TANDEM KSH3

Compact, hydraulic actuated powerhouses for series production

Superior Clamping and Gripping

SCHUNK

Gripping Systems

Clamping Technology

Chuck Jaws

Lathe Chucks

Stationary Workholding

Toolholders

Hydraulic Expansion Technology

VERO-S

TANDEM

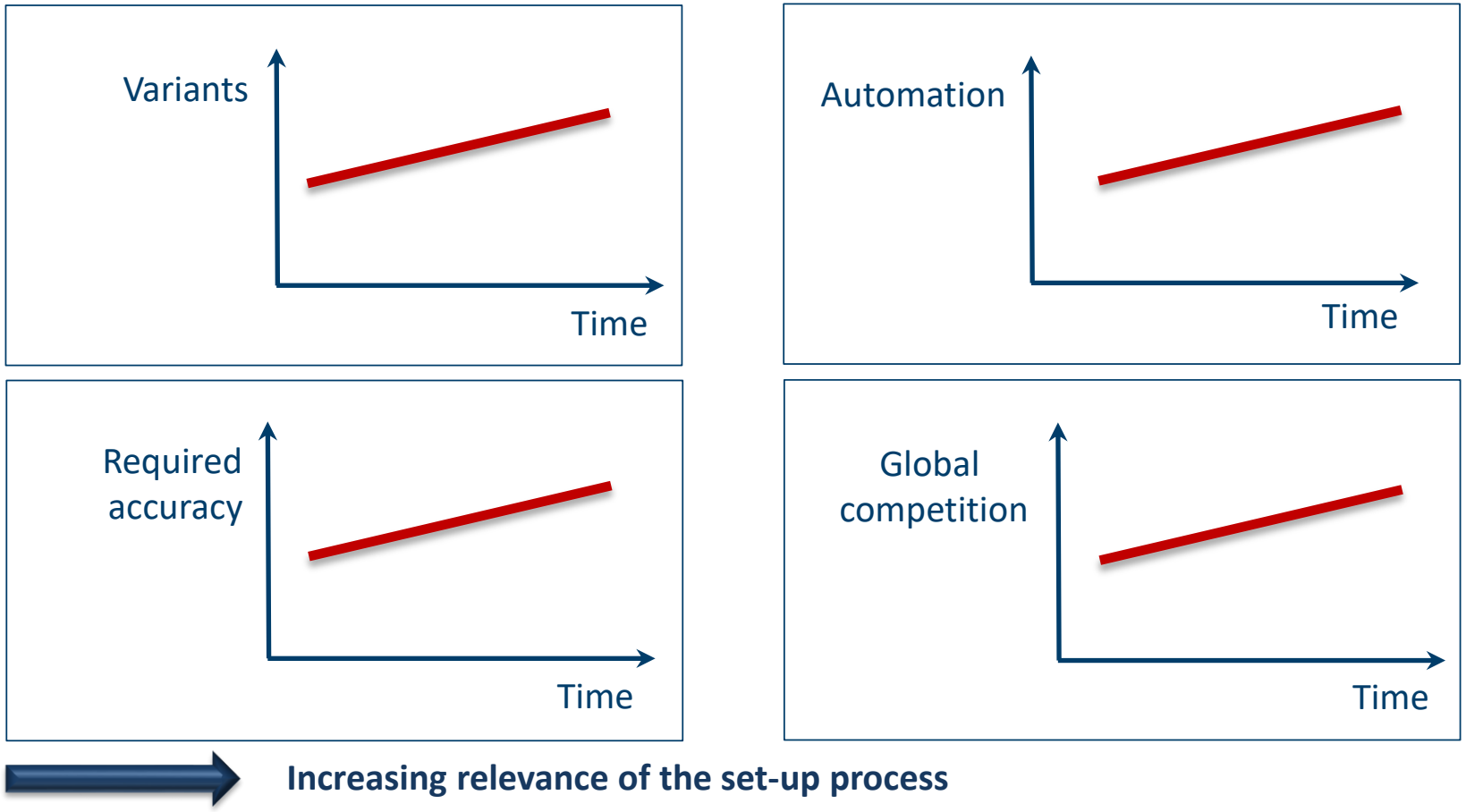
ROTA

KONTEC

Tombstones

MAGNOS

TANDEM 3
Challenges



Increasing relevance of the set-up process

TANDEM KSH3

Advantages – Your benefits

- Large range of different versions
- Patented monitoring of the base jaw position via dynamic pressure
- Workpiece presence control through the base jaw
- Inductive jaw monitoring
- 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 of 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

Standard stroke

Hydraulic KSH3

KSH3				
Size	64	100	140	160
Jaw stroke (mm)	2	2	3	3
Number of versions	4	6	6	6

Long stroke

Hydraulic KSH3-LH

KSH3-LH					
Size	64	100	140	160	250
Jaw stroke (mm)	4	6	7	8	15
Number of versions	4	6	6	6	6

With fixed jaw

Hydraulic KSH3-F

KSH3-F				
Size	64	100	140	160
Jaw stroke (mm)	4	4	6	6
Number of versions	4	4	4	4

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Variants

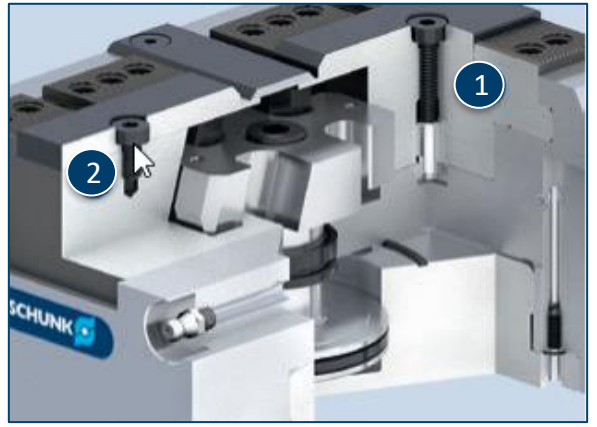
Standard stroke

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

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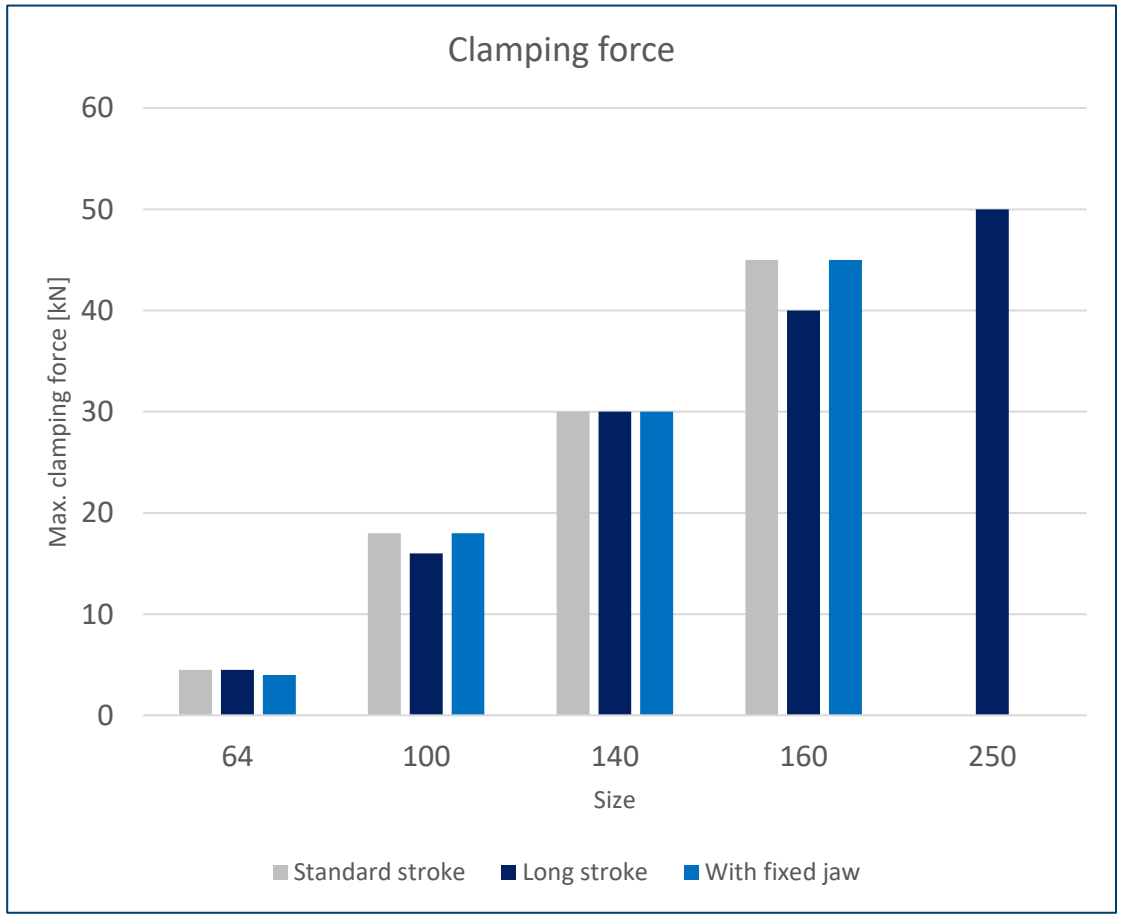
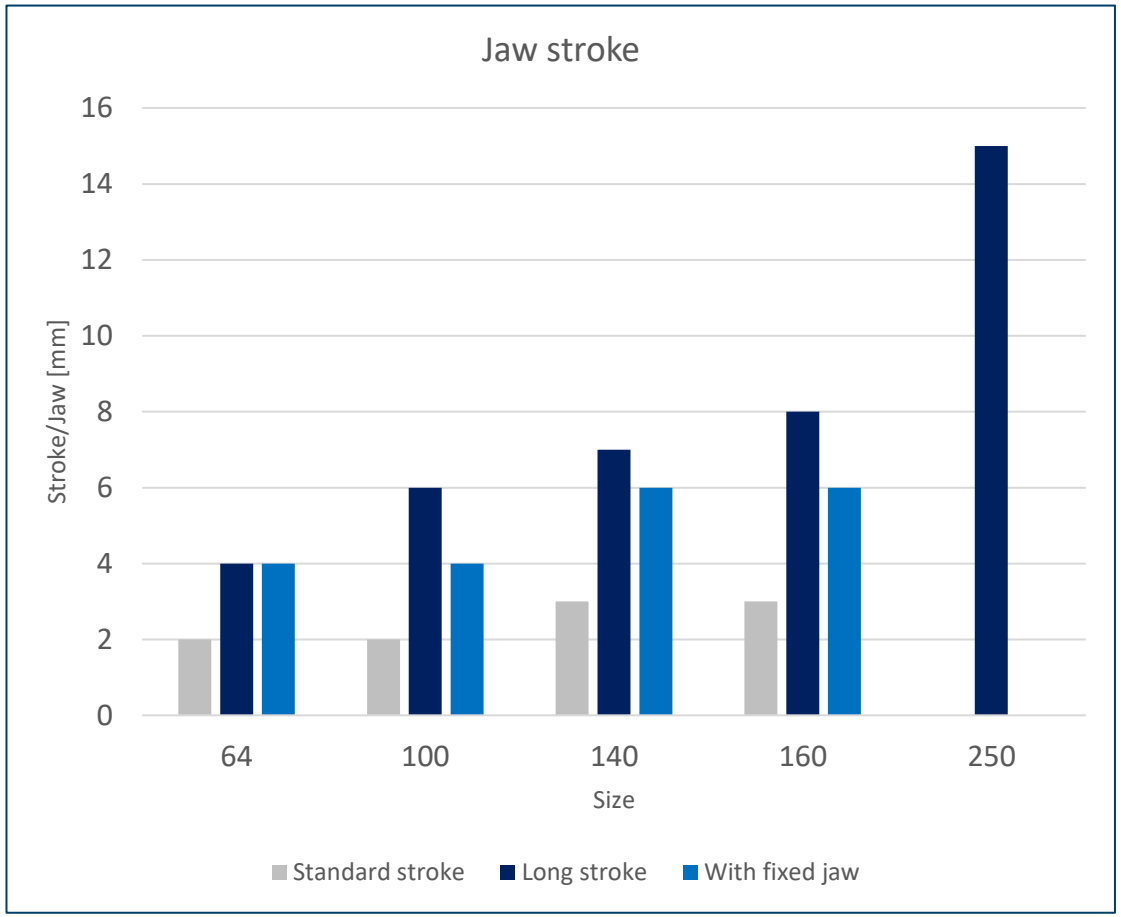
Clamping force and jaw stroke





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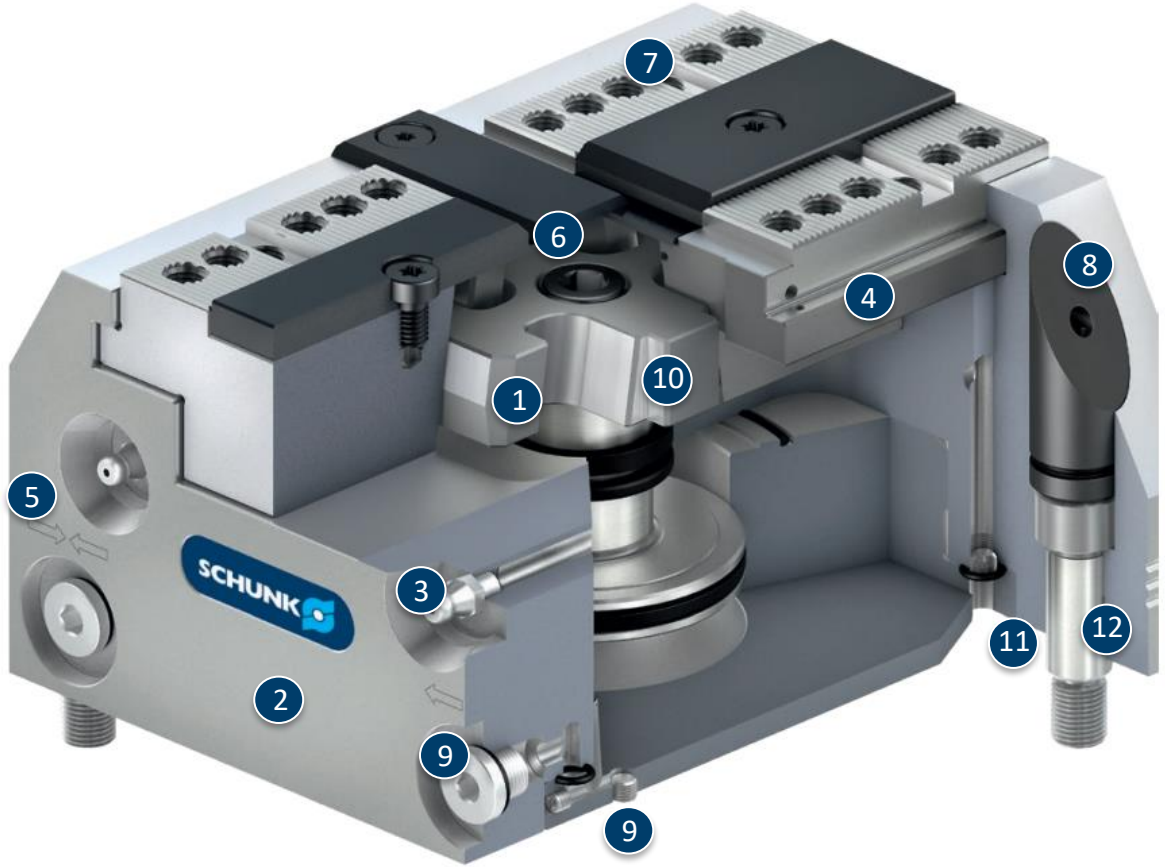
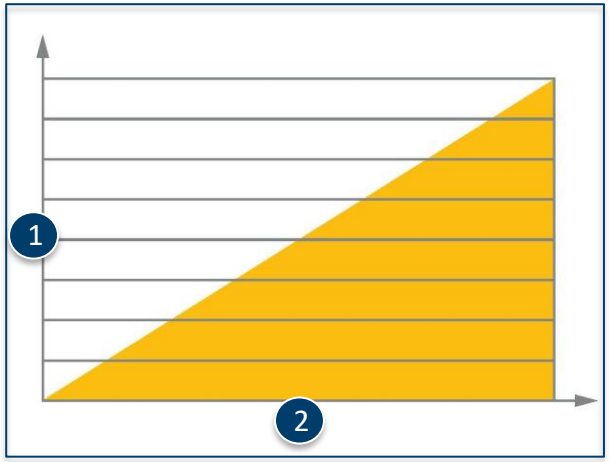
Functional diagram

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 KSH3

Highlights



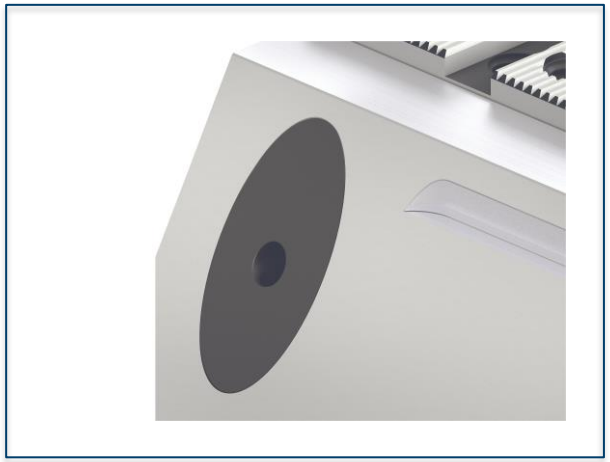
Clamping force depending on the actuation pressure

The clamping force increases in direct proportion to the increase in actuation pressure. The minimum hydraulic pressure should not drop below 10 bar.

1 Clamping force
2 Actuation pressure

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.

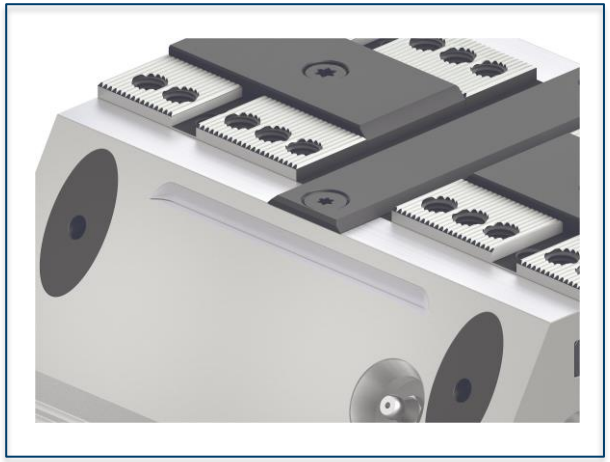


Cover plugs for the mounting screws

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

TANDEM KSH3

Highlights



Alignment edge

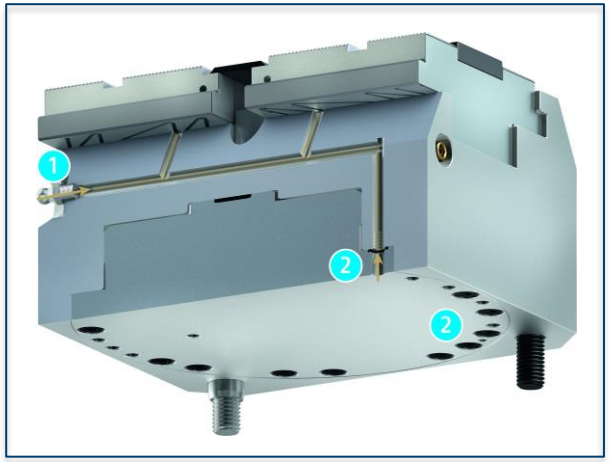
An alignment edge is recessed into the side of the clamping force block. It extends parallel to the jaw guidance and enables an exact alignment of the vises to the machine table.

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.

TANDEM KSH3

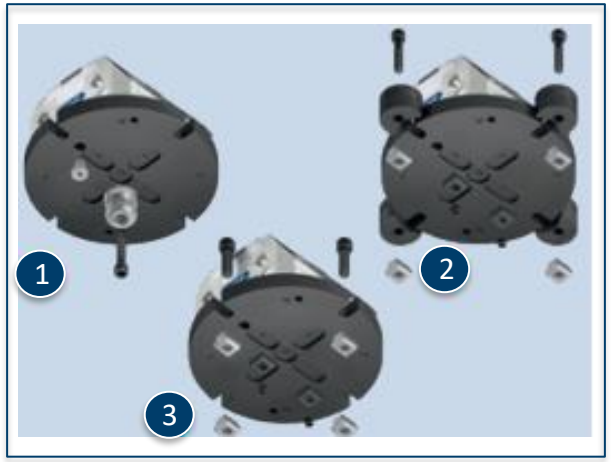
Highlights



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.



Base plates

Base plates offer several integrated options for mounting the clamping force blocks on the machine table.

1 Fastening via quick-change pallet system

2 Fastening via cylindrical clamps

3 Mounting via T-nuts

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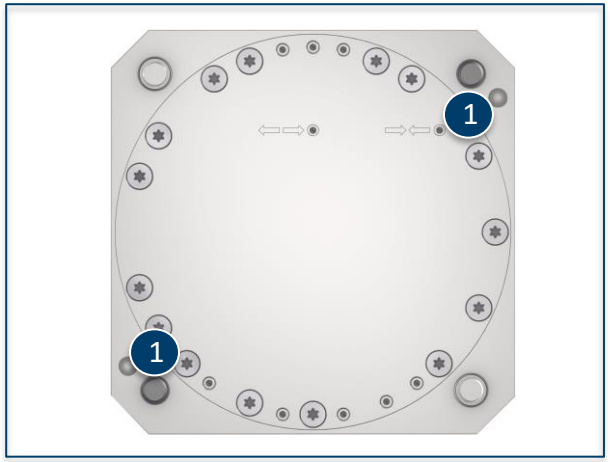
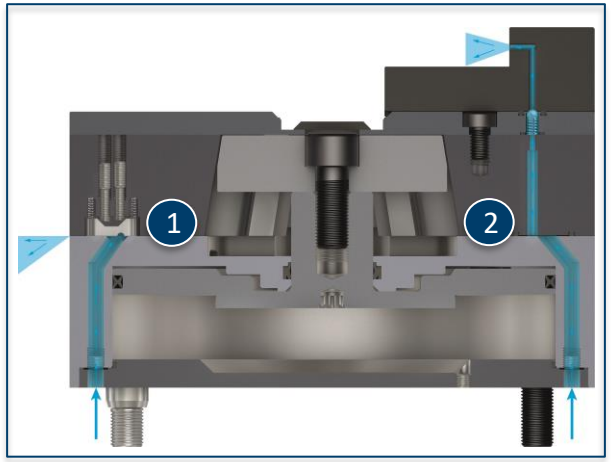
Standardized equipment versions



Jig-produced positioning bores (-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

Inductive jaw monitoring (-IM)

Two inductive proximity switches in the base jaw‘s recesses enable monitoring of the base jaw positions. → Monitoring is particularly suitable for fully automated machining processes.

TANDEM KSH3

Documents

Catalog chapter (link follows)

KSH3

Hydraulische Kraftspannblöcke | *Hydraulic clamping force blocks*

TANDEM

KSH3

Kompakte, hydraulisch betätigte Kraftpakete für die Serienfertigung

TANDEM KSH3 steht für leistungsstarke, hydraulisch betätigte Kraftspannblöcke, die vor allem in der Serienfertigung, bei der an der Maschine Hydraulik zur Verfügung steht, ihre Anwendung finden. Eine patentierte Abfrage der Grundbackenstellung über Staudruck oder die Möglichkeit der Luftanlagekontrolle durch die Backe hindurch sind nur zwei zusätzliche Features, die in die neue Generation mit aufgenommen wurden. Gerade in puncto Automation wurden hier bereits einige Neuerungen integriert.

Ein wichtiger Aspekt in der Weiterentwicklung war die Kompatibilität, sodass bestehende KSH plus Spanner 1:1 durch die neuen KSH3 Spanner ersetzt werden können. Die bewährte Geometrie ermöglicht eine optimale Zugänglichkeit der Maschinenspindel zum Werkstück. Bei Bedarf können die Spanner auch mit induktiver Backenabfrage ausgeführt werden.

KSH3

Compact, hydraulically actuated powerhouses for series production

TANDEM KSH3 stands for powerful, hydraulically actuated clamping force blocks, which are mainly used in series production where hydraulics are available at the machine. Patented monitoring of the base jaw position via dynamic pressure or the possibility of air control through the jaw are only two of the additional features that have been included in the new generation. A few innovations have been integrated especially in terms of automation.

An important aspect in the further development was compatibility, with the result that existing KSH plus vises can be replaced 1:1 by the new KSH3 vises. The tried and tested geometry enables optimal accessibility of the machine spindle to the workpiece. If required, the vises can also be designed with inductive jaw monitoring.

Vorteile – Ihr Nutzen

Große Variantenvielfalt
Dadurch höchste Flexibilität mit dem größten und leistungsstärksten Standardprogramm für hydraulische Kraftspannblöcke

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

Werkstückanlagekontrolle durch die Grundbacke
Ermöglicht eine automatisierte Bestückung des Kraftspannblocks

Induktive Backenabfrage
Wissen, ob der Spanner geöffnet oder geschlossen ist

Präzisions-Keilhaken-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 Spannkräfte

Grundbacken mit Kreuzversatz und Spitzverzahnung als Standard
Hohe Flexibilität im Bereich Systembacken

Optimale Backenabstützung durch sehr lange Grundbackenführung
Ermöglicht höchste Spannkräfte bei langer Lebensdauer

Allseitig gehärtete und geschliffene Funktionsteile
Gewährleisten eine lange Lebensdauer

Advantages – Your benefits

Large range of different versions
Therefore ensuring highest flexibility with the largest and most powerful standard range of hydraulic clamping force blocks

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

Inductive jaw monitoring
Know whether the vise is open or clamped

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

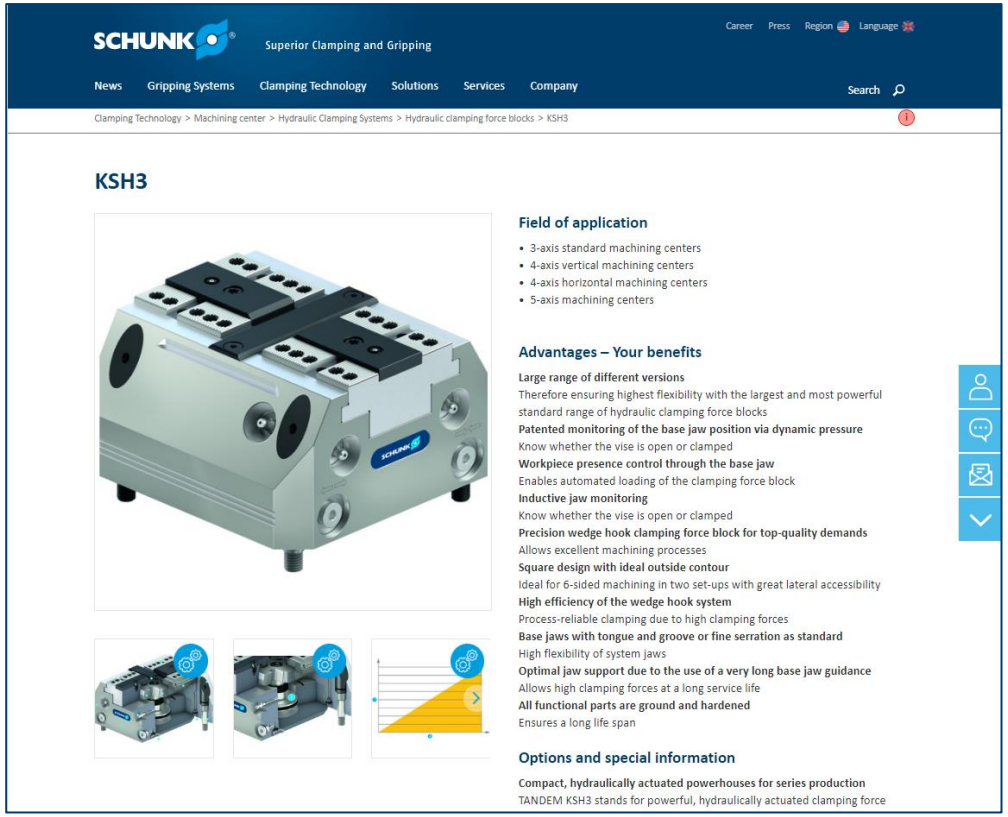
Base jaws with tongue and groove or fine serration as standard
High flexibility of system jaws

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

SCHUNK

Homepage (link follows)



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Career Press Region Language

News Gripping Systems Clamping Technology Solutions Services Company Search

Clamping Technology > Machining center > Hydraulic Clamping Systems > Hydraulic clamping force blocks > KSH3

KSH3

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

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Therefore ensuring highest flexibility with the largest and most powerful standard range of hydraulic clamping force blocks
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Know whether the vise is open or clamped
Workpiece presence control through the base jaw
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Options and special information

Compact, hydraulically actuated powerhouses for series production
TANDEM KSH3 stands for powerful, hydraulically actuated clamping force

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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

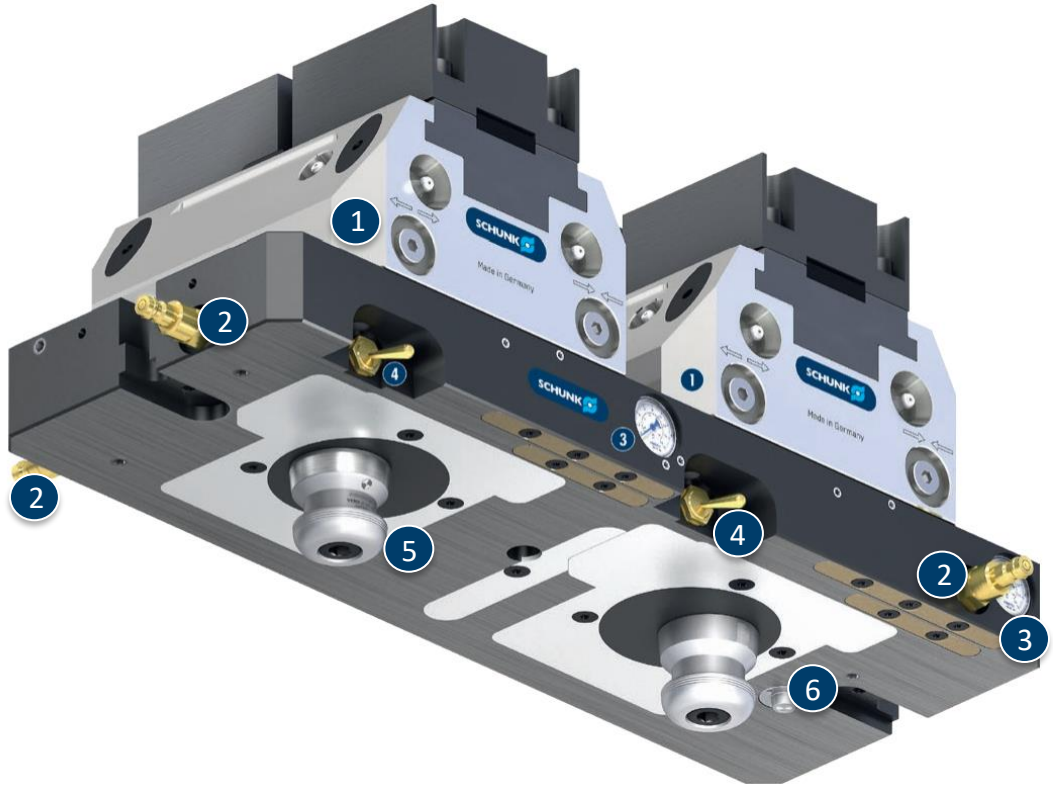
Advantages – Your benefits

- 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 interfacee
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

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