TANDEM 3

The Art of Engineering from SCHUNK.
No one offers more solutions and higher performance for standard versions.

SCHUNK

Gripping Systems

Clamping Technology

Chuck Jaws

Lathe Chucks

Stationary Workholding

Toolholders

Hydraulic Expansion Technology

VERO-S

TANDEM

ROTA

KONTEC

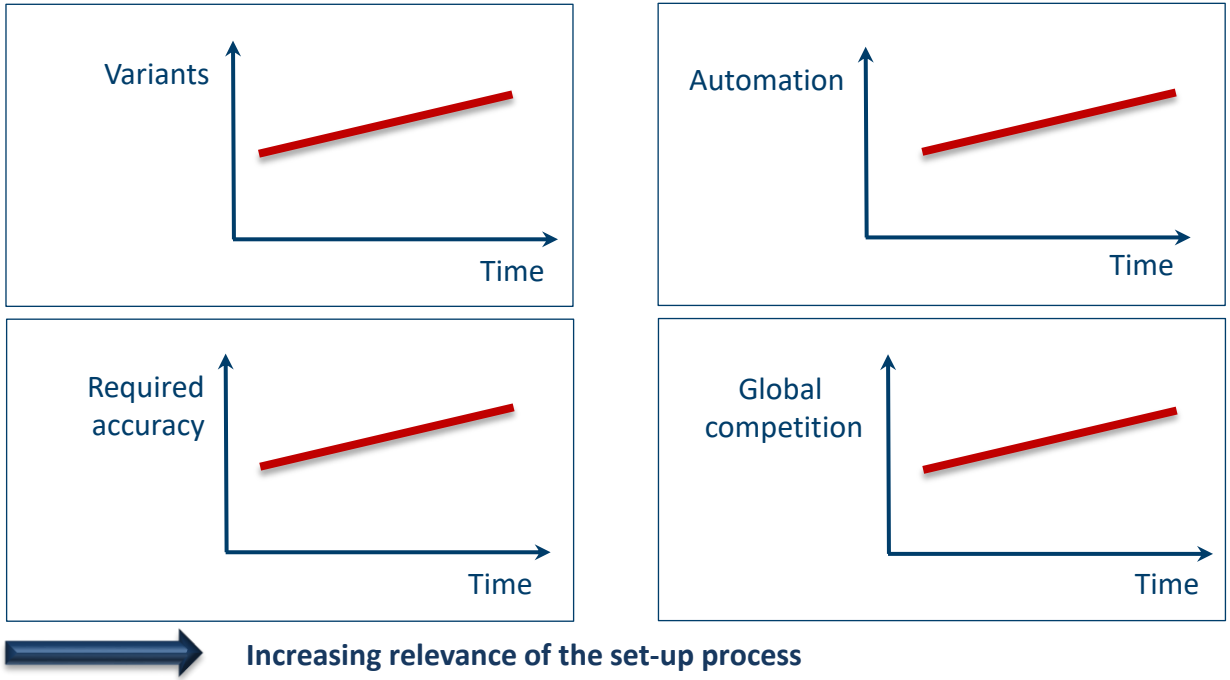
Tombstones

MAGNOS

SCHUNK

TANDEM 3

Challenges



TANDEM 3

Advantages – Your benefits

- 100% compatible with TANDEM plus
- Enormous diversity of variants
- New equipment versions
- Precision wedge hook clamping force block for top-quality demands
- High efficiency of the wedge hook system
- Base jaws with tongue and groove and fine serration as a dual interface 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

Pneumatic KSP3

KSP3

Size	64	100	140	160	250
Jaw stroke (mm)	2	2	3	3	5
Number of versions	8	12	12	12	12

Long stroke

Pneumatic KSP3-LH

KSP3-LH

Size	64	100	140	160	250
Jaw stroke (mm)	4	6	7	8	15
Number of versions	8	12	12	12	12

With fixed jaw

Pneumatic KSP3-F

KSP3-F

Size	64	100	140	160	250
Jaw stroke (mm)	4	4	6	6	10
Number of versions	8	8	8	8	8

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

TANDEM 3 Lead Vises

Way above 300 standard versions

Standard stroke

Spring force KSF3

KSF3			
Size	100	160	250
Jaw stroke (mm)	2	3	5
Number of versions	4	4	4

Long stroke

Spring force KSF3-LH

KSF3-LH			
Size	100	160	250
Jaw stroke (mm)	6	8	15
Number of Versions	4	4	4

With fixed jaw

Spring force KSF3-F

KSF3-F			
Size	100	160	250
Jaw stroke (mm)	4	6	10
Number of versions	4	4	4

TANDEM 3 Lead Vises

Way above 300 standard versions

Standard stroke

Pneumatic PGS3

PGS3		
Size	100	140
Jaw stroke (mm)	2	3
Number of versions	1	1

Long stroke

Pneumatic PGS3-LH

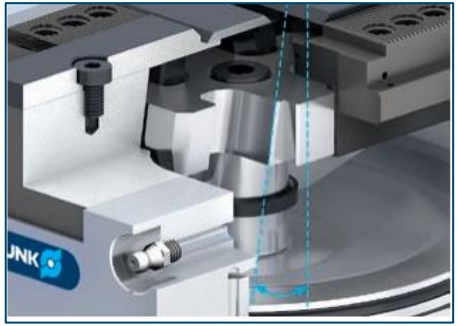
PGS3-LH		
Size	100	140
Jaw stroke (mm)	6	7
Number of versions	1	1

The TANDEM PGS3 clamping force block

A strong combination partner for light machining and simple automation tasks.

TANDEM 3

Variants



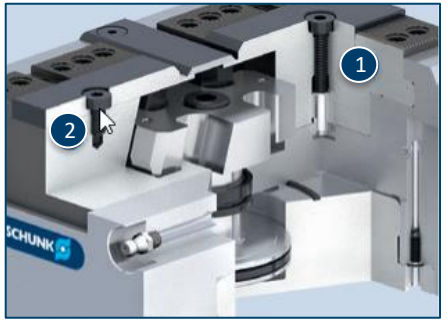
Standard stroke

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.



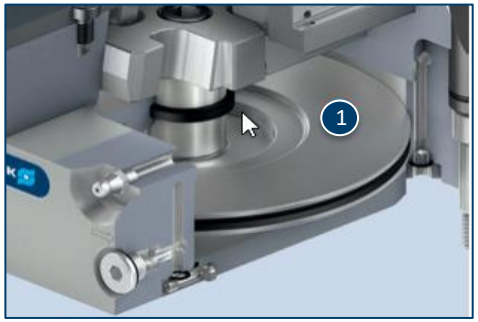
With fixed jaw (-F)

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

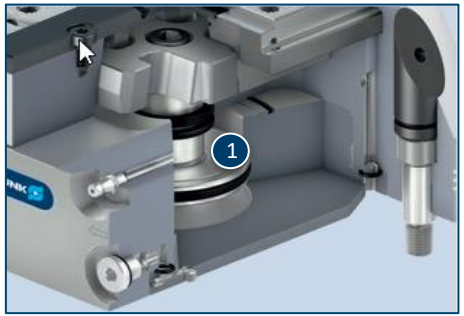
TANDEM 3

Actuation types



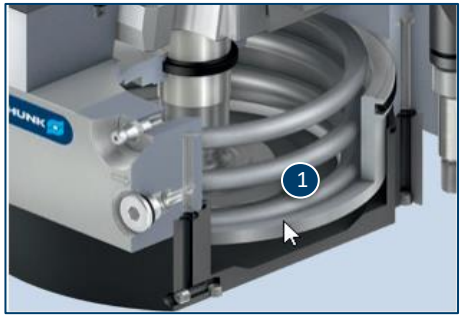
Pneumatic (KSP3)

Clamping and loosening is performed via a double-acting pneumatic cylinder with permanent pressure. The clamping force can be increased even further with external clamping by means of integrated springs (AS variant).



Hydraulic (KSH3)

Clamping and loosening is performed via a double-acting hydraulic cylinder with permanent pressure.



Spring actuated (KSF3)

When the clamping device is switches pressure-free, the preloaded compression springs transmit force to the piston.

- Reliable, pressure-free clamping
- Increase of the clamping force via turbo function possible

KSP3

Compact, pneumatically actually powerhouses with an enormously wide range of variants in the standard version

TANDEM KSP3

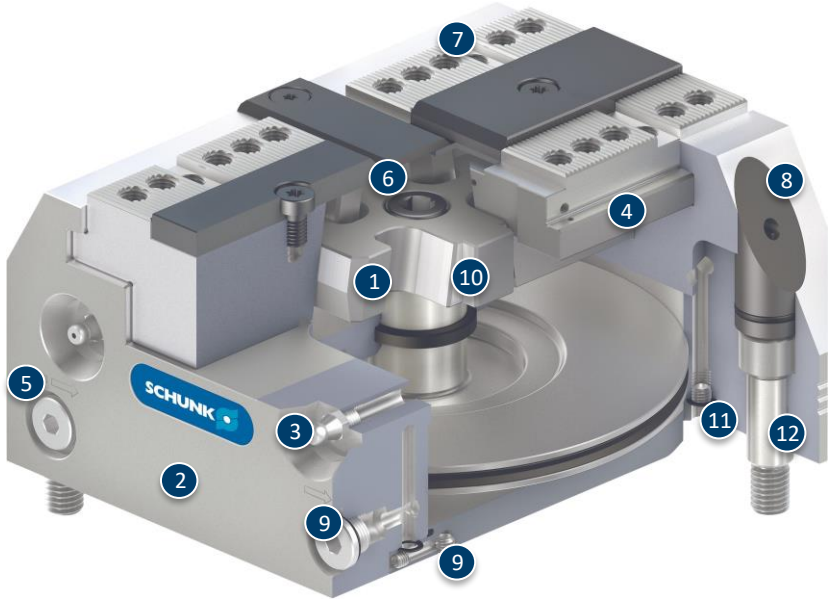
Advantages – Your benefits

- Enormous diversity of variants
- Force amplification for O.D. clamping via spring force
- 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 and fine serration as a dual interface as standard
- Optimal jaw support due to the use of a very long base jaw guidance
- All functional parts are ground and hardened

TANDEM KSP3

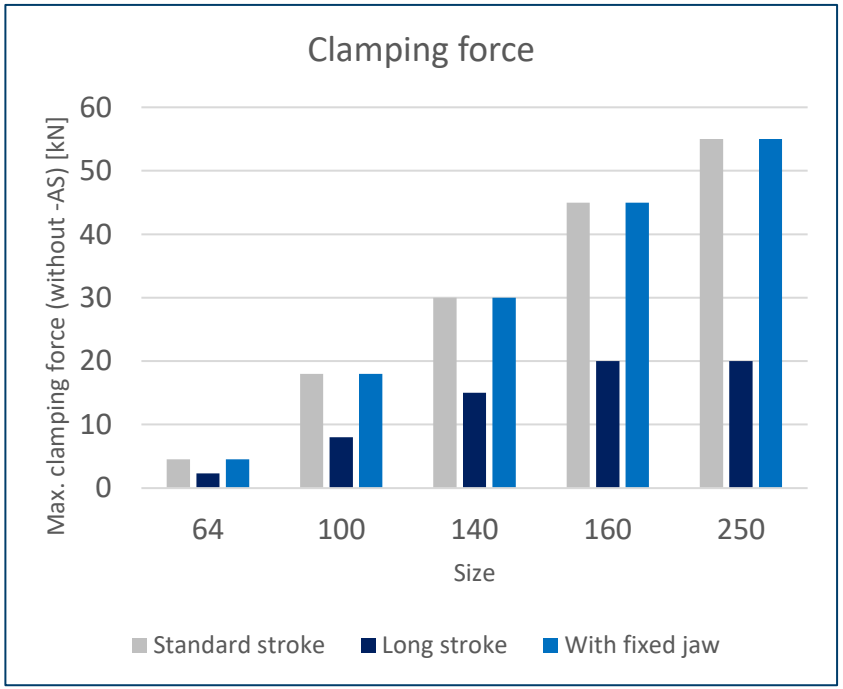
Functional diagram

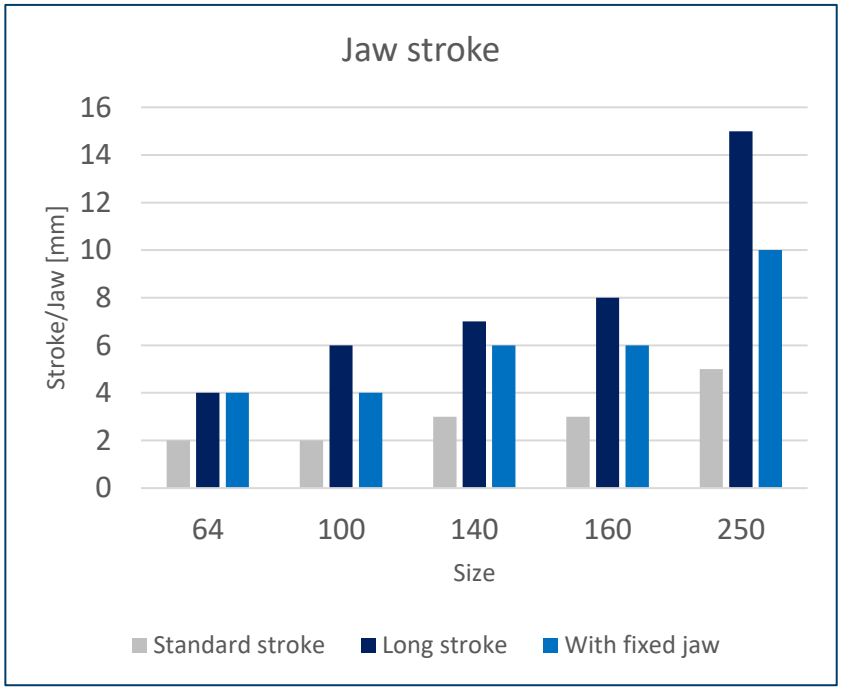
1. Wedge hook drive
2. Hardened and extremely rigid base body
3. Sophisticated greasing system
4. Long jaw guidance
5. Low height
6. Improved design which is insensitive to dirt
7. Standard jaw interface
8. Ideal outside contour
9. Control of the clamping force block
10. Piston guided in the body
11.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



TANDEM KSP3

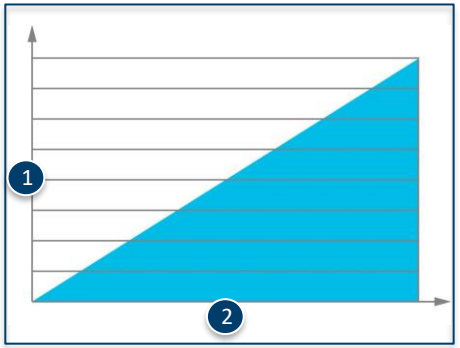
Clamping force and jaw stroke





TANDEM KSP3

Highlights



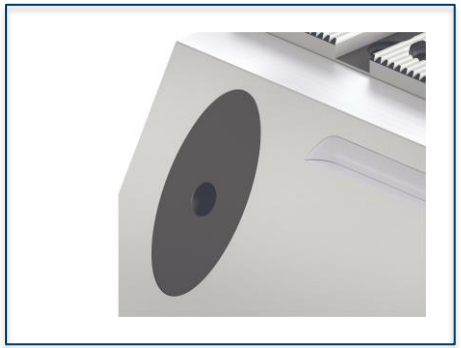
Clamping force depending on the actuation pressure

The clamping force increases in direct proportion to the incerease in actuation pressure. The minimum air pressure should not drop below 2 bar during this process.

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 KSP3

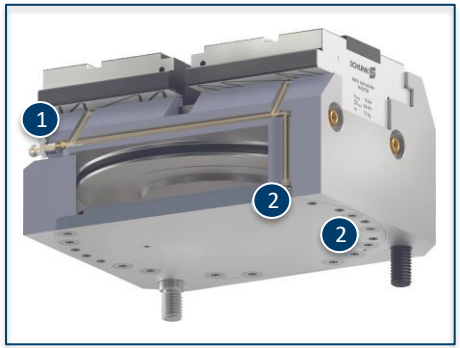
Highlights

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.

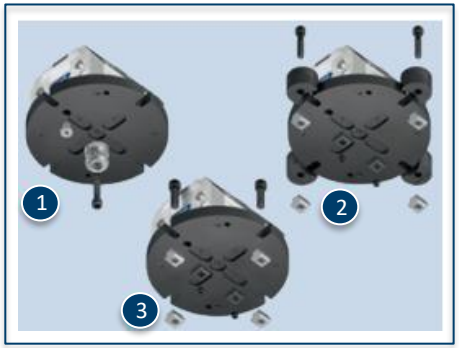


Greasing system

1 Manual greasing: A grease gun is used to supply all friction surfaces evenly.

2 Central greasing: The connections on the base side are used to supply all friction surfaces evenly with grease.

TANDEM KSP3



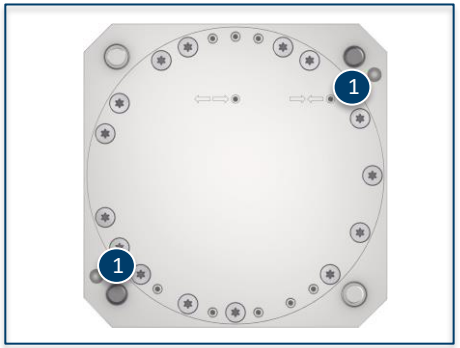
Base plates

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

TANDEM KSP3

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

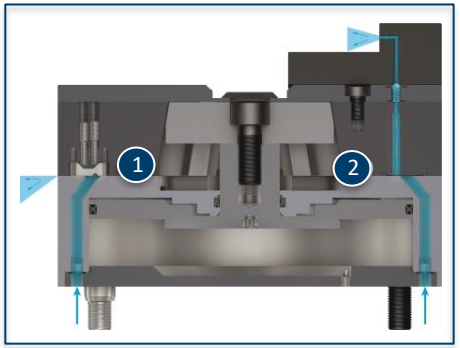
Clamping force amplification for O.D. clamping (-AS)

Spring assemblies that are integrated in the vise, increase the clamping force of the pneumatic pressure by up to 20% during O.D. clamping. → This increases the application possibilities.

1 Stainless, fatigue-resistant pressure springs

TANDEM KSP3

Standardized equipment versions



Pneumatic monitoring (-PM)

The PM version of the TANDEM 3 generation includes several features. The base jaw positions can be queried via dynamic pressure.

1. Patented monitoring of the base jaw position
2. Air transfer

Inductive jaw monitoring (-IM)

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

TANDEM KSP3

Documents

Catalog chapter (link follows)

KSP3

Pneumatische Kraftspannblöcke | *Pneumatic clamping force blocks*

TANDEM

KSP3

Kompakte, pneumatisch betätigte Kraftpakete mit enorm hoher Variantenvielfalt im Standard

TANDEM KSP3 steht für leistungsstarke, pneumatisch betätigte Kraftspannblöcke, die über ein extrem breites Einsatzgebiet verfügen – immer dann, wenn an der Maschine Pneumatik zur Verfügung steht. Eine Spannkraftverstärkung bei Außenspannung durch integrierte Federpakete, eine patentierte Abfrage der Grundbackenstellung über Staudruck oder die Möglichkeit der Luftanalysekontrolle durch die Backe hindurch sind nur drei zusätzliche Features, die in die neue Generation mit eingeflossen sind. Gerade in puncto Automation sind diese zukunftsweisend.

Ein wichtiger Aspekt in der Weiterentwicklung war die Kompatibilität, sodass bestehende KSP plus Spanner 1:1 durch die neuen KSP3 Spanner ersetzt werden können. Die bewährte Geometrie ermöglicht eine optimale Zugänglichkeit der Maschinenspindel zum Werkstück. Standardmäßig können die Spanner auch mit induktiver Backenabfrage ausgeführt werden.

KSP3

Compact, pneumatically actuated powerhouses with an enormously wide range of variants in the standard version

TANDEM KSP3 stands for powerful, pneumatically actuated clamping force blocks, which have an extremely wide range of applications – wherever pneumatics is available on the machine. Patented monitoring during O.D. clamping through integrated spring assemblies, patented monitoring of the base jaw position via dynamic pressure, or the possibility of an airtest through the jaw are only three of the additional features that have been included in the new generation. These are trendsetting, especially when it comes to automation.

An important aspect in the further development was compatibility, with the result that existing KSP plus sizes can be replaced 1:1 by the new KSP3 sizes. The tried-and-tested geometry enables optimal accessibility of the machine spindle to the workpiece. As standard, the wizes can also be designed with inductive jaw monitoring.

TANDEM

KSP3

Pneumatische Kraftspannblöcke | *Pneumatic clamping force blocks*

Vorteile – Ihr Nutzen

Enorme Variantenvielfalt
Dadurch höchste Flexibilität mit dem weitaus größten und leistungsstärksten Standardprogramm für pneumatisch betätigte Kraftspannblöcke

Kraftverstärkung bei Außenspannung durch Federkraft
Erhöhte Spannkraft für schwere Zerspanungsaufgaben sowie Erhaltung der Federspannkraft während der Lagerung

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 Doppelschnittstelle im 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

Enormous diversity of variants
Therefore ensuring highest flexibility with by far the largest and most powerful standard range of pneumatically actuated clamping force blocks

Force amplification for O.D. clamping via spring force
Increased clamping force for heavy metal-cutting tasks as well as maintenance of the spring tension during storage

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

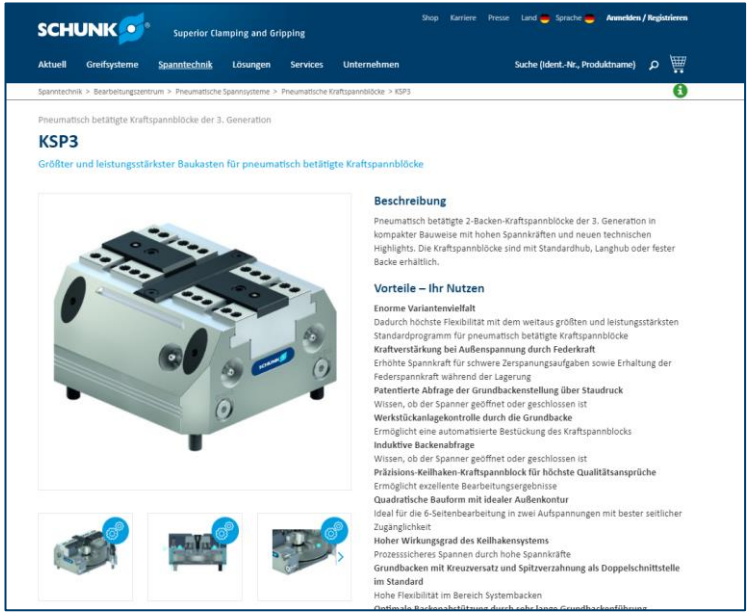
Base jaws with tongue and groove and fine serration as a dual interface as standard
High flexibility of system jaws

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)



SCHUNK

Superior Clamping and Gripping

Shop Karriere Presse Land Sprache Anmelden / Registrieren

Aktuell Greifsysteme Spanntechnik Lösungen Services Unternehmen

Suche (Ident.-Nr., Produktname)

Spanntechnik > Bearbeitungszentrum > Pneumatische Spannsysteme > Pneumatische Kraftspannblöcke > KSP3

Pneumatisch betätigte Kraftspannblöcke der 3. Generation

KSP3

Größter und leistungsstärkster Baukasten für pneumatisch betätigte Kraftspannblöcke

Beschreibung

Pneumatisch betätigte 2-Backen-Kraftspannblöcke der 3. Generation in kompakter Bauweise mit hohen Spannkräften und neuen technischen Highlights. Die Kraftspannblöcke sind mit Standardhub, Langhub oder fester Backe erhältlich.

Vorteile – Ihr Nutzen

Enorme Variantenvielfalt
Dadurch höchste Flexibilität mit dem weitaus größten und leistungsstärksten Standardprogramm für pneumatisch betätigte Kraftspannblöcke

Kraftverstärkung bei Außenspannung durch Federkraft
Erhöhte Spannkraft für schwere Zerspanungsaufgaben sowie Erhaltung der Federspannkraft während der Lagerung

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 Doppelschnittstelle im Standard
Hohe Flexibilität im Bereich Systembacken

SCHUNK

KSH3

Compact, hydraulically actuated powerhouses for series production

TANDEM KSH3

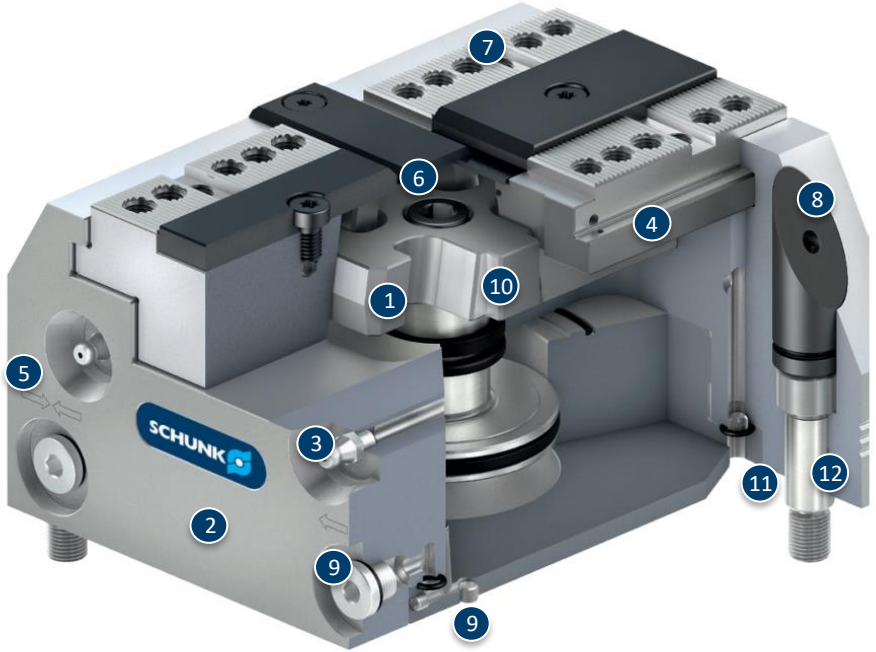
Advantages – Your benefits

- 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 KSH3

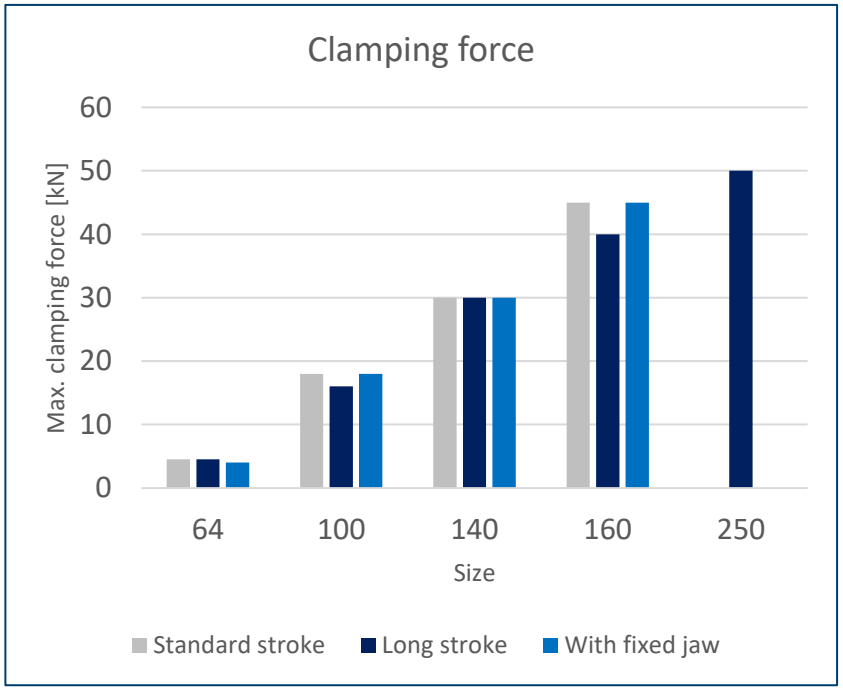
Functional diagram

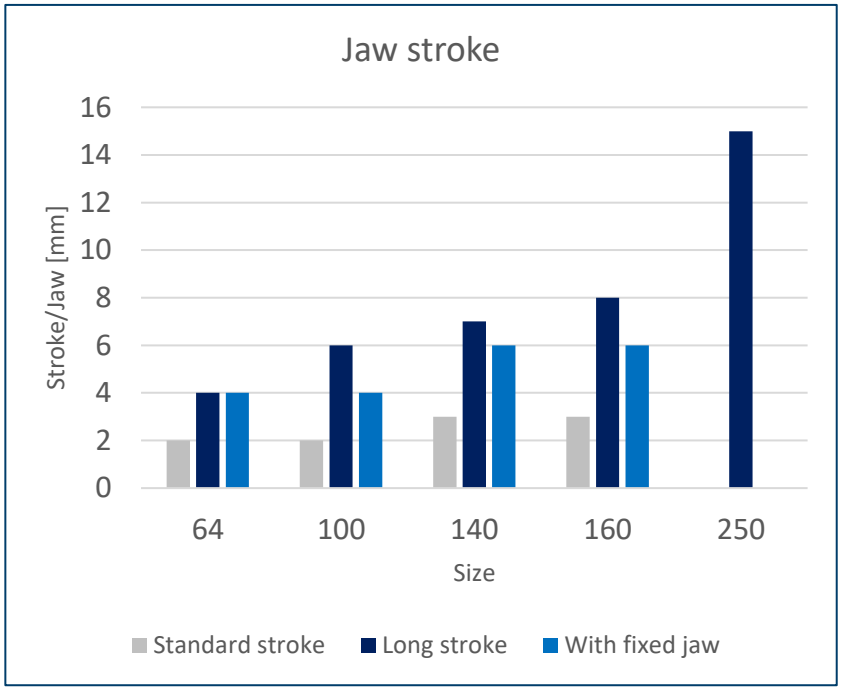
1. Wedge hook drive
2. Hardened and extremely rigid base body
3. Sophisticated greasing system
4. Long jaw guidance
5. Low height
6. Improved design which is insensitive to dirt
7. Standard jaw interface
8. Ideal outside contour
9. Control of the clamping force block
10. Piston guided in the body
11.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



TANDEM KSH3

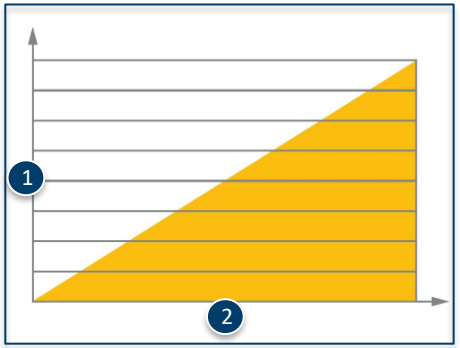
Clamping force and jaw stroke





TANDEM KSH3

Highlights



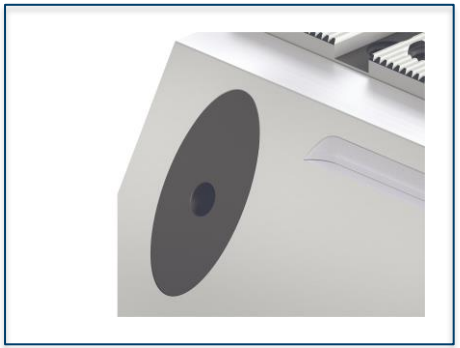
Clamping force depending on the actuation pressure

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

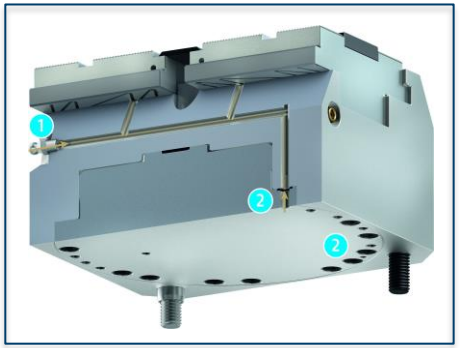
An alignment edge is recessed into the side of the clamping force block. It extends parallel to the jaw guidance and enables an exact alignment of the vises to the machine table.

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.

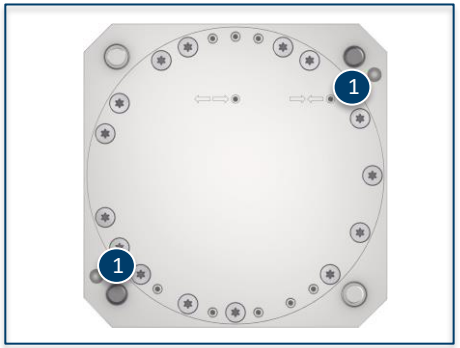
Base plates

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

TANDEM KSH3

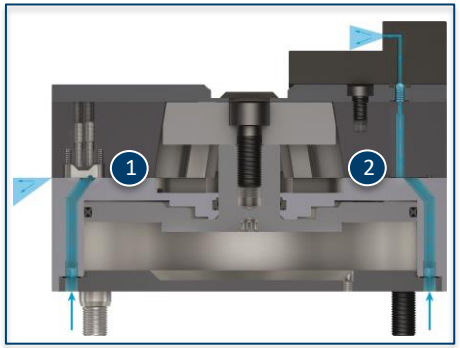
Standardized equipment versions



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 spanners 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.

TANDEM

KSH3

Hydraulische Kraftspannblöcke | *Hydraulic clamping force blocks*

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

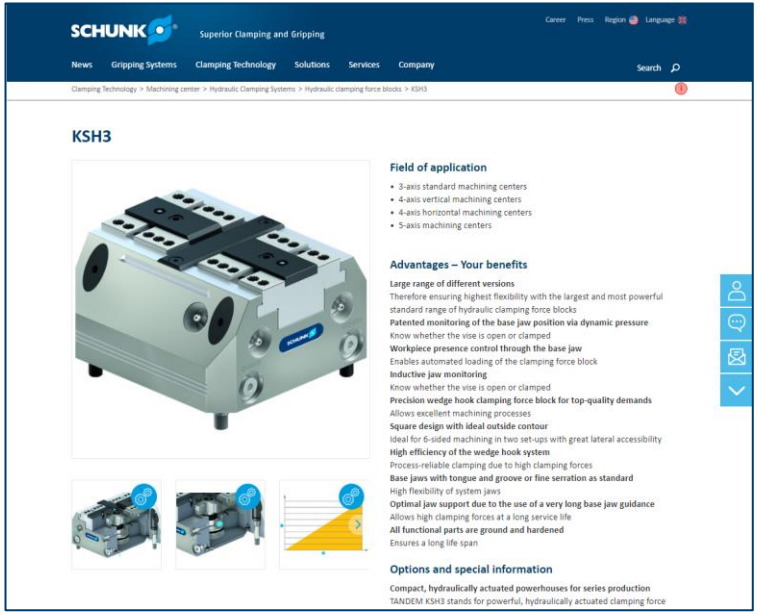
Base jaws with tongue and groove or fine serration as standard
High flexibility of system jaws

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)



SCHUNK

Superior Clamping and Gripping

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

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
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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

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

SCHUNK

KSF3

Spring-loaded powerhouses for tower and storage solutions

TANDEM KSF3

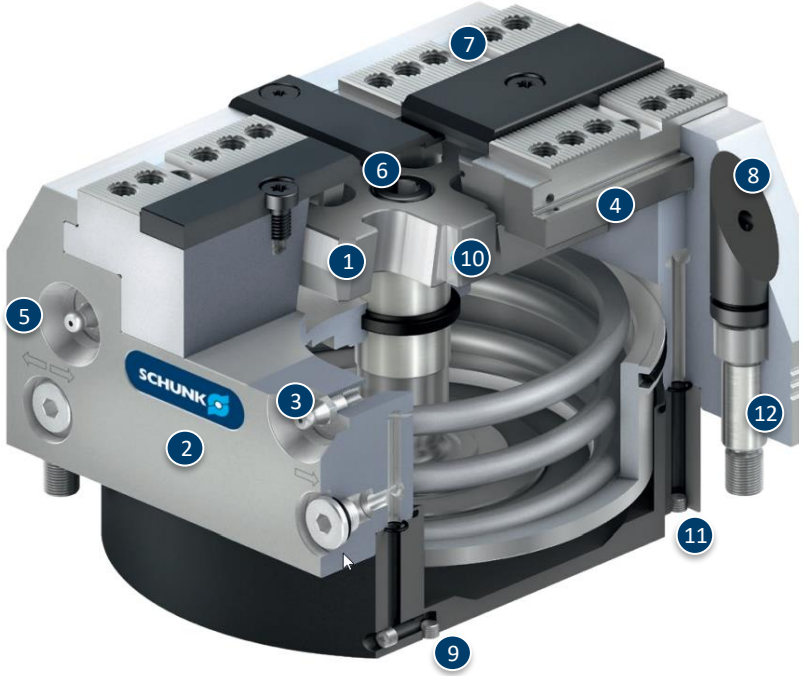
Advantages – Your benefits

- Spring-packaged clamping force blocks
- Patented monotoring 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 KSF3

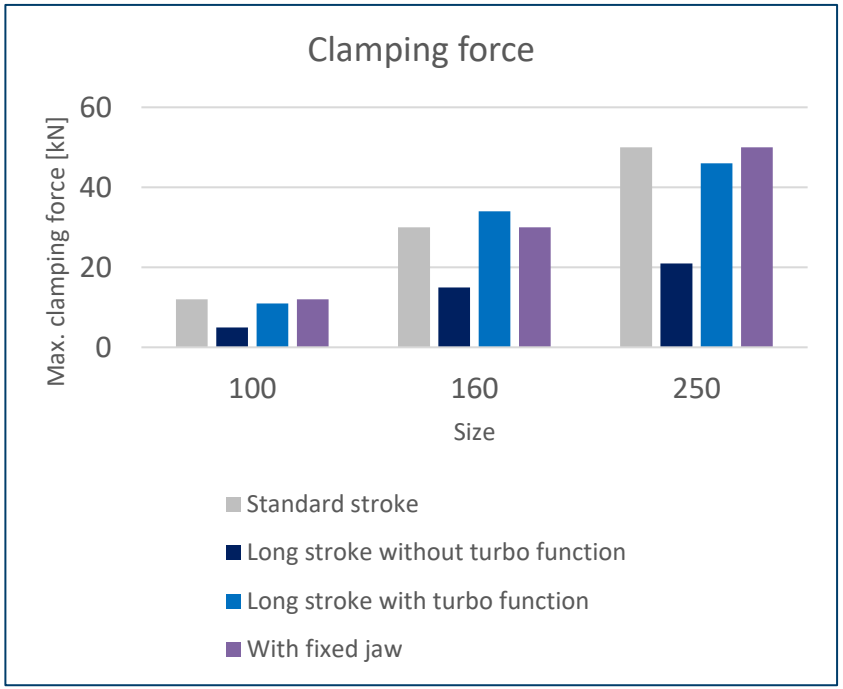
Functional diagram

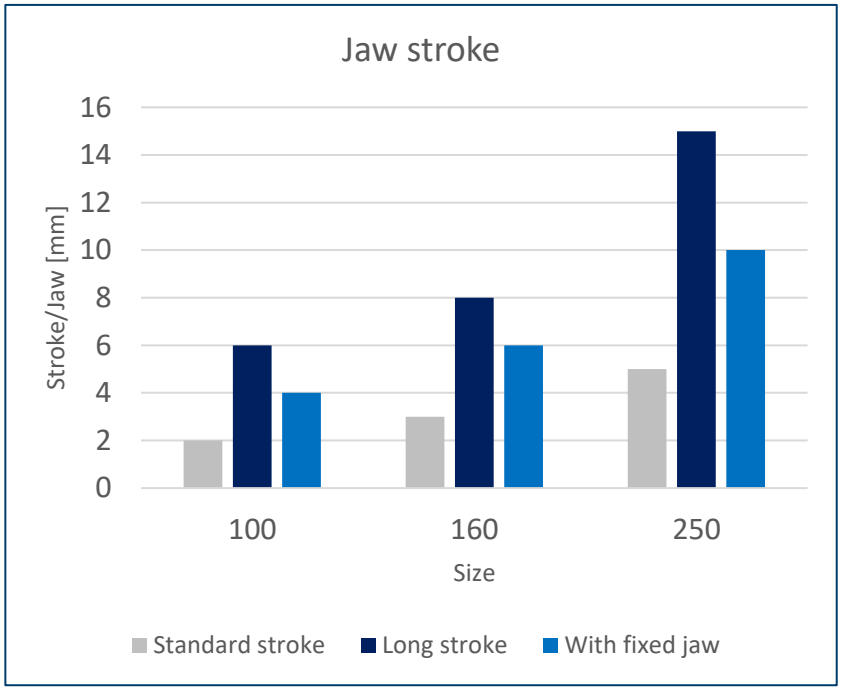
1. Wedge hook drive
2. Hardened and extremely rigid base body
3. Sophisticated greasing system
4. Long jaw guidance
5. Low height
6. Improved design which is insensitive to dirt
7. Standard jaw interface
8. Ideal outside contour
9. Control of the clamping force block
10. Piston guided in the body
11.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



TANDEM KSF3

Clamping force and jaw stroke



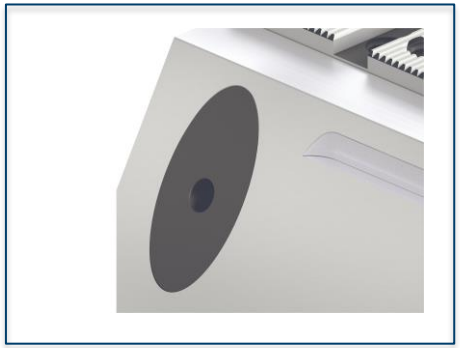


TANDEM KSF3

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

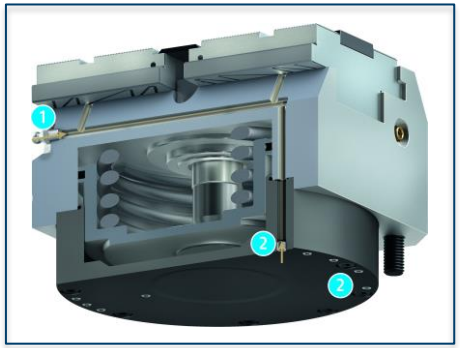
An alignment edge is recessed into the side of the clamping force block. It extends parallel to the jaw guidance and enables an exact alignment of the vises to the machine table.

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.



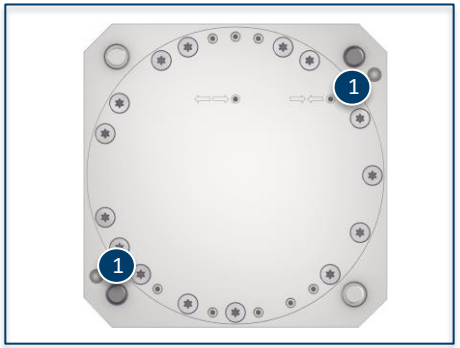
Greasing system

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

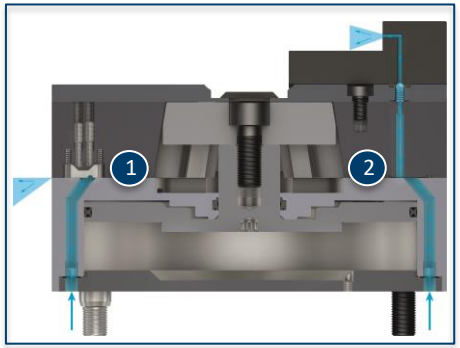
Standardized



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 Kraftspannblöcke | *Spring-packaged clamping force blocks*

KSF3

Federgespannte Kraftpakete für Turm- und Speicherlösungen

TANDEM KSF3 steht für leistungsstarke, federgespannte Kraftspannblöcke, die über integrierte Federpakete gespannt und pneumatisch geöffnet werden. Aufgrund der Federspannung sind sie allerdings nur für die Außenspannung geeignet. Die Kraftspannblöcke 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 1:1 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 applications.

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.

KSF3

Federgespannte Kraftspannblöcke | *Spring-packaged clamping force blocks*

Vorteile – Ihr Nutzen

Federgespannte Kraftspannblöcke
Medienunabhängige Werkstückspannung, insbesondere für Turm- oder Speicheranwendungen

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

Werkstückanlagekontrolle durch die Grundbacke
Ermöglicht eine automatisierte Bestückung des Kraftspannblocks

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

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

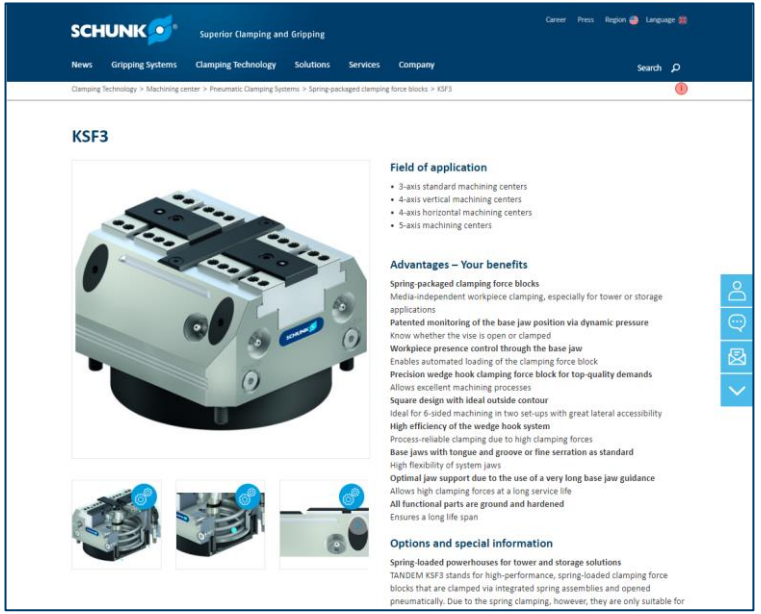
High efficiency of the wedge hook system
Process-reliable clamping due to high clamping forces

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

Homepage (link follows)



TANDEM PGS3

Perfection and reliability for simple, automated machine loading

TANDEM PGS3

Advantages – Your benefits

- Integrated console plate
- Ready for immediate use
- Base body made of light aluminium
- Low height
- Optimized outside contour
- Cubic design
- High efficiency of the wedge hook system
- Precision wedge hook clamping force block for top-quality demands
- Optimal jaw support due to the use of a very long base jaw guidance

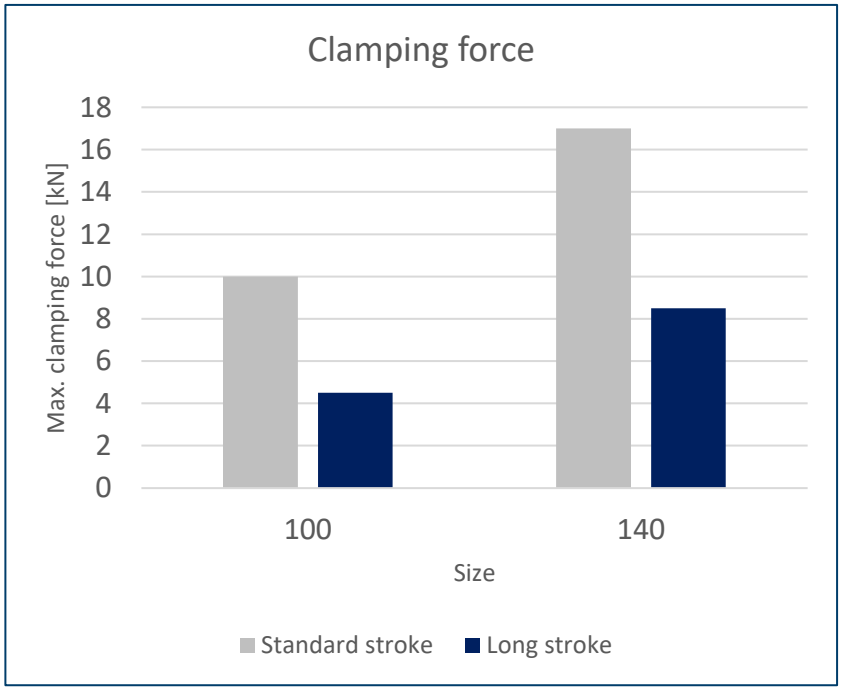
TANDEM PGS3

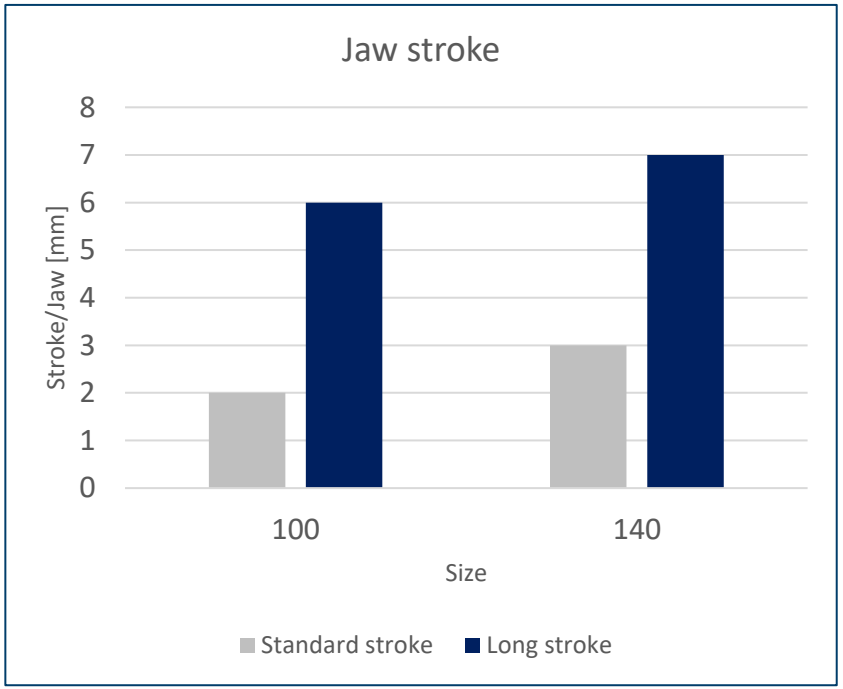
Functional diagram

1. Wedge hook drive
2. Integrated console plate
3. Long jaw guidance
4. Compact design
5. Improved design which is insensitive to dirt
6. Jaw interface with tongue and groove
7. Simple lateral control of the clamping force block
8. Piston guided in the body

TANDEM PGS3

Clamping force and jaw stroke





TANDEM PGS3

Highlights

Pneumatic drive

Clamping and loosening is performed via a double-acting pneumatic cylinder with permanent pressure.

Standard stroke

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

Benefit: The PGS3 has high clamping forces.

Long stroke

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.

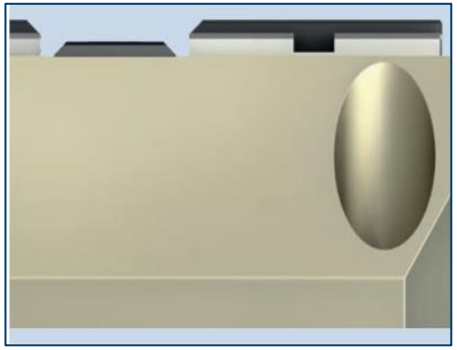
Advantage: Longer jaw stroke.

TANDEM PGS3

Highlights

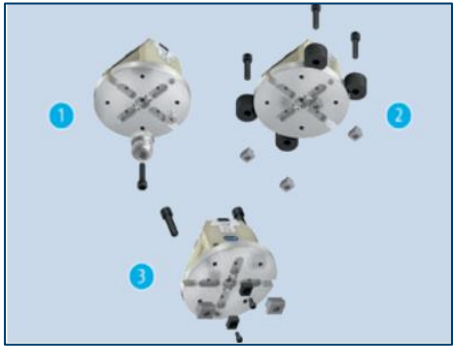
Easy commissioning

Quickly and easy commissioning. Due to the integrated console plate, the clamping force block can be mounted directly on the machine table or quick-change pallet system. The lateral air connections allow the vise to be controlled directly with a 5/3-way valve.



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.



Mounting options

The clamping force block can be used for minimizing the set-up time. It can be placed on the VERO-S NSE3 with anti-twist protection using the existing VERO-S interface.

1. Fastening via quick-change pallet system
2. Fastening via cylindrical clamps
3. Mounting via T-nuts

TANDEM PGS3

Documents

Catalog chapter

PGS3

Pneumatische Kraftspannblöcke | *Pneumatic clamping force blocks*

TANDEM

PGS3

Perfektion und Zuverlässigkeit für die einfache, automatisierte Maschinenbeladung

TANDEM PGS3 ist der neue kompakte pneumatische Kraftspannblock für die automatisierte Zerspanung von kleinen Bauteilen. Trotz seiner kleinen Größe punktet das wartungsarme Kraftpaket mit großem Backenhub, beachtlicher Spannkraft und hoher Wiederholgenauigkeit für präzises und effizientes Spannen.

Der Kraftspannblock bietet mehrere Möglichkeiten der Befestigung auf dem Maschinentisch – ohne zusätzliche Konsolplatte. Über den integrierten Flansch kann der TANDEM PGS3 unmittelbar auf Maschinentischen, Teilapparaten oder SCHUNK VERO-S NSL3 150 Spannstationen von Bearbeitungszentren montiert werden. Die äußerst kompakte Bauweise sorgt für eine größtmögliche Nutzung des Arbeitsraums.

PGS3

Perfection and reliability for simple, automated machine loading

TANDEM PGS3 is the new compact pneumatic clamping force block for automated metal cutting of small components. When it comes to precise and efficient clamping, the low-maintenance powerhouse scores despite its small size with a long jaw stroke, a remarkable clamping force and high repeat accuracy.

The clamping force block offers multiple possibilities for mounting on the machine table – without needing an additional console plate. The TANDEM PGS3 can be directly mounted via the integrated flange on machine tables, dividing heads or SCHUNK VERO-S NSL3 150 clamping stations of machining centers. Its compact design ensures the greatest possible use of the working space.

TANDEM

PGS3

Pneumatische Kraftspannblöcke | *Pneumatic clamping force blocks*

Vorteile – Ihr Nutzen

Integrierte Konsolplatte
Direkte Montage auf T-Nutentischen sowie VERO-S Spannmodulen mit Verdrehsicherung

Direkt einsatzbereit
Durch seitliche Luftanschlüsse am Kraftspannblock

Grundkörper aus leichtem Aluminium
Dadurch absolut kombinationsstark in der leichten Bearbeitung und der einfachen Automatisierung

Geringe Bauhöhe
Maximale Nutzung des Maschinenraumes und maximale Systemsteifigkeit

Optimierte Außenkontur
Für beste seitliche Zugänglichkeit und optimalen Spänefall

Quadratische Bauform
Ideal für 6-Seitenbearbeitung in zwei Aufspannungen auf 4-Achs-Maschinen

Hoher Wirkungsgrad des Keilhakensystems
Prozesssicheres Spannen durch hohe Spannkräfte

Präzisions-Keilhaken-Kraftspannblock für höchste Qualitätsansprüche
Ermöglicht exzellente Bearbeitungsergebnisse

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

Advantages – Your benefits

Integrated console plate
Direct mounting on T-slot tables as well as VERO-S clamping modules with anti-twist protection

Ready for immediate use
Due to lateral air connections on the clamping force block

Base body made of light aluminum
Highly combinable with easy machining and simple automation

Low height
Maximum use of the machine room and maximum rigidity of the system

Optimized outside contour
For best side access and optimal chip falling

Cubic design
Ideal for 6-sided machining with 2 set-ups on 4-axis machines

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

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

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

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Clamping Technology > Machining center > Pneumatic Clamping Systems > Pneumatic clamping force blocks > PGS3

PGS3

Plug & Work

Description

Pneumatically operated 2-jaw clamping force block with VERO-S interface for automated metal cutting of small components. These are available with standard jaw stroke and long stroke.

Advantages – Your benefits

Integrated console plate
Direct mounting on machine tables, dividing heads, as well as VERO-S clamping modules with anti-twist protection

Ready for immediate use
Due to lateral air connections on the clamping force block

Base body made of light aluminum
Highly combinable with easy machining and simple automation

Low height
Maximum use of the machine room and maximum rigidity of the system

Optimized outside contour
For best side access and optimal chip falling

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Allows high clamping forces at a long service life

Options and special information

Perfection and reliability for simple, automated machine loading
TANDEM PGS3 is the new compact pneumatic clamping force block for automated metal cutting of small components. When it comes to precise and efficient clamping, the low-maintenance powerhouse scores despite its small

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

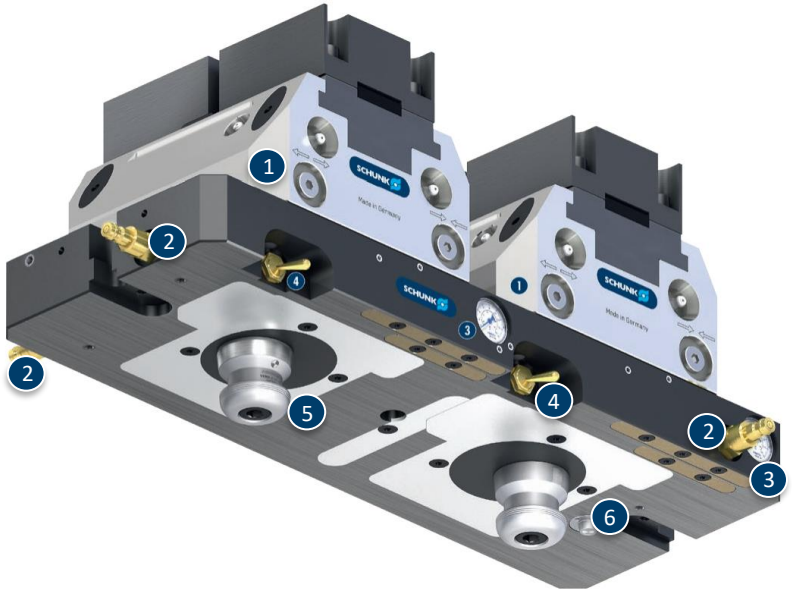
Advantages – Your benefits

- 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

Superior Clamping and Gripping

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