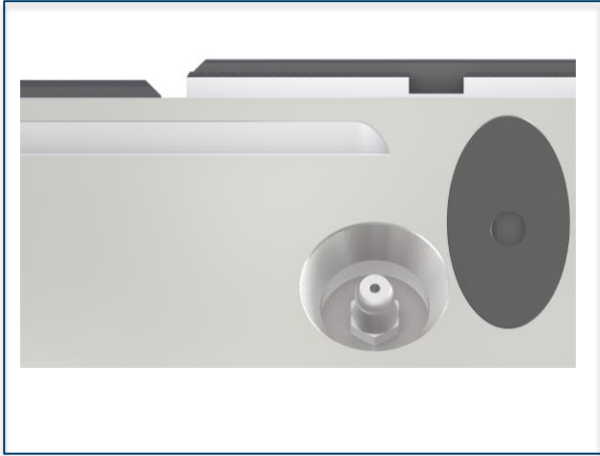
## Functional diagram

- 1 Wedge hook drive
- 2 Hardened and extremely rigid base body
- 3 Sophisticated greasing system
- 4 Long jaw guidance
- 5 Low height
- 6 Improved design which is insensitive to dirt
- 7 Standard jaw interface
- 8 Ideal outside contour
- 9 Control of the clamping force block
- 10 Piston guided in the body
- 11 Greasing channels in the cover plate
- 12 Fitting screws available as an option



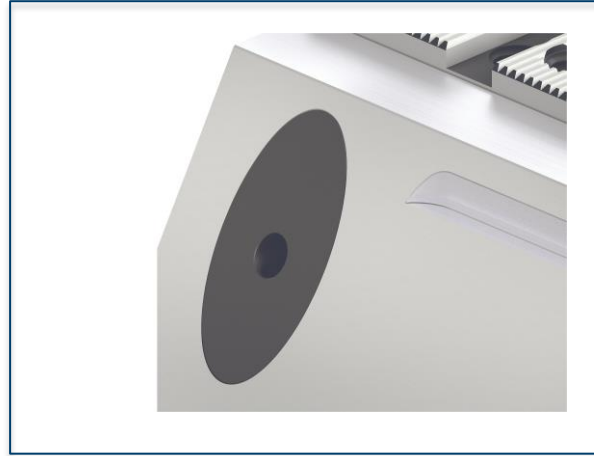
# TANDEM KSF3

## Highlights



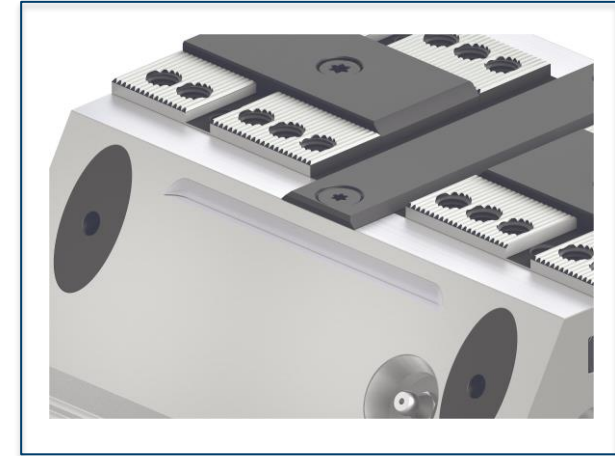
### Chip-repellent design

The special design of the base jaw and cover strip prevents chips becoming permanently lodged. During the clamping process, the chips are pushed from the base jaw by the incline of the cover strip.



### Cover plugs for the mounting screws

All four mounting screws are sealed with anodized aluminium plugs. Chip build-up is therefore completely eliminated in advance.



### Alignment edge

An alignment edge is recessed into the side of the clamping force block. It extends parallel to the jaw guidance and enables an exact alignment of the vises to the machine table.

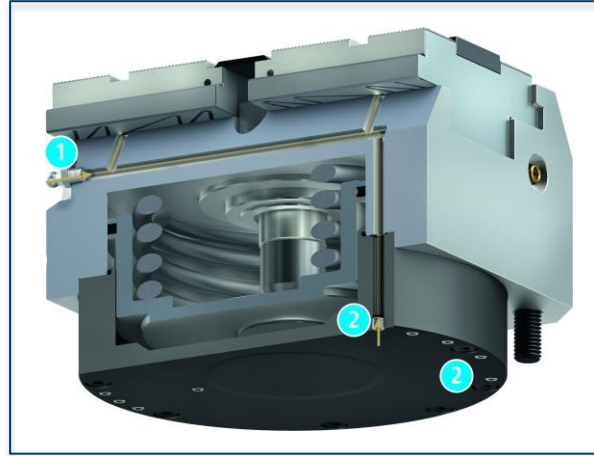
# TANDEM KSF3

## Highlights



### Coolant drainage hole

All clamping force blocks are equipped with a coolant drainage hole. This allows penetrated coolant to be drained to the outside. The drainage hole is sealed with a sintered filter to prevent the entry of chips.

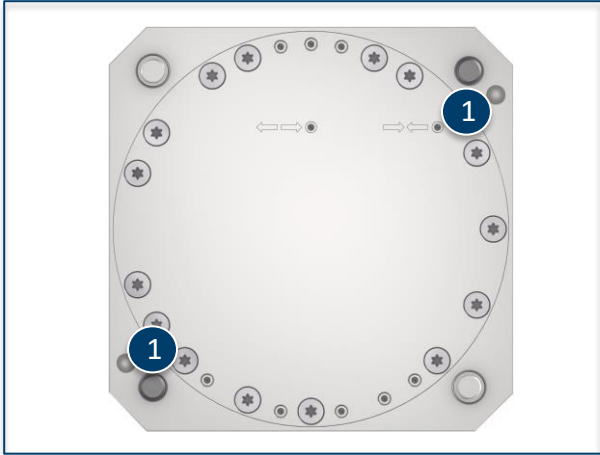


### Greasing system

- ① Manual greasing: A grease is used to supply all friction surfaces (jaw guidance, piston guide, and diagonal pull) evenly.
- ② Central greasing: The connections on the base side are used to supply all friction surfaces evenly with grease.

# TANDEM KSF3

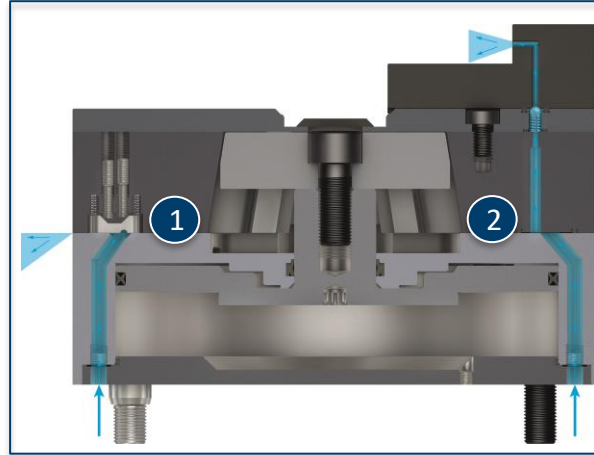
## Standardized



### Jig-produced positioning (-Z)

In order to position several clamping force blocks very accurately in relation to one, another on the clamping devices, jig-produced positioning bores are integrated in the Z-version.

① Positioning bore



### Pneumatic monitoring (-PM)

The base jaw positions can be queried via dynamic pressure. Transfer via the base jaw enables compressed air to be fed through into the system jaws.

① Via dynamic pressure

② Air transfer to system jaw

# TANDEM KSF3

## Documents

Catalog chapter (link follows)

**KSF3**  
Federgespannte Kraftspannböcke | Spring-packaged clamping force blocks

**KSF3**  
Federgespannte Kraftpakete für Turm- und Speicherlösungen

TANDEM KSF3 steht für leistungsstarke, federgespannte Kraftspannböcke, die über integrierte Federpakete gespannt und pneumatisch geöffnet werden. Aufgrund der Federspannung sind sie allerdings nur für die Außenspannung geeignet. Die Kraftspannböcke finden vor allem in Turm- und Speicherlösungen ihre Anwendung, da die Spannkraft auch nach Wegnahme der Druckluft vollständig erhalten bleibt. In der dritten Generation können die Spanner nun auch mit pneumatischen Abfragen ausgestattet werden, die das Einsatzspektrum noch weiter erhöhen.

Ein wichtiger Aspekt in der Weiterentwicklung war die Kompatibilität, sodass bestehende KSF plus Spanner 11 durch die neuen KSF3 Spanner ersetzt werden können. Die bewährte Geometrie ermöglicht eine optimale Zugänglichkeit der Maschinenspindel zum Werkstück.

**KSF3**  
Spring-loaded powerhouses for tower and storage solutions

TANDEM KSF3 stands for high-performance, spring-loaded clamping force blocks that are clamped via integrated spring assemblies and opened pneumatically. Due to the spring clamping, however, they are only suitable for O.D. clamping. The clamping force blocks are mainly used in tower and storage solutions, as the clamping force is fully maintained even after the compressed air has been removed. In the third generation, the vises can now also be equipped with pneumatic monitoring, which further increases the range of application.

An important aspect in the further development was compatibility, with the result that existing KSF plus vises can be replaced 1:1 by the new KSF3 vises. The tried and tested geometry enables optimal accessibility of the machine spindle to the workpiece.

**Vorteile – Ihr Nutzen**

**Federgespannte Kraftspannböcke**  
Modellanabhängige Werkstückspannung, insbesondere für Turm- oder Speicheranwendungen

**Patentierter Abfrage der Grundbackenstellung über Staudruck**  
Wissen, ob der Spanner geöffnet oder geschlossen ist

**Werkstücklagekontrolle durch die Grundbacke**  
Ermöglicht eine automatisierte Bestückung des Kraftspannblocks

**Präzisions-Kolbbauteil-Kraftspannblock für höchste Qualitätsansprüche**  
Ermöglicht exzellente Bearbeitungsergebnisse

**Quadratische Bauform mit idealer Außenkontur**  
Ideal für die 6-Seitenbearbeitung in zwei Aufspannungen mit bester seitlicher Zugänglichkeit

**Hoher Wirkungsgrad des Keilhakensystems**  
Prozesssicheres Spannen durch hohe Spannkraft

**Grundbacken mit Kreuzverzahn und Spitzverzahnung als Standard**  
Hohe Flexibilität im Bereich Systembacken

**Optimale Backenabstützung durch sehr lange Grundbackenführung**  
Ermöglicht höchste Spannkraft bei langer Lebensdauer

**Allseitig gehärtete und geschliffene Funktionsteile**  
Gewährleistet eine lange Lebensdauer

**Advantages – Your benefits**

**Spring-packaged clamping force blocks**  
Modellanabhängige Werkstückspannung, insbesondere für Turm- oder Speicheranwendungen

**Patented monitoring of the base jaw position via dynamic pressure**  
Knows whether the vise is open or clamped

**Workpiece presence control through the base jaw**  
Enables automated loading of the clamping force block

**Precision wedge hook clamping force block for top-quality demands**  
Enables excellent machining processes

**Square design with ideal outside contour**  
Ideal for 6-sided machining in two set-ups with great lateral accessibility

**High efficiency of the wedge hook system**  
Process-reliable clamping due to high clamping forces

**High flexibility of system jaws**  
Optimal jaw support due to the use of a very long base jaw guidance

**Allows high clamping forces at a long service life**

**All functional parts are ground and hardened**  
Ensures a long life span

Homepage (link follows)

**SCHUNK** Superior Clamping and Gripping

News Gripping Systems Clamping Technology Solutions Services Company

Clamping Technology > Machining center > Pneumatic Clamping Systems > Spring-packaged clamping force blocks > KSF3

### KSF3

**Field of application**

- 3-axis standard machining centers
- 4-axis vertical machining centers
- 4-axis horizontal machining centers
- 5-axis machining centers

**Advantages – Your benefits**

**Spring-packaged clamping force blocks**  
Media-independent workpiece clamping, especially for tower or storage applications

**Patented monitoring of the base jaw position via dynamic pressure**  
Know whether the vise is open or clamped

**Workpiece presence control through the base jaw**  
Enables automated loading of the clamping force block

**Precision wedge hook clamping force block for top-quality demands**  
Allows excellent machining processes

**Square design with ideal outside contour**  
Ideal for 6-sided machining in two set-ups with great lateral accessibility

**High efficiency of the wedge hook system**  
Process-reliable clamping due to high clamping forces

**Base jaws with tongue and groove or fine serration as standard**  
High flexibility of system jaws

**Optimal jaw support due to the use of a very long base jaw guidance**  
Allows high clamping forces at a long service life

**All functional parts are ground and hardened**  
Ensures a long life span

**Options and special information**

**Spring-loaded powerhouses for tower and storage solutions**  
TANDEM KSF3 stands for high-performance, spring-loaded clamping force blocks that are clamped via integrated spring assemblies and opened pneumatically. Due to the spring clamping, however, they are only suitable for

# TANDEM System jaws and top jaws

Maximum flexibility due to the modular system consisting of supporting jaws and a large selection of top jaws




# TANDEM Jaws



## Advantages – Your benefits

- Individually adjustable for new clamping tasks
- Supporting jaw system
- Large modular system of matching top jaws



# TANDEM 3 Jaws

Top jaw blanks		
Mounting: Via tongue and groove	Mounting: Via fine serrations 1,5 x 60°	
KTR / KTR-H	STR / STR-H	STR-S
		

Supporting Jaw and SCHUNK Jaw Program	
TBA-D	Clamping jaws
	

3-axis jaws
S3A-G5

5-axis jaws
S5A-G5

# TANDEM 3 Jaws

STR/STR-H				
Description	ID	Length [mm]	Width [mm]	Height [mm]
STR 64	0402100	28,5	34	20
STR 100	0402101	42	55	25
STR 140	1349709	62	70	35
STR 160	0402102	66	80	40
STR 250	0402103	108	125	50
STR-H 64	0402200	28,5	34	35
STR-H 100	0402201	47	55	50
STR-H 140	1349710	70	70	70
STR-H 160	0402202	76	80	80
STR-H 250	0402203	120	125	100

STR-S				
Description	ID	Length [mm]	Width [mm]	Height [mm]
STR-S 64	0402110	25	34	20
STR-S 100	0402111	42	55	25
STR-S 140	1349712	55	70	38
STR-S 160	0402112	60	80	40
STR-S 250	0402113	90	125	50

KTR/KTR-H				
Description	ID	Length [mm]	Width [mm]	Height [mm]
KTR 64	0402120	28,5	34	16
KTR 100	0402121	47	55	25
KTR 140	1349707	65	70	35
KTR 160	0402122	76	80	40
KTR 250	0402123	120	125	50
KTR-H 64	0402220	28,5	34	35
KTR-H 100	0402221	47	55	48
KTR-H 140	1349708	65	70	70
KTR-H 160	0402222	76	80	77,5
KTR-H 250	0402223	120	125	100

TBA-D				
ID	Interface	Length [mm]	Width [mm]	Height [mm]
0402294	W-65-1	63,6	65	34
1349715	W-90-1	83	90	53
0402295	W-100-1	92,8	100	53
0402296	W-125-1	113,4	125	63

S3A-G5			
ID	Length [mm]	Width [mm]	Height [mm]
1471165	25,5	34	22
1471166	36	50	26
1471167	48	69	31
1471168	48	80	31
1471187	66	125	40

S5A-G5			
ID	Length [mm]	Width [mm]	Height [mm]
1471189	25,5	34	40
1471190	36	50	50
1471197	49,5	69	50
1471198	58,5	80	50
1471200	72	125	110

# ABP-h plus

Base plates for KSP plus clamping force blocks

# ABP-h plus Base Plates

## Advantages – Your benefits

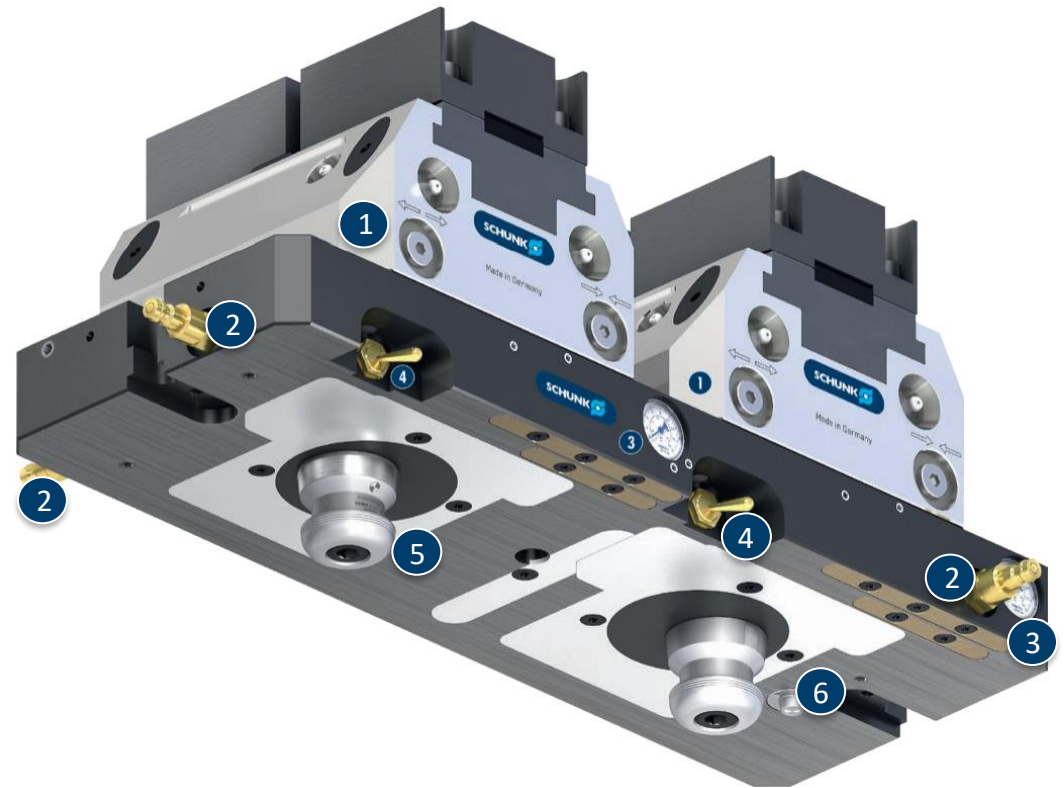
- VERO-S interface
- Pneumatic connection from three sides
- Versatile in use
- Manually operable pneumatic valves
- Integrated pressure maintenance valve
- Media transfer at the base



# ABP-h plus Base Plates

## Functional diagram

- 1 TANDEM KSP plus clamping force block
- 2 Pneumatic connection from three sides
- 3 Integrated pressure gauge
- 4 Manually operable pneumatic valves
- 5 VERO-S interface
- 6 Media transfer at the base



# KSL 3

Base plates for KSP3 and KSH3 clamping force blocks

# KSL3 base plates

## Advantages – Your benefits

- Vero-S interface
- Prepared for cylindrical clamps and T-nuts



Superior Clamping and Gripping



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