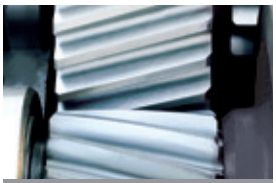
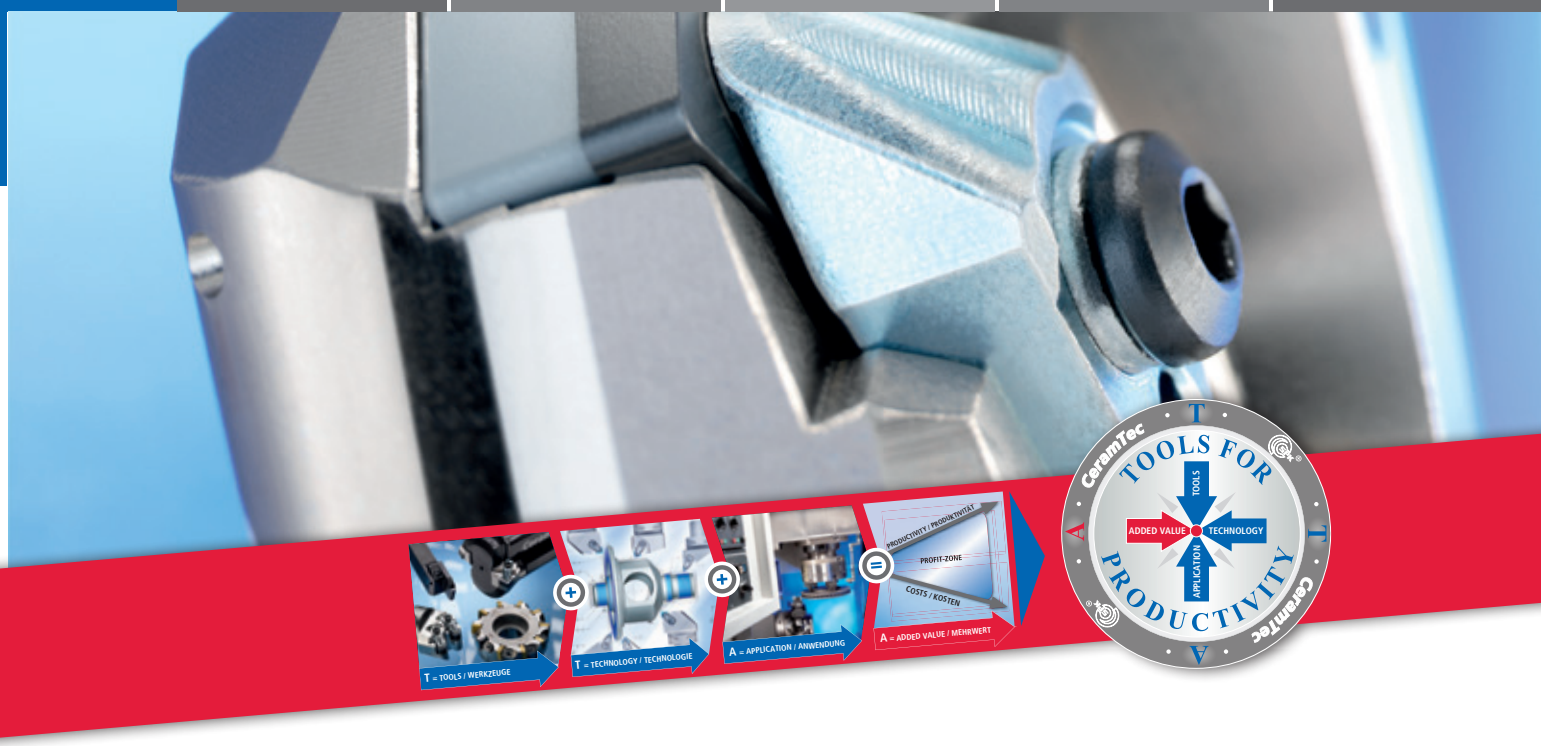

AUTOMOTIVE INDUSTRY


AEROSPACE


GEARS + BEARINGS


MECHANICAL ENGINEERING


WIND ENERGY

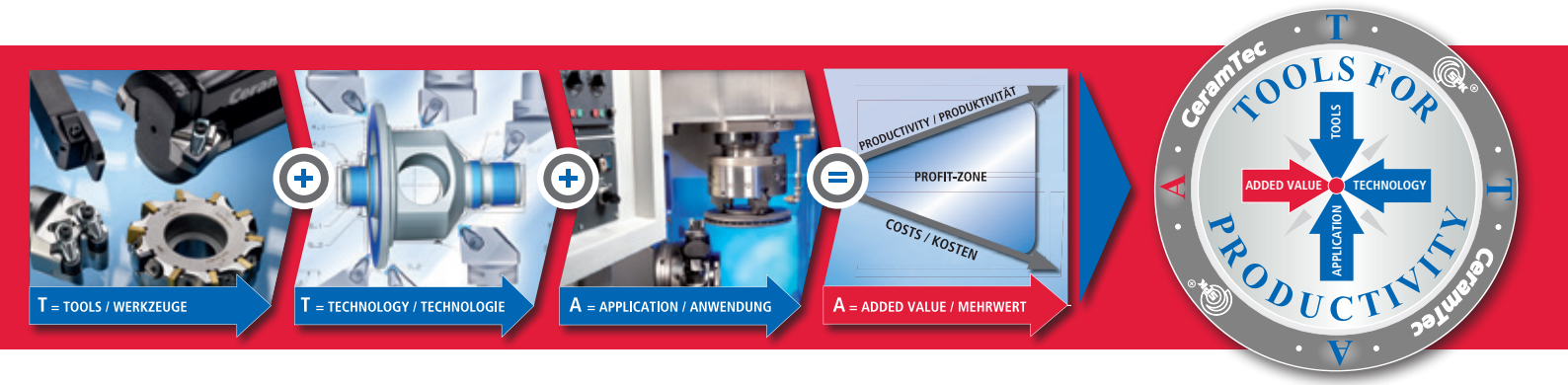


SYSTEM S3

HOCHLEISTUNGSDREHEN MIT HÖCHSTER PROZESSSICHERHEIT

HIGH PERFORMANCE TURNING WITH HIGHEST PROCESS RELIABILITY

CeramTec
THE CERAMIC EXPERTS



TOOLS FOR PRODUCTIVITY

Die optimale spanende Bearbeitung eines Werkstücks lässt sich längst nicht mehr auf den Schneidprozess beschränken. Steigende technologische und wirtschaftliche Herausforderungen verlangen nach hoch effizient ablaufenden Zerspanprozessen. Zu diesem Zweck haben wir das Programm **SPK+ - The Productivity Experts** mit der Formel: **Werkzeug + Technologie + Anwendung = mehr Produktivität bei geringeren Kosten**, entwickelt. Schon heute belegt eine Vielzahl konkreter Anwendungsfälle, dass diese Formel ein großes Plus an Produktivität für unsere Kunden bedeutet. Daher versehen wir unsere Produkte in Zukunft als äußeres Zeichen mit dem Qualitätssiegel **„Produktivitätskompass"**, das für unsere Tools for Productivity steht. Überall dort, wo Sie unserem Produktivitätskompass begegnen, zeigt er Ihnen, dass der maximale Produktivitätsbeitrag beim Zerspanen im Vordergrund steht. Ob auf unseren Schneidplatten, Werkzeugträgern oder gar auf Bearbeitungsmaschinen, wenn der Zerspanprozess vor Ort durch unser Engineering optimiert wurde. Dabei arbeiten wir von Anfang an gemeinsam mit unseren Kunden. Dafür stellen wir hoch spezialisierte Fachleute in den wesentlichen Märkten der Welt zur Verfügung. Auf diese Weise garantieren wir, dass der Einsatz unserer **Tools for Productivity - Werkzeug + Technologie + Anwendung** - zielsicher und punktgenau zu einem perfektionierten Zerspanen und damit zu höchst möglicher Produktivität führt. Auf die daraus resultierenden Anforderungen sind wir mit unseren Hochleistungsschneidstoffen, Präzisionswerkzeugsystemen und unserem umfangreichen Serviceleistungsspektrum perfekt ausgerichtet. Unser Produktivitätskompass ist das Produktivitätssiegel, dem Sie vertrauen können. Mehr Informationen hierzu finden Sie unter **www.tools-for-productivity.com/de/**

*Achieving the optimal machining of a workpiece is no longer solely dependent on the cutting process. Increasing technological and economical challenges require highly efficient machining processes. To this end, we have developed the programme **"SPK+ - The Productivity Experts"** with the formula: **tool + technology + application = increased productivity with lower costs**. It has already been shown that the formula means a boost in productivity for our customers in many specific applications. In the future, we will draw attention to this by placing a "productivity compass" on our products as a visible sign and seal of quality.The compass stands for our Tools for Productivity. Wherever you find our productivity compass, it will show you that the maximum contribution to productivity is the focus in machining. Whether on our inserts, tools or even on processing machines, whenever the machining process has been optimised by our engineering on location. We work together with our customers from the beginning and provide them with highly specialised experts in the world's most important markets. In this way, we can guarantee that using our **Tools for Productivity – tool + technology + application** – will guide you directly to your goal of perfected machining and maximum productivity. Our high performance cutting materials, precision tooling systems and our extensive range of services are perfectly tailored to meet the demands resulting from higher productivity. Our productivity compass is the productivity seal you can trust. More information can be found at **www.tools-for-productivity.com***

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Das System S3
The System S3

Das Trägerwerkzeug- und Klemmsystem S3 bietet höchste Prozesssicherheit und minimalen Werkzeugwartungsaufwand bei der Hochleistungsdrehbearbeitung von Gusseisenwerkstoffen mit Keramik und PCBN.

Die Serien- und Massenzerspanung erfordert Präzisionswerkzeuglösungen, die maximale Prozesssicherheit und minimalen Wartungsaufwand auch bei härtesten Einsatzbedingungen bieten. Die konstruktive Auslegung und die Materialwahl von S3 wurden exakt auf dieses Anforderungsprofil hin entwickelt. Seine besonderen Eigenschaften erhält S3 durch seine führende Klemmtechnologie, seine konstruktive Auslegung und durch den Einsatz moderner Werkstoffkombinationen.

The S3 tool holder and clamping system offers extreme process reliability along with minimal tool maintenance costs for the high-performance turning of cast iron materials with ceramics and PCBN.

High volume manufacturing requires precision tooling solutions. These must be able to offer the highest level of process reliability while keeping tool maintenance costs to a minimum, even under the toughest of operating conditions. The design and the materials selected for the S3 system have been developed with precisely these requirements in mind. The S3 system's unique characteristics are a result of its innovative clamping technology, optimised design and the use of a modern combination of materials.

S3 MIT FÜHRENDER KLEMMTECHNOLOGIE
THE S3 SYSTEM WITH INNOVATIVE CLAMPING TECHNOLOGY

Hohe Standzeiten von Schneidstoffen und die Prozesssicherheit von Werkzeugsystemen im HPC-Einsatz werden auch wesentlich durch die Art der Einbringung und Verteilung der Klemmkraft in das Werkzeugsystem bestimmt. In Verbindung mit dem neu entwickelten Trägerwerkzeug- und Klemmsystem S3 entwickelte SPK-Werkzeuge die neue ODC Force (Optimal Distributed Clamping Force) Klemmtechnologie. Sie ergibt sich durch das aufeinander abgestimmte Zusammenwirken der neuen konstruktiven Auslegung des Trägerwerkzeugs und Spannelements, der IKS-PRO Spannmulde und der Verwendung neuer Werkstoffe. In seiner Kombination ermöglicht dies ein deutlich gesteigertes Einsatzverhalten bei Standzeit und Prozesssicherheit.

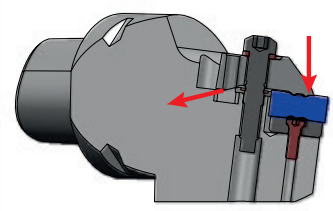
The durability of the cutting materials and the process reliability of tool systems in HPC applications are also determined by the way in which the clamping force is located and distributed within the tool system. Together with the newly developed S3 tool holder and clamping system, SPK Tools have created the new ODC Force (Optimal Distributed Clamping Force) clamping technology. The technology is based on the optimised combination of the newly designed tool holder and clamping element, the IKS-PRO clamping notch and the use of new materials. This combination allows for the most relieable behaviour to be achieved in terms of service time and process reliability.

ODCFORCE
KLEMMTECHNOLOGIE

Die Auslegung von S3 mit der neuen ODC-Force Klemmtechnologie sorgt für eine optimale Aufteilung der Klemmkraft und damit für eine absolut prozesssichere Klemmung der Schneidplatte. Ein Drittel der Klemmkraft wirkt direkt kraft- und formschlüssig auf die Schneidplatte. Diese wird dadurch optimal und prozesssicher geklemmt. Zwei Drittel der Klemmkraft sorgen dafür, dass die Schneidplatte durch eine Rückzugbewegung des Spannelements in den Plattensitz hineingezogen wird und sich dadurch gleichförmig im Plattensitz abstützt.

Together with the new ODC Force clamping technology, the S3 system's design ensures that the clamping force is optimally distributed so that the insert is reliably clamped. One third of the clamping force is powerfully applied directly to the insert, creating a form-fit seal. Two thirds of the clamping force is then used to pull the insert into the insert seat by retracting the clamping element. This means that the insert is uniformly supported in the insert seat.

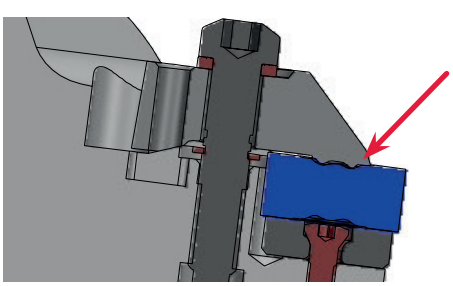
ODC-Force Klemmtechnologie
ODC-Force Clamping Technology



IKS-PRO MULDENTECHNOLOGIE
IKS-PRO CLAMPING NOTCH TECHNOLOGY

Die bewährte IKS-PRO Muldenform bietet einerseits eine optimale flächige, gleichmäßige Verteilung der Klemmkraft und überträgt andererseits die Rückzugsbewegung des Spannelements auf die Schneidplatte. Damit wird diese direkt in den Plattensitz hineingezogen.

The proven IKS-PRO notch design offers optimal, even and uniform distribution of the clamping force while transferring the retraction movement of the clamping element to the insert. The insert is in turn pulled into the insert seat.



IKS-PRO Muldentechnologie
IKS-PRO clamping notch technology

KLEMMEN VOR DER SCHNEIDPLATTENMITTE
CLAMPING IN FRONT OF THE CENTRE OF THE INSERT

Die IKS-PRO Muldenform und die Gestaltung des Klemmelements ermöglichen es, dass die Klemmkraft vor der Schneidplattenmitte eingebracht wird. Ein Aufsteigen der Schneidplatte im Plattensitz wird somit für die unterschiedlichsten Drehbearbeitungsaufgaben prozesssicher unterbunden.

The IKS-PRO notch geometry and the clamping element design enable the clamping force to be applied in front of the centre of the insert. This securely prevents the insert from rising in the insert seat under a wide range of operating conditions.

EASY CHANGE
TECHNOLOGIE

Das Spannelement wird beim System S3 doppelt geführt. Durch die sehr eng tolerierte Längs- und Querführung nimmt das Spannelement immer die richtige Position zur Schneidplatte ein. Die Klemmkraft wird dadurch stets optimal in die Schneidplatte bis zum sicheren Kraftschluß übertragen. Besonders vorteilhaft wirkt sich dies vor allem auch bei ungünstigen Werkzeuglagen aus, z.B. in Überkopfposition. Der Spannfinger kann sich nicht mehr verdrehen und die Schneidplatte ist problemlos zu wechseln.

The clamping element in the S3 system provides double the control. Longitudinal and lateral control with very strict tolerance levels mean that the clamping element is always correctly positioned in relation to the insert. This means that the clamping force is always transferred to the insert until secure clamping has been achieved. This is particularly beneficial for unfavourable tool positions, for example in the overhead position. The clamping element can no longer twist around and the insert is always easy to change.

GERINGSTER WARTUNGSAUFWAND DURCH ABSOLUT MINIMIERTEN TRÄGERWERKZEUGVERSCHLEISS
EXTREMELY LOW TOOL MAINTENANCE COSTS THANKS TO MINIMISED WEAR OF THE TOOL HOLDER ELEMENTS

Die High-Performance Eigenschaften des S3 Systems ergeben sich auch durch die eingesetzten Materialien und Kombinationsmöglichkeiten von Werkzeugrundträger, Spannelement und Stützplatte. Die Systemelemente unterliegen nur einem minimalen Verschleiß und reduzieren somit den Wartungsaufwand des Trägerwerkzeugs im täglichen Einsatz auf ein Minimum.

The high performance properties of the S3 system also come from the materials used and the possibility to combine the tool base, clamping element and the shim. The elements are only subject to a minimal amount of wear, which reduces the maintenance costs to a bare minimum.

ABGESTIMMTE MATERIALKOMBINATIONEN
OPTIMISED COMBINATION OF MATERIALS

Je nach Zerspananforderung an das S3-System können verschiedene Materialien kombiniert werden. Unterliegt beispielsweise der Grundträger nur einem minimalen Wärmeeintrag, aber der Klemmfinger einem hohen Verschleiß, so kann der Grundträger aus Standard-Material bestehen und der Spannfinger aus Hartmetall dazu gewählt werden.

The S3 system can be combined with various materials depending on the machining requirement in question. For example, if the base is only subjected to a minimal transfer of heat but the clamping element is subject to a high level of wear, the base can be made from the standard material and tungsten carbide can be used for the clamping element.

HÖCHSTE LEBENSDAUER DER S3 WERKZEUGELEMENTE
LONG TOOL LIFE OF THE S3 SYSTEM TOOL ELEMENTS

Das System S3 ist in verschiedenen Materialausführungen und Kombinationen erhältlich. Die Werkzeugträger sind neben dem Standardmaterial alternativ auch in hochwarmfestem Stahl verfügbar.

The S3 system is available in different versions which feature different materials and combinations. Along with the standard material, the tool holders are also available

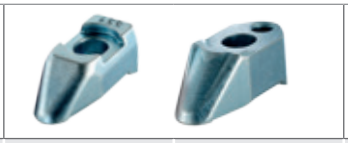
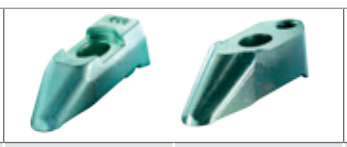
Der Spannfinger steht optional in Standardausführung oder als Hartmetallvariante zur Verfügung.

in high-temperature-resistant steel. The clamping element is available in both the standard version and a tungsten carbide version.

S3 Spannfinger in Hartmetallausführung
S3 clamping element in tungsten carbide version

S3 Spannfinger in Standardausführung
S3 clamping element in standard version

SPANNFINGERVARIANTEN
CLAMPING ELEMENT VERSIONS


Standard *Standard*	Hartmetall *Carbide metal*	Standard *Standard*	Hartmetall *Carbide metal*	Standard *Standard*	Hartmetall *Carbide metal*	Standard *Standard*	Standard *Standard*
830	**880**	**831**	**881**	**832**	**882**	**833**	**834**
Wendeschneidplatten Form und Größe *Inserts shape and size*		**Wendeschneidplatten Form und Größe *Inserts shape and size***		**Wendeschneidplatten Form und Größe *Inserts shape and size***		**Wendeschneidplatten Form und Größe *Inserts shape and size***	
T16		**S12 / C12**		**C16 / D11 / D12 / E13 / S15**		**V16 / D15**	**V16 / S19/ R19 / D15**

S3 MIT *S3 WITH* HEATPROTECTOR

Die Stützplatte des Systems S3 besteht aus Hochleistungskeramik. Sie übernimmt somit auch gleichzeitig die Funktion einer thermischen Isolation, was den Wärmeeintrag in den Werkzeugträger wirksam minimiert.

The S3 system's shim is made from high performance ceramic. This material also provides thermal insulation, which effectively minimises the transfer of heat in the tool holders.

KEIN AUFWEITEN DES PLATTENSITZES
THE INSERT SEAT DOES NOT EXPAND

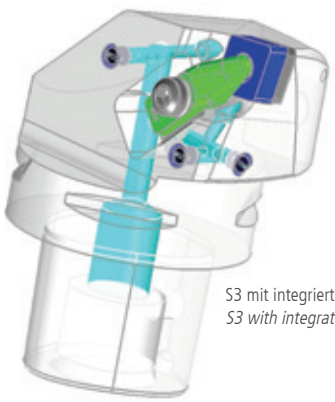
Bei sehr hohem Wärmeeintrag, der schon bei mittleren bis hohen Schnittbedingungen bei der Verwendung von PCBN Schneidstoffen auftreten kann, verhindert die optional verfügbare Ausführung des Werkzeugträgers in hochwarmfestem Material das Aufweiten, sowie das Eingraben der Schneidplatte in den Plattensitz. Dadurch ist eine größtmögliche Klemmstabilität und beste Maßhaltigkeit der Werkstücke bei hoher Standmenge möglich.

When high levels of heat are transferred, which can be the case when using PCBN cutting materials, the optional high-temperature-resistant material version prevents the holder from expanding or the insert becoming embedded in the insert seat. This means that the clamping is extremely securely and reliably while ensuring maximum dimensional accuracy at the workpiece with a long tool life.

S3 MIT INTEGRIERTER KÜHLMITTELZUFUHR
S3 WITH AN INTEGRATED COOLANT SUPPLY

Das System S3 kann optional mit einer integrierten Kühlmittelzufuhr ausgerüstet werden. Durch die Integration der Kühlmittelzufuhr in die seitlichen Spannelementführungen wird das Kühlmittel sehr nahe und zielgerichtet an die Wirkstelle herangebracht.

The S3 system can also be equipped with an integrated coolant supply. By integrating the coolant supply into the side ducts of the clamping element, the coolant is applied to the effective area as closely and precisely as possible.



S3 mit integrierter Kühlung
S3 with integrated coolant supply

370.000 BREMSSCHEIBEN MIT EINEM SPANNFINGER PROZESSSICHER BEARBEITET
370,000 BRAKE DISCS RELIABLY MACHINED WITH ONE CLAMPING ELEMENT

SCHRUPPEN EINER BREMSSCHEIBE MIT SPK PCBN SORTE WBN 115
ROUGH TURNING OF A BRAKE DISC WITH CBN GRADE WBN 115

Minimaler Verschleiß nach 370.000 Bremsscheiben
Minimal wear after processing 370,000 brake discs

Spannfinger ist direkt dem Späneflug ausgesetzt
Clamping element is directly exposed to chips

ANFORDERUNGEN:
REQUIREMENTS:
- HÖCHSTE PROZESSSICHERHEIT
- *OUTSTANDING PROCESS RELIABILITY*
- MINIMALE WERKZEUGWARTUNG
- *MINIMAL TOOL MAINTENANCE REQUIRED*
- KEIN SPANNFINGERWECHSEL
- *NO NEED TO REPLACE THE CLAMPING ELEMENT*

BEDINGUNGEN:
CONDITIONS:
- GLATTER SCHNITT
- *SMOOTH CUT*
- GJL 250
- *CI-MATERIAL (GJL 250)*
- TROCKENBEARBEITUNG
- *DRY MACHINING*

SPK-ENGINEERING ZUR STEIGERUNG DER WIRTSCHAFTLICHKEIT DURCH
SPK ENGINEERING FOR INCREASING EFFICIENCY
- EINSATZ SYSTEM S3 / - *USE OF THE S3 SYSTEM*
- EINSATZ VON SOLID-CBN WENDESCHNEIDPLATTEN / - *USE OF SOLID CBN INSERTS*
- DEFINITION DER BEARBEITUNGSSTRATEGIE /- *DEFINITION OF MACHINING STRATEGY*
- FESTLEGUNG DER SCHNITTPARAMETER / - *DETERMINATION OF CUTTING PARAMETERS*

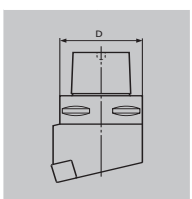
Einsatzverhalten System S3
S3 System Behaviour

- **keine Plattenbrüche**
- ***No insert breakage***
- **kein Wechsel der Spannfinger**
- ***Clamping element does not need to be replaced***
- **kein Austauschen der Stützplatte**
- ***Shim does not need to be replaced***
- **über 450 Schichten!**
- ***Over 450 shifts***

Bearbeitung: Drehen einer Bremsscheibe mit SPK PCBN Sorte WBN 115
Machining operation: Turning a brake disc with WBN 115 SPK PCBN

	SPK
Schneidstoff *Grade*	**WBN 115**
Schneidplattentyp *Insert*	TNGX 16 04 16 T-DO
Schnittgeschwindigkeit v_c *Cutting speed* v_c	1100 m/min
Vorschub f *Feed rate f:*	0,4 mm - 0,5 mm
Schnitttiefe a_p *Depth of cut* a_p:	2 mm - 3 mm

SPK Bezeichnungssystem für S3 CMS
SPK designation for S3 CMS



	D (mm)
4	40
5	50
6	60
8	80

CMS-Größe
CMS size

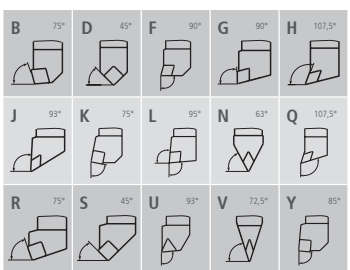
C


Von oben geklemmt
Top clamping

P

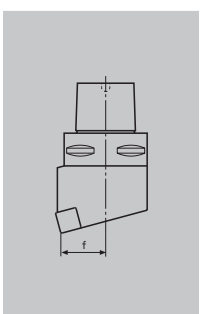

Über Bohrung geklemmt
Hole clamping

Schneideplattenbefestigung
Insert clamping



X **Sonderform** · Special style

Halterform
Tool style



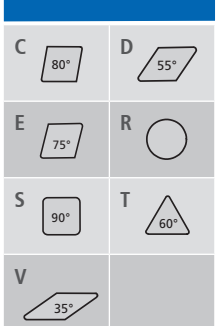
Abmessung
Dimension f

S3	-	CMS 5	-	C	S	R	N	L	35	060

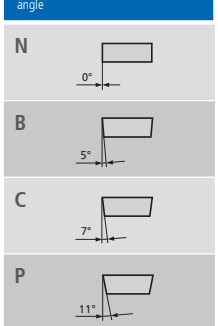
Klemmsystem,
Clamping System

S3

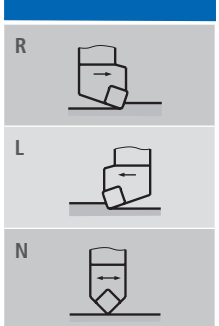
Plattenform
Insert shape



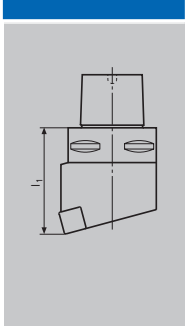
Normal-Freiwinkel der Schneidplatte
Insert normal clearance angle



Schneidrichtung
Cutting direction



Werkzeuglänge
Tool length



SPK Bezeichnungssystem für S3 CMS
SPK designation for S3 CMS

Inkreis Inscribed circle d mm	R, S	T 60°	C 80°	E 75°	D 55°	V 35°	Inkreis Inscribed circle d mm	RB (Typ MO)
							6,0	06
							7,0	07
							8,0	08
9,25	09	16	09		11	16	10,0	10
12,70	12	22	12	13	15	22	12,0	12
15,88	15		16				16,0	16
19,05	19						20,0	20
25,40	25						25,0	25

Plattengröße
Insert size

M	**Kühlmedium** Coolant
•	**Platzhalter** Placeholder

Kühlausrüstung Grundträger
Shank whith coolant

C	**Hartmetall** Carbide
S	**Stahl** Steel

Werkstoff Spannfinger
Material clamping element

Kennzahl Index	s mm
3	3,18
4	4,76
6	6,35
7	7,94

Schneidplattendicke
Insert thickness

Kennzahl Index	s mm
3	3,18
4	4,76
6	6,35
7	7,94

Stützplattendicke
Shim thickness

- 12	-	S	A	M	A	-	K	C	-	7	-	K	4

Werkstoff Grundträger
Shank material

S	**Standard** Standard
X	**Warmarbeitsstahl** Heat Resistant Steel

D_{min}
D_{min}

	$Dmin_1$	$Dmin_2$
A	110 mm	165 mm
B	110 mm	190 mm
C	125 mm	250 mm
D	50 mm	165 mm
E	60 mm	165 mm
V	75 mm	165 mm
•	**Platzhalter** Placeholder	

Werkzeugtyp
Tool Type

A	**Adapter** Plate holder
K	**Kassette** Plate holder
S	**KKH** Cardrige
•	**Platzhalter** Placeholder

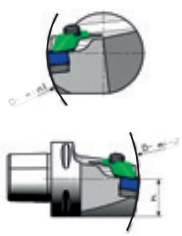
Klemmart
Clamping style

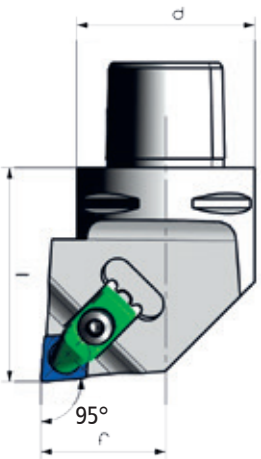
K

Werkstoff Stützplatte
Material Shim

K	**Keramik** Ceramic
S	**Stahl** Steel

S3 - CMS 5 - CCLN





Schaft *Shank*	**Abmessungen** *Dimensions* **(mm)**					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	34	35	60	110	165

Schneid-plattengröße *Insert size*	**Anzugs-moment** *Torgue*	**Anzugs-moment** *Torgue*	**f, l, h - Maße Bezug Messplatte Radius** *Dimensions f, l, h for master insert radius*
CNGX **12** .... - DO	**12** Nm	**4** Nm	CNGX 12 .. **08** .. - DO
CNGX **16** .... - DO	**12** Nm	**5** Nm	CNGX 16 .. **12** .. - DO

Spanwinkel *Rake angle* γ	- 6°
Neigungswinkel *Back rake angle* λ	- 6°

Spannelement *Clamping element*	**SPK-Schneidplatte** *SPK-Cutting insert* **CNGX .... - DO**	**Bezeichnung** *Type*	**SPK-Best. Nr.** *SPK-Ref. no.*	**Ersatzteile** · *Spare parts*	
				✦ *	
Standard *Standard*	1204	S3-CMS5-CCLN L 35060-12-SA-KS-4-K7	798.24.005.11	70.91.11.831.0	70.91.24.783.0
		S3-CMS5-CCLN R 35060-12-SA-KS-4-K7	798.23.005.11	70.91.11.831.0	70.91.24.783.0
	1207	S3-CMS5-CCLN L 35060-12-SA-KS-7-K4	798.24.005.12	70.91.11.831.0	70.91.24.784.0
		S3-CMS5-CCLN R 35060-12-SA-KS-7-K4	798.23.005.12	70.91.11.831.0	70.91.24.784.0
Hartmetall *Carbide*	1204	S3-CMS5-CCLN L 35060-12-SA-KC-4-K7	798.24.005.51	70.91.11.881.0	70.91.24.783.0
		S3-CMS5-CCLN R 35060-12-SA-KC-4-K7	798.23.005.51	70.91.11.881.0	70.91.24.783.0
	1207	S3-CMS5-CCLN L 35060-12-SA-KC-7-K4	798.24.005.52	70.91.11.881.0	70.91.24.784.0
		S3-CMS5-CCLN R 35060-12-SA-KC-7-K4	798.23.005.52	70.91.11.881.0	70.91.24.784.0
Standard *Standard*	1607	S3-CMS5-CCLN L 35060-16-SA-KS-7-S4	798.24.006.12	70.91.11.832.0	70.91.24.722.0
		S3-CMS5-CCLN R 35060-16-SA-KS-7-S4	798.23.006.12	70.91.11.832.0	70.91.24.722.0
Hartmetall *Carbide*	1607	S3-CMS5-CCLN L 35060-16-SA-KC-7-S4	798.24.006.52	70.91.11.882.0	70.91.24.722.0
		S3-CMS5-CCLN R 35060-16-SA-KC-7-S4	798.23.006.52	70.91.11.882.0	70.91.24.722.0

Spannelement Clamping Element

✦ SW4 — 60.09.11.004.0

* ASK SW4 — 70.91.55.233.0

Stützplatte Shim

IP15 — CNGX **12** .... - DO 70.91.55.699.0

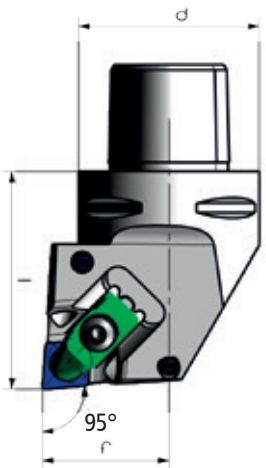
IP20 — CNGX **16** .... - DO 70.91.55.700.0

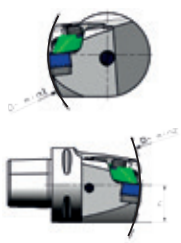
S3 - CMS 5 - CCLN

Schaft *Shank*	**Abmessungen** *Dimensions* **(mm)**					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	34	35	60	110	165

Schneid-plattengröße *Insert size*	**Anzugs-moment** *Torgue* 	**Anzugs-moment** *Torgue* 	**f, l, h - Maße Bezug Messplatte Radius** *Dimensions f, l, h for master insert radius*
CNGX **12** .... - DO	**12** Nm	**4** Nm	CNGX 12 .. **08** .. - DO
CNGX **16** .... - DO	**12** Nm	**5** Nm	CNGX 16 .. **12** .. - DO

Spanwinkel *Rake angle* γ	- 6°
Neigungswinkel *Back rake angle* λ	- 6°





Spannelement *Clamping element*	**SPK-Schneidplatte** *SPK-Cutting insert* **CNGX .... - DO**	**Bezeichnung** *Type*	**SPK-Best. Nr.** *SPK-Ref. no.*	**Ersatzteile** · *Spare parts* 	
Standard *Standard* 	1204	S3-CMS5-CCLN L 35060-12-SAM-KS-4-K7	798.24.037.11	70.91.11.831.0	70.91.24.783.0
		S3-CMS5-CCLN R 35060-12-SAM-KS-4-K7	798.23.037.11	70.91.11.831.0	70.91.24.783.0
	1207	S3-CMS5-CCLN L 35060-12-SAM-KS-7-K4	798.24.037.12	70.91.11.831.0	70.91.24.784.0
		S3-CMS5-CCLN R 35060-12-SAM-KS-7-K4	798.23.037.12	70.91.11.831.0	70.91.24.784.0
Hartmetall *Carbide* 	1204	S3-CMS5-CCLN L 35060-12-SAM-KC-4-K7	798.24.037.51	70.91.11.881.0	70.91.24.783.0
		S3-CMS5-CCLN R 35060-12-SAM-KC-4-K7	798.23.037.51	70.91.11.881.0	70.91.24.783.0
	1207	S3-CMS5-CCLN L 35060-12-SAM-KC-7-K4	798.24.037.52	70.91.11.881.0	70.91.24.784.0
		S3-CMS5-CCLN R 35060-12-SAM-KC-7-K4	798.23.037.52	70.91.11.881.0	70.91.24.784.0
Standard *Standard* 	1607	S3-CMS5-CCLN L 35060-16-SAM-KS-7-S4	798.24.040.12	70.91.11.832.0	70.91.24.722.0
		S3-CMS5-CCLN R 35060-16-SAM-KS-7-S4	798.23.040.12	70.91.11.832.0	70.91.24.722.0
Hartmetall *Carbide* 	1607	S3-CMS5-CCLN L 35060-16-SAM-KC-7-S4	798.24.040.52	70.91.11.882.0	70.91.24.722.0
		S3-CMS5-CCLN R 35060-16-SAM-KC-7-S4	798.23.040.52	70.91.11.882.0	70.91.24.722.0

Spannelement Clamping Element

✦ 

60.09.11.004.0

* 

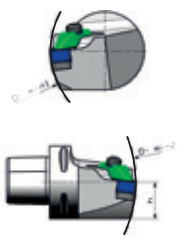
70.91.55.233.0

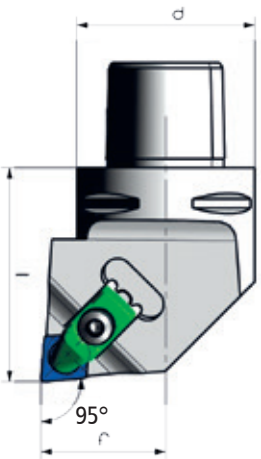
Stützplatte Shim

CNGX **12** .... - DO
70.91.55.699.0

CNGX **16** .... - DO
70.91.55.700.0

S3 - CMS 5 - CCLN





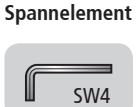
Schaft *Shank*	Abmessungen *Dimensions* (mm)					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	34	35	60	110	165

Schneid-plattengröße *Insert size*	Anzugs-moment *Torgue* 	Anzugs-moment *Torgue* 	f, l, h - Maße Bezug Messplatte Radius *Dimensions f, l, h for master insert radius*
CNGX **12** .... - DO	**12** Nm	**4** Nm	CNGX 12 .. **08** .. - DO
CNGX **16** .... - DO	**12** Nm	**5** Nm	CNGX 16 .. **12** .. - DO

Spanwinkel *Rake angle* γ	- 6°
Neigungswinkel *Back rake angle* λ	- 6°

Spannelement *Clamping element*	SPK-Schneidplatte *SPK-Cutting insert* **CNGX .... - DO**	Bezeichnung *Type*	SPK-Best. Nr. *SPK-Ref. no.*	Ersatzteile · *Spare parts*  *	
Standard *Standard* 	1204	S3-CMS5-CCLN L 35060-12-XA-KS-4-K7	798.24.038.11	70.91.11.831.0	70.91.24.783.0
		S3-CMS5-CCLN R 35060-12-XA-KS-4-K7	798.23.038.11	70.91.11.831.0	70.91.24.783.0
	1207	S3-CMS5-CCLN L 35060-12-XA-KS-7-K4	798.24.038.12	70.91.11.831.0	70.91.24.784.0
		S3-CMS5-CCLN R 35060-12-XA-KS-7-K4	798.23.038.12	70.91.11.831.0	70.91.24.784.0
Hartmetall *Carbide* 	1204	S3-CMS5-CCLN L 35060-12-XA-KC-4-K7	798.24.038.51	70.91.11.881.0	70.91.24.783.0
		S3-CMS5-CCLN R 35060-12-XA-KC-4-K7	798.23.038.51	70.91.11.881.0	70.91.24.783.0
	1207	S3-CMS5-CCLN L 35060-12-XA-KC-7-K4	798.24.038.52	70.91.11.881.0	70.91.24.784.0
		S3-CMS5-CCLN R 35060-12-XA-KC-7-K4	798.23.038.52	70.91.11.881.0	70.91.24.784.0
Standard *Standard* 	1607	S3-CMS5-CCLN L 35060-16-XA-KS-7-S4	798.24.041.12	70.91.11.832.0	70.91.24.722.0
		S3-CMS5-CCLN R 35060-16-XA-KS-7-S4	798.23.041.12	70.91.11.832.0	70.91.25.722.0
Hartmetall *Carbide* 	1607	S3-CMS5-CCLN L 35060-16-XA-KC-7-S4	798.24.041.52	70.91.11.882.0	70.91.24.722.0
		S3-CMS5-CCLN R 35060-16-XA-KC-7-S4	798.23.041.52	70.91.11.882.0	70.91.24.722.0

Spannelement Clamping Element

✦ 

60.09.11.004.0

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70.91.55.233.0

Stützplatte Shim

CNGX **12** .... - DO
70.91.55.699.0

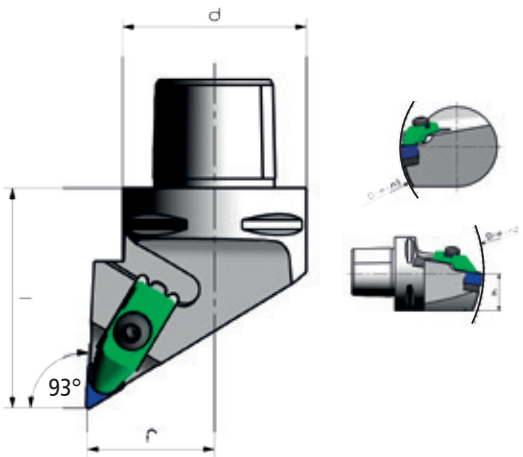
CNGX **16** .... - DO
70.91.55.700.0

S3 - CMS 5 - CDJN

Schaft *Shank*	Abmessungen *Dimensions* (mm)					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	35	60	110	165

Schneid-plattengröße *Insert size*	Anzugs-moment *Torque*	Anzugs-moment *Torque*	f, l, h - Maße Bezug Messplatte Radius *Dimensions f, l, h for master insert radius*
DNGX **12** .... - DO	**12** Nm	**3** Nm	DNGX 12 .. **08** .. - DO
DNGX **15** .... - DO	**12** Nm	**4** Nm	DNGX 15 .. **08** .. - DO

Spanwinkel *Rake angle* γ	- 5°
Neigungswinkel *Back rake angle* λ	- 8°



Spannelement *Clamping element*	SPK-Schneidplatte *SPK-Cutting insert* **DNGX .... - DO**	Bezeichnung *Type*	SPK-Best. Nr. *SPK-Ref. no.*	Ersatzteile · *Spare parts* ✦	Ersatzteile · *Spare parts* *
Standard *Standard*	1204	S3-CMS5-CDJN L 35060-12-SA-KS-4-K7	798.24.043.11	70.91.11.832.0	70.91.24.754.0
		S3-CMS5-CDJN R 35060-12-SA-KS-4-K7	798.23.043.11	70.91.11.832.0	70.91.24.754.0
	1207	S3-CMS5-CDJN L 35060-12-SA-KS-7-K4	798.24.043.12	70.91.11.832.0	70.91.24.804.0
		S3-CMS5-CDJN R 35060-12-SA-KS-7-K4	798.23.043.12	70.91.11.832.0	70.91.24.804.0
Hartmetall *Carbide*	1204	S3-CMS5-CDJN L 35060-12-SA-KC-4-K7	798.24.043.51	70.91.11.882.0	70.91.24.754.0
		S3-CMS5-CDJN R 35060-12-SA-KC-4-K7	798.23.043.51	70.91.11.882.0	70.91.24.754.0
	1207	S3-CMS5-CDJN L 35060-12-SA-KC-7-K4	798.24.043.52	70.91.11.882.0	70.91.24.804.0
		S3-CMS5-CDJN R 35060-12-SA-KC-7-K4	798.23.043.52	70.91.11.882.0	70.91.24.804.0
Standard *Standard*	1507	S3-CMS5-CDJN L 35060-15-SA-KS-7-K4	798.24.016.12	70.91.11.834.0	70.91.24.805.0
		S3-CMS5-CDJN R 35060-15-SA-KS-7-K4	798.23.016.12	70.91.11.834.0	70.91.24.805.0

Spannelement Clamping Element

✦ SW4 — 60.09.11.004.0

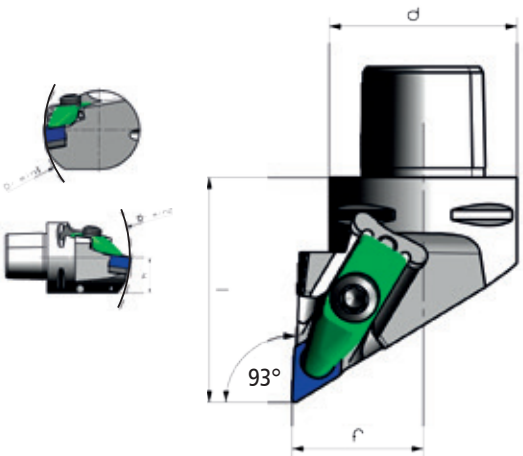
* ASK SW4 — 70.91.55.233.0

Stützplatte Shim

IP09 — DNGX **12** .... - DO 70.91.55.698.0

IP15 — DNGX **15** .... - DO 70.91.55.699.0

S3 - CMS 5 - CDJN



Schaft *Shank*	**Abmessungen** *Dimensions* **(mm)**					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	35	60	110	165

Schneid-plattengröße *Insert size*	**Anzugs-moment** *Torgue*	**Anzugs-moment** *Torgue*	**f, l, h - Maße Bezug Messplatte Radius** *Dimensions f, l, h for master insert radius*
DNGX **12** .... - DO	**12** Nm	**3** Nm	DNGX 12 .. **08** .. - DO
DNGX **15** .... - DO	**12** Nm	**4** Nm	DNGX 15 .. **08** .. - DO

Spanwinkel *Rake angle* γ	- 5°
Neigungswinkel *Back rake angle* λ	- 8°

Spannelement *Clamping element*	**SPK-Schneidplatte** *SPK-Cutting insert* **DNGX .... - DO**	**Bezeichnung** *Type*	**SPK-Best. Nr.** *SPK-Ref. no.*	**Ersatzteile** · *Spare parts* ✦	*
Standard *Standard*	1204	S3-CMS5-CDJN L 35060-12-SAM-KS-4-K7	798.24.044.11	70.91.11.832.0	70.91.24.754.0
		S3-CMS5-CDJN R 35060-12-SAM-KS-4-K7	798.23.044.11	70.91.11.832.0	70.91.24.754.0
	1207	S3-CMS5-CDJN L 35060-12-SAM-KS-7-K4	798.24.044.12	70.91.11.832.0	70.91.24.804.0
		S3-CMS5-CDJN R 35060-12-SAM-KS-7-K4	798.23.044.12	70.91.11.832.0	70.91.24.804.0
Hartmetall *Carbide*	1204	S3-CMS5-CDJN L 35060-12-SAM-KC-4-K7	798.24.044.51	70.91.11.882.0	70.91.24.754.0
		S3-CMS5-CDJN R 35060-12-SAM-KC-4-K7	798.23.044.51	70.91.11.882.0	70.91.24.754.0
	1207	S3-CMS5-CDJN L 35060-12-SAM-KC-7-K4	798.24.044.52	70.91.11.882.0	70.91.24.804.0
		S3-CMS5-CDJN R 35060-12-SAM-KC-7-K4	798.23.044.52	70.91.11.882.0	70.91.24.804.0
Standard *Standard*	1507	S3-CMS5-CDJN L 35060-15-SAM-KS-7-K4	798.24.047.12	70.91.11.834.0	70.91.24.805.0
		S3-CMS5-CDJN R 35060-15-SAM-KS-7-K4	798.23.047.12	70.91.11.834.0	70.91.24.805.0

Spannelement Clamping Element

✦ SW4 — 60.09.11.004.0

* ASK SW4 — 70.91.55.233.0

Stützplatte Shim

IP09 — DNGX **12** .... - DO 70.91.55.698.0

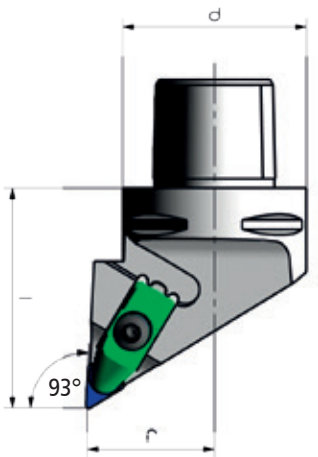
IP15 — DNGX **15** .... - DO 70.91.55.699.0

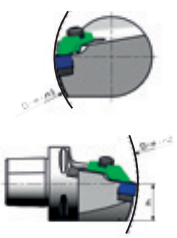
S3 - CMS 5 - CDJN

Schaft *Shank*	**Abmessungen** *Dimensions* **(mm)**					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	35	60	110	165

Schneid-plattengröße *Insert size*	**Anzugs-moment** *Torque* 	**Anzugs-moment** *Torque* 	**f, l, h - Maße Bezug Messplatte Radius** *Dimensions f, l, h for master insert radius*
DNGX **12** .... - DO	**12** Nm	**3** Nm	DNGX 12 .. **08** .. - DO
DNGX **15** .... - DO	**12** Nm	**4** Nm	DNGX 15 .. **08** .. - DO

Spanwinkel *Rake angle* γ	- 5°
Neigungswinkel *Back rake angle* λ	- 8°





Spannelement *Clamping element*	**SPK-Schneidplatte** *SPK-Cutting insert* **DNGX .... - DO**	**Bezeichnung** *Type*	**SPK-Best. Nr.** *SPK-Ref. no.*	**Ersatzteile** · *Spare parts*  *	
Standard *Standard* 	1204	S3-CMS5-CDJN L 35060-12-XA-KS-4-K7	798.24.045.11	70.91.11.832.0	70.91.24.754.0
		S3-CMS5-CDJN R 35060-12-XA-KS-4-K7	798.23.045.11	70.91.11.832.0	70.91.24.754.0
	1207	S3-CMS5-CDJN L 35060-12-XA-KS-7-K4	798.24.045.12	70.91.11.832.0	70.91.24.804.0
		S3-CMS5-CDJN R 35060-12-XA-KS-7-K4	798.23.045.12	70.91.11.832.0	70.91.24.804.0
Hartmetall *Carbide* 	1204	S3-CMS5-CDJN L 35060-12-XA-KC-4-K7	798.24.045.51	70.91.11.882.0	70.91.24.754.0
		S3-CMS5-CDJN R 35060-12-XA-KC-4-K7	798.23.045.51	70.91.11.882.0	70.91.24.754.0
	1207	S3-CMS5-CDJN L 35060-12-XA-KC-7-K4	798.24.045.52	70.91.11.882.0	70.91.24.804.0
		S3-CMS5-CDJN R 35060-12-XA-KC-7-K4	798.23.045.52	70.91.11.882.0	70.91.24.804.0
Standard *Standard* 	1507	S3-CMS5-CDJN L 35060-15-XA-KS-7-K4	798.24.048.12	70.91.11.834.0	70.91.24.805.0
		S3-CMS5-CDJN R 35060-15-XA-KS-7-K4	798.23.048.12	70.91.11.834.0	70.91.24.805.0

Spannelement Clamping Element

✦ 

60.09.11.004.0

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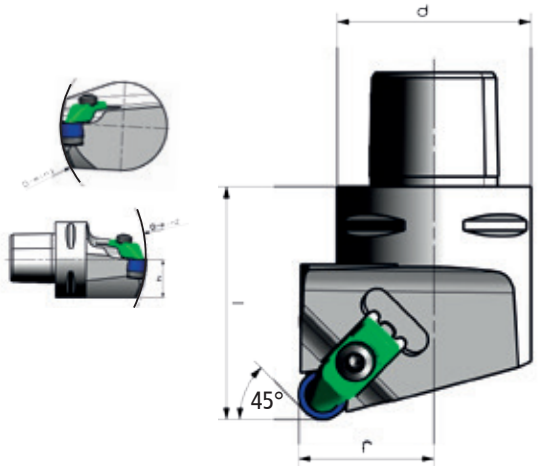
70.91.55.233.0

Stützplatte Shim

DNGX **12** .... - DO
70.91.55.698.0

DNGX **15** .... - DO
70.91.55.699.0

S3 - CMS 5 - CRSN



Schaft *Shank*	Abmessungen *Dimensions* (mm)					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	35	60	110	165

Schneidplattengröße *Insert size*	Anzugsmoment *Torgue*	Anzugsmoment *Torgue*	f, l, h - Maße Bezug Messplatte Radius *Dimensions f, l, h for master insert radius*
RNGX **12** .... - DO	**12** Nm	**4** Nm	RNGX **12** .... - DO
RNGX **15** .... - DO	**12** Nm	**5** Nm	RNGX **15** .... - DO

Spanwinkel *Rake angle* γ	- 6°
Neigungswinkel *Back rake angle* λ	- 6°

Spannelement *Clamping element*	SPK-Schneidplatte *SPK-Cutting insert* **RNGX .... - DO**	Bezeichnung *Type*	SPK-Best. Nr. *SPK-Ref. no.*	Ersatzteile · *Spare parts* ✦	✦ *
Standard *Standard*	1204	S3-CMS5-CRSN L 35060-12-SA-KS-4-K7	798.44.005.11	70.91.11.831.0	70.91.24.789.0
		S3-CMS5-CRSN R 35060-12-SA-KS-4-K7	798.43.005.11	70.91.11.831.0	70.91.24.789.0
	1207	S3-CMS5-CRSN L 35060-12-SA-KS-7-K4	798.44.005.12	70.91.11.831.0	70.91.24.790.0
		S3-CMS5-CRSN R 35060-12-SA-KS-7-K4	798.43.005.12	70.91.11.831.0	70.91.24.790.0
Hartmetall *Carbide*	1204	S3-CMS5-CRSN L 35060-12-SA-KC-4-K7	798.44.005.51	70.91.11.881.0	70.91.24.789.0
		S3-CMS5-CRSN R 35060-12-SA-KC-4-K7	798.43.005.51	70.91.11.881.0	70.91.24.789.0
	1207	S3-CMS5-CRSN L 35060-12-SA-KC-7-K4	798.44.005.52	70.91.11.881.0	70.91.24.790.0
		S3-CMS5-CRSN R 35060-12-SA-KC-7-K4	798.43.005.52	70.91.11.881.0	70.91.24.790.0
Standard *Standard*	1507	S3-CMS5-CRSN L 35060-15-SA-KS-7-S4	798.44.009.12	70.91.11.832.0	70.91.24.812.0
		S3-CMS5-CRSN R 35060-15-SA-KS-7-S4	798.43.009.12	70.91.11.832.0	70.91.24.812.0
Hartmetall *Carbide*	1507	S3-CMS5-CRSN L 35060-15-SA-KC-7-S4	798.44.009.52	70.91.11.882.0	70.91.24.812.0
		S3-CMS5-CRSN R 35060-15-SA-KC-7-S4	798.43.009.52	70.91.11.882.0	70.91.24.812.0

Spannelement Clamping Element

✦ SW4 — 60.09.11.004.0

* ASK SW4 — 70.91.55.233.0

Stützplatte Shim

IP15 — RNGX **12** .... - DO 70.91.55.699.0

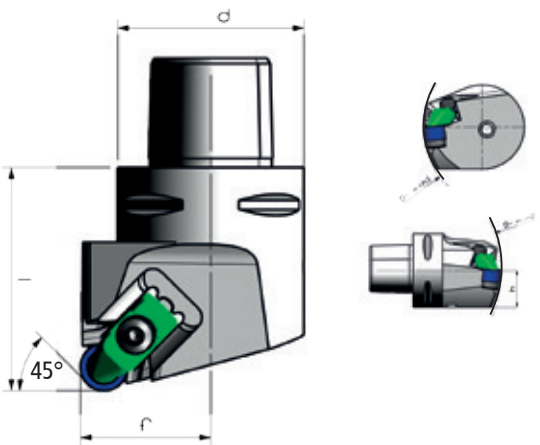
IP20 — RNGX **15** .... - DO 70.91.55.700.0

S3 - CMS 5 - CRSN

Schaft *Shank*	**Abmessungen** *Dimensions* **(mm)**					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	35	60	110	165

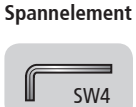
Schneid-plattengröße *Insert size*	**Anzugs-moment** *Torgue*	**Anzugs-moment** *Torgue*	**f, l, h - Maße Bezug Messplatte Radius** *Dimensions f, l, h for master insert radius*
RNGX **12** .... - DO	**12** Nm	**4** Nm	RNGX 12 .... - DO
RNGX **15** .... - DO	**12** Nm	**5** Nm	RNGX 15 .... - DO

Spanwinkel *Rake angle* γ	- 6°
Neigungswinkel *Back rake angle* λ	- 6°



Spannelement *Clamping element*	**SPK-Schneidplatte** *SPK-Cutting insert* **RNGX .... - DO**	**Bezeichnung** *Type*	**SPK-Best. Nr.** *SPK-Ref. no.*	**Ersatzteile** · *Spare parts* ✦ *	
Standard *Standard* 	1204	S3-CMS5-CRSN L 35060-12-SAM-KS-4-K7	798.44.006.11	70.91.11.831.0	70.91.24.789.0
		S3-CMS5-CRSN R 35060-12-SAM-KS-4-K7	798.43.006.11	70.91.11.831.0	70.91.24.789.0
	1207	S3-CMS5-CRSN L 35060-12-SAM-KS-7-K4	798.44.006.12	70.91.11.831.0	70.91.24.790.0
		S3-CMS5-CRSN R 35060-12-SAM-KS-7-K4	798.43.006.12	70.91.11.831.0	70.91.24.790.0
Hartmetall *Carbide* 	1204	S3-CMS5-CRSN L 35060-12-SAM-KC-4-K7	798.44.006.51	70.91.11.881.0	70.91.24.789.0
		S3-CMS5-CRSN R 35060-12-SAM-KC-4-K7	798.43.006.51	70.91.11.881.0	70.91.24.789.0
	1207	S3-CMS5-CRSN L 35060-12-SAM-KC-7-K4	798.44.006.52	70.91.11.881.0	70.91.24.790.0
		S3-CMS5-CRSN R 35060-12-SAM-KC-7-K4	798.43.006.52	70.91.11.881.0	70.91.24.790.0
Standard *Standard* 	1507	S3-CMS5-CRSN L 35060-15-SAM-KS-7-S4	798.44.010.12	70.91.11.832.0	70.91.24.812.0
		S3-CMS5-CRSN R 35060-15-SAM-KS-7-S4	798.43.010.12	70.91.11.832.0	70.91.24.812.0
Hartmetall *Carbide* 	1507	S3-CMS5-CRSN L 35060-15-SAM-KC-7-S4	798.44.010.52	70.91.11.882.0	70.91.24.812.0
		S3-CMS5-CRSN R 35060-15-SAM-KC-7-S4	798.43.010.52	70.91.11.882.0	70.91.24.812.0

Spannelement Clamping Element

✦ 

60.09.11.004.0

* 

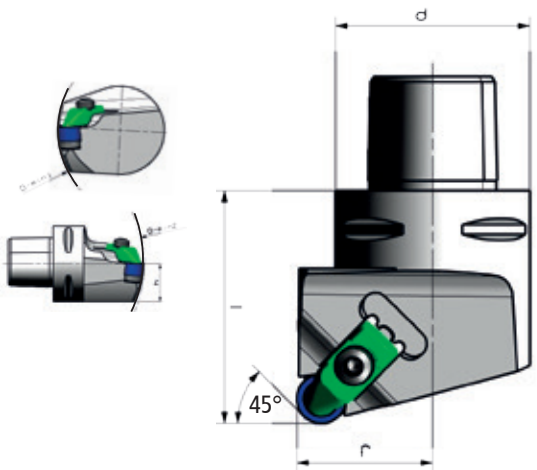
70.91.55.233.0

Stützplatte Shim

RNGX **12** .... - DO
70.91.55.699.0

RNGX **15** .... - DO
70.91.55.700.0

S3 - CMS 5 - CRSN



Schaft *Shank*	**Abmessungen** *Dimensions* **(mm)**					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	35	60	110	165

Schneid-plattengröße *Insert size*	**Anzugs-moment** *Torgue*	**Anzugs-moment** *Torgue*	**f, l, h - Maße Bezug Messplatte Radius** *Dimensions f, l, h for master insert radius*
RNGX **12** .... - DO	**12** Nm	**4** Nm	RNGX 12 .... - DO
RNGX **15** .... - DO	**12** Nm	**5** Nm	RNGX 15 .... - DO

Spanwinkel *Rake angle* γ	- 6°
Neigungswinkel *Back rake angle* λ	- 6°

Spannelement *Clamping element*	**SPK-Schneidplatte** *SPK-Cutting insert* **RNGX .... - DO**	**Bezeichnung** *Type*	**SPK-Best. Nr.** *SPK-Ref. no.*	**Ersatzteile** · *Spare parts* ✦	*
Standard *Standard* 	1204	S3-CMS5-CRSN L 35060-12-XA..-KS-4-K7	798.44.007.11	70.91.11.831.0	70.91.24.789.0
		S3-CMS5-CRSN R 35060-12-XA..-KS-4-K7	798.43.007.11	70.91.11.831.0	70.91.24.789.0
	1207	S3-CMS5-CRSN L 35060-12-XA..-KS-7-K4	798.44.007.12	70.91.11.831.0	70.91.24.790.0
		S3-CMS5-CRSN R 35060-12-XA..-KS-7-K4	798.43.007.12	70.91.11.831.0	70.91.24.790
Hartmetall *Carbide* 	1204	S3-CMS5-CRSN L 35060-12-XA..-KC-4-K7	798.44.007.51	70.91.11.881.0	70.91.24.789.0
		S3-CMS5-CRSN R 35060-12-XA..-KC-4-K7	798.43.007.51	70.91.11.881.0	70.91.24.789.0
	1207	S3-CMS5-CRSN L 35060-12-XA..-KC-7-K4	798.44.007.52	70.91.11.881.0	70.91.24.790.0
		S3-CMS5-CRSN R 35060-12-XA..-KC-7-K4	798.43.007.52	70.91.11.881.0	70.91.24.790.0
Standard *Standard* 	1507	S3-CMS5-CRSN L 35060-15-XA..-KS-7-S4	798.44.011.12	70.91.11.832.0	70.91.24.812.0
		S3-CMS5-CRSN R 35060-15-XA..-KS-7-S4	798.43.011.12	70.91.11.832.0	70.91.24.812.0
Hartmetall *Carbide* 	1507	S3-CMS5-CRSN L 35060-15-XA..-KC-7-S4	798.44.011.52	70.91.11.882.0	70.91.24.812.0
		S3-CMS5-CRSN R 35060-15-XA..-KC-7-S4	798.43.011.52	70.91.11.882.0	70.91.24.812.0

Spannelement Clamping Element

✦ 

60.09.11.004.0

* 

70.91.55.233.0

Stützplatte Shim

RNGX **12** .... - DO
70.91.55.699.0

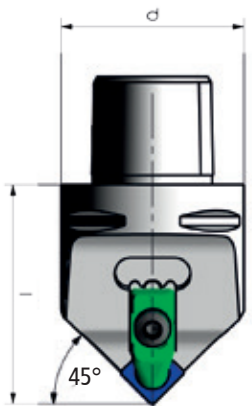
RNGX **15** .... - DO
70.91.55.700.0

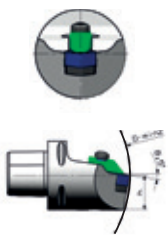
S3 - CMS 5 - CSDN

Schaft *Shank*	**Abmessungen** *Dimensions* **(mm)**					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	-	60	-	165

Schneid-plattengröße *Insert size*	**Anzugs-moment** *Torque*	**Anzugs-moment** *Torque*	**f, l, h - Maße Bezug Messplatte Radius** *Dimensions f, l, h for master insert radius*
SNGX **12** .... - DO	**12** Nm	**4** Nm	SNGX 12 .. **08** .. - DO
SNGX **15** .... - DO	**12** Nm	**5** Nm	SNGX 15 .. **12** .. - DO

Spanwinkel *Rake angle* γ	- 8,5°
Neigungswinkel *Back rake angle* λ	-





Spannelement *Clamping element*	**SPK-Schneidplatte** *SPK-Cutting insert* **SNGX .... - DO**	**Bezeichnung** *Type*	**SPK-Best. Nr.** *SPK-Ref. no.*	**Ersatzteile** · *Spare parts*	
				✦ *	
Standard *Standard* 	1204	S3-CMS5-CSDN N 00060-12-SA-KS-4-K7	798.06.007.11	70.91.11.831.0	70.91.24.780.0
	1207	S3-CMS5-CSDN N 00060-12-SA-KS-7-K4	798.06.007.12	70.91.11.831.0	70.91.24.781.0
Hartmetall *Carbide* 	1204	S3-CMS5-CSDN N 00060-12-SA-KC-4-K7	798.06.007.51	70.91.11.881.0	70.91.24.780.0
	1207	S3-CMS5-CSDN N 00060-12-SA-KC-7-K4	798.06.007.52	70.91.11.881.0	70.91.24.781.0
Standard *Standard* 	1507	S3-CMS5-CSDN N 00060-15-SA-KS-7-S4	798.06.006.12	70.91.11.832.0	70.91.24.723.0
Hartmetall *Carbide* 	1507	S3-CMS5-CSDN N 00060-15-SA-KC-7-S4	798.06.006.52	70.91.11.882.0	70.91.24.723.0

Spannelement Clamping Element

✦ 

60.09.11.004.0

* 

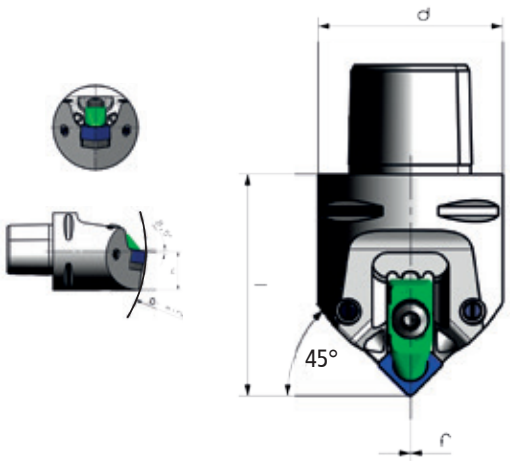
70.91.55.233.0

Stützplatte Shim

SNGX **12** .... - DO
70.91.55.699.0

SNGX **15** .... - DO
70.91.55.700.0

S3 - CMS 5 - CSDN



Schaft *Shank*	Abmessungen *Dimensions* (mm)					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	-	60	-	165

Schneid-plattengröße *Insert size*	Anzugs-moment *Torgue*	Anzugs-moment *Torgue*	f, l, h - Maße Bezug Messplatte Radius *Dimensions f, l, h for master insert radius*
SNGX **12** .... - DO	**12** Nm	**4** Nm	SNGX 12 .. **08** .. - DO
SNGX **15** .... - DO	**12** Nm	**5** Nm	SNGX 15 .. **12** .. - DO

Spanwinkel *Rake angle* γ	- 8,5°
Neigungswinkel *Back rake angle* λ	-

Spannelement *Clamping element*	SPK-Schneidplatte *SPK-Cutting insert* **SNGX .... - DO**	Bezeichnung *Type*	SPK-Best. Nr. *SPK-Ref. no.*	Ersatzteile · *Spare parts* ✦	*
Standard *Standard*	1204	S3-CMS5-CSDN N 00060-12-SAM-KS-4-K7	798.06.008.11	70.91.11.831.0	70.91.24.780.0
	1207	S3-CMS5-CSDN N 00060-12-SAM-KS-7-K4	798.06.008.12	70.91.11.831.0	70.91.24.781.0
Hartmetall *Carbide*	1204	S3-CMS5-CSDN N 00060-12-SAM-KC-4-K7	798.06.008.51	70.91.11.881.0	70.91.24.780.0
	1207	S3-CMS5-CSDN N 00060-12-SAM-KC-7-K4	798.06.008.52	70.91.11.881.0	70.91.24.781.0
Standard *Standard*	1507	S3-CMS5-CSDN N 00060-15-SAM-KS-7-S4	798.06.011.12	70.91.11.832.0	70.91.24.723.0
Hartmetall *Carbide*	1507	S3-CMS5-CSDN N 00060-15-SAM-KC-7-S4	798.06.011.52	70.91.11.882.0	70.91.24.723.0

Spannelement Clamping Element

✦ SW4 — 60.09.11.004.0

* ASK SW4 — 70.91.55.233.0

Stützplatte Shim

IP15 — SNGX **12** .... - DO 70.91.55.699.0

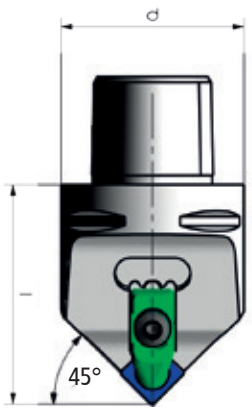
IP20 — SNGX **15** .... - DO 70.91.55.700.0

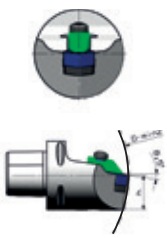
S3 - CMS 5 - CSDN

Schaft *Shank*	**Abmessungen** *Dimensions* **(mm)**					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	-	60	-	165

Schneid-plattengröße *Insert size*	**Anzugs-moment** *Torque*	**Anzugs-moment** *Torque*	**f, l, h - Maße Bezug Messplatte Radius** *Dimensions f, l, h for master insert radius*
SNGX **12** .... - DO	**12** Nm	**4** Nm	SNGX 12 .. **08** .. - DO
SNGX **15** .... - DO	**12** Nm	**5** Nm	SNGX 15 .. **12** .. - DO

Spanwinkel *Rake angle* γ	- 8,5°
Neigungswinkel *Back rake angle* λ	-





Spannelement *Clamping element*	**SPK-Schneidplatte** *SPK-Cutting insert* **SNGX .... - DO**	**Bezeichnung** *Type*	**SPK-Best. Nr.** *SPK-Ref. no.*	**Ersatzteile** · *Spare parts* ✦	*
Standard *Standard*	1204	S3-CMS5-CSDN N 00060-12-XA-KS-4-K7	798.06.009.11	70.91.11.831.0	70.91.24.780.0
	1207	S3-CMS5-CSDN N 00060-12-XA-KS-7-K4	798.06.009.12	70.91.11.831.0	70.91.24.781.0
Hartmetall *Carbide*	1204	S3-CMS5-CSDN N 00060-12-XA-KC-4-K7	798.06.009.51	70.91.11.881.0	70.91.24.780.0
	1207	S3-CMS5-CSDN N 00060-12-XA-KC-7-K4	798.06.009.52	70.91.11.881.0	70.91.24.781.0
Standard *Standard*	1507	S3-CMS5-CSDN N 00060-15-XA-KS-7-S4	798.06.012.12	70.91.11.832.0	70.91.24.723.0
Hartmetall *Carbide*	1507	S3-CMS5-CSDN N 00060-15-XA-KC-7-S4	798.06.012.52	70.91.11.882.0	70.91.24.723.0

Spannelement Clamping Element

✦ SW4 — 60.09.11.004.0

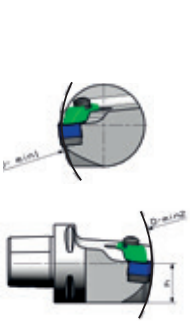
* ASK SW4 — 70.91.55.233.0

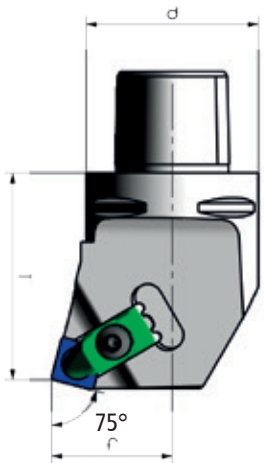
Stützplatte Shim

IP15 — SNGX **12** .... - DO 70.91.55.699.0

IP20 — SNGX **15** .... - DO 70.91.55.700.0

S3 - CMS 5 - CSKN





Schaft *Shank*	**Abmessungen** *Dimensions* **(mm)**					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	35	60	110	165

Schneid-plattengröße *Insert size*	**Anzugs-moment** *Torgue*	**Anzugs-moment** *Torgue*	**f, l, h - Maße Bezug Messplatte Radius** *Dimensions f, l, h for master insert radius*
SNGX **12** .... - DO	**12** Nm	**4** Nm	SNGX 12 .. **08** .. - DO
SNGX **15** .... - DO	**12** Nm	**5** Nm	SNGX 15 .. **12** .. - DO

Spanwinkel *Rake angle* γ	- 6°
Neigungswinkel *Back rake angle* λ	- 6°

Spannelement *Clamping element*	**SPK-Schneidplatte** *SPK-Cutting insert* **SNGX .... - DO**	**Bezeichnung** *Type*	**SPK-Best. Nr.** *SPK-Ref. no.*	**Ersatzteile** · *Spare parts* ✦	*
Standard *Standard*	1204	S3-CMS5-CSKN L 35060-12-SA-KS-4-K7	798.04.035.11	70.91.11.831.0	70.91.24.780.0
		S3-CMS5-CSKN R 35060-12-SA-KS-4-K7	798.03.035.11	70.91.11.831.0	70.91.24.780.0
	1207	S3-CMS5-CSKN L 35060-12-SA-KS-7-K4	798.04.035.12	70.91.11.831.0	70.91.24.781.0
		S3-CMS5-CSKN R 35060-12-SA-KS-7-K4	798.03.035.12	70.91.11.831.0	70.91.24.781.0
Hartmetall *Carbide*	1204	S3-CMS5-CSKN L 35060-12-SA-KC-4-K7	798.04.035.51	70.91.11.881.0	70.91.24.780.0
		S3-CMS5-CSKN R 35060-12-SA-KC-4-K7	798.03.035.51	70.91.11.881.0	70.91.24.780.0
	1207	S3-CMS5-CSKN L 35060-12-SA-KC-7-K4	798.04.035.52	70.91.11.881.0	70.91.24.781.0
		S3-CMS5-CSKN R 35060-12-SA-KC-7-K4	798.03.035.52	70.91.11.881.0	70.91.24.781.0
Standard *Standard*	1507	S3-CMS5-CSKN L 35060-15-SA-KS-7-S4	798.04.039.12	70.91.11.832.0	70.91.24.723.0
		S3-CMS5-CSKN R 35060-15-SA-KS-7-S4	798.03.039.12	70.91.11.832.0	70.91.24.723.0
Hartmetall *Carbide*	1507	S3-CMS5-CSKN L 35060-15-SA-KC-7-S4	798.04.039.52	70.91.11.882.0	70.91.24.723.0
		S3-CMS5-CSKN R 35060-15-SA-KC-7-S4	798.03.039.52	70.91.11.882.0	70.91.24.723.0

Spannelement Clamping Element

✦ SW4 — 60.09.11.004.0

* ASK SW4 — 70.91.55.233.0

Stützplatte Shim

IP15 — SNGX **12** .... - DO 70.91.55.699.0

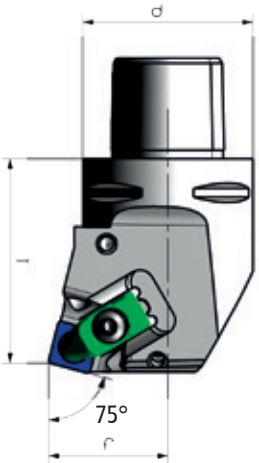
IP20 — SNGX **15** .... - DO 70.91.55.700.0

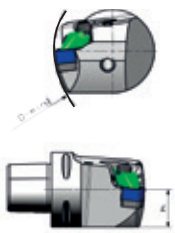
S3 - CMS 5 - CSKN

Schaft *Shank*	**Abmessungen** *Dimensions* **(mm)**					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	35	60	110	165

Schneid-plattengröße *Insert size*	**Anzugs-moment** *Torgue*	**Anzugs-moment** *Torgue*	**f, l, h - Maße Bezug Messplatte Radius** *Dimensions f, l, h for master insert radius*
SNGX **12** .... - DO	**12** Nm	**4** Nm	SNGX 12 .. **08** .. - DO
SNGX **15** .... - DO	**12** Nm	**5** Nm	SNGX 15 .. **12** .. - DO

Spanwinkel *Rake angle* γ	- 6°
Neigungswinkel *Back rake angle* λ	- 6°





Spannelement *Clamping element*	**SPK-Schneidplatte** *SPK-Cutting insert* **SNGX .... - DO**	**Bezeichnung** *Type*	**SPK-Best. Nr.** *SPK-Ref. no.*	**Ersatzteile** · *Spare parts* ✦ *	
Standard *Standard*	1204	S3-CMS5-CSKN L 35060-12-SAM-KS-4-K7	798.04.036.11	70.91.11.831.0	70.91.24.780.0
		S3-CMS5-CSKN R 35060-12-SAM-KS-4-K7	798.03.036.11	70.91.11.831.0	70.91.24.780.0
	1207	S3-CMS5-CSKN L 35060-12-SAM-KS-7-K4	798.04.036.12	70.91.11.831.0	70.91.24.781.0
		S3-CMS5-CSKN R 35060-12-SAM-KS-7-K4	798.03.036.12	70.91.11.831.0	70.91.24.781.0
Hartmetall *Carbide*	1204	S3-CMS5-CSKN L 35060-12-SAM-KC-4-K7	798.04.036.51	70.91.11.881.0	70.91.24.780.0
		S3-CMS5-CSKN R 35060-12-SAM-KC-4-K7	798.03.036.51	70.91.11.881.0	70.91.24.780.0
	1207	S3-CMS5-CSKN L 35060-12-SAM-KC-7-K4	798.04.036.52	70.91.11.881.0	70.91.24.781.0
		S3-CMS5-CSKN R 35060-12-SAM-KC-7-K4	798.03.036.52	70.91.11.881.0	70.91.24.781.0
Standard *Standard*	1507	S3-CMS5-CSKN L 35060-15-SAM-KS-7-S4	798.04.040.12	70.91.11.832.0	70.91.24.723.0
		S3-CMS5-CSKN R 35060-15-SAM-KS-7-S4	798.03.040.12	70.91.11.832.0	70.91.24.723.0
Hartmetall *Carbide*	1507	S3-CMS5-CSKN L 35060-15-SAM-KC-7-S4	798.04.040.52	70.91.11.882.0	70.91.24.723.0
		S3-CMS5-CSKN R 35060-15-SAM-KC-7-S4	798.03.040.52	70.91.11.882.0	70.91.24.723.0

Spannelement Clamping Element

✦ SW4 — 60.09.11.004.0

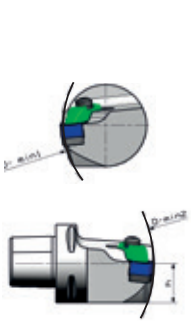
* ASK SW4 — 70.91.55.233.0

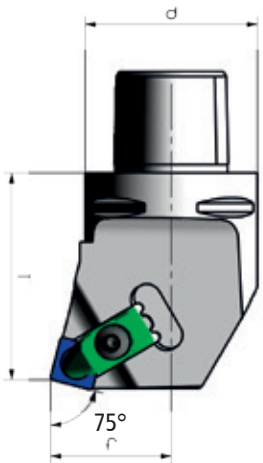
Stützplatte Shim

IP15 — SNGX **12** .... - DO 70.91.55.699.0

IP20 — SNGX **15** .... - DO 70.91.55.700.0

S3 - CMS 5 - CSKN





Schaft *Shank*	**Abmessungen** *Dimensions* **(mm)**					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	35	60	110	165

Schneid-plattengröße *Insert size*	**Anzugs-moment** *Torgue*	**Anzugs-moment** *Torgue*	**f, l, h - Maße Bezug Messplatte Radius** *Dimensions f, l, h for master insert radius*
SNGX **12** .... - DO	**12** Nm	**4** Nm	SNGX 12 .. **08** .. - DO
SNGX **15** .... - DO	**12** Nm	**5** Nm	SNGX 15 .. **12** .. - DO

Spanwinkel *Rake angle* γ	- 6°
Neigungswinkel *Back rake angle* λ	- 6°

Spannelement *Clamping element*	**SPK-Schneidplatte** *SPK-Cutting insert* **SNGX .... - DO**	**Bezeichnung** *Type*	**SPK-Best. Nr.** *SPK-Ref. no.*	**Ersatzteile** · *Spare parts* ✦	*
Standard *Standard*	1204	S3-CMS5-CSKN L 35060-12-XA-KS-4-K7	798.04.037.11	70.91.11.831.0	70.91.24.780.0
		S3-CMS5-CSKN R 35060-12-XA-KS-4-K7	798.03.037.11	70.91.11.831.0	70.91.24.780.0
	1207	S3-CMS5-CSKN L 35060-12-XA-KS-7-K4	798.04.037.12	70.91.11.831.0	70.91.24.781.0
		S3-CMS5-CSKN R 35060-12-XA-KS-7-K4	798.03.037.12	70.91.11.831.0	70.91.24.781.0
Hartmetall *Carbide*	1204	S3-CMS5-CSKN L 35060-12-XA-KC-4-K7	798.04.037.51	70.91.11.881.0	70.91.24.780.0
		S3-CMS5-CSKN R 35060-12-XA-KC-4-K7	798.03.037.51	70.91.11.881.0	70.91.24.780.0
	1207	S3-CMS5-CSKN L 35060-12-XA-KC-7-K4	798.04.037.52	70.91.11.881.0	70.91.24.781.0
		S3-CMS5-CSKN R 35060-12-XA-KC-7-K4	798.03.037.52	70.91.11.881.0	70.91.24.781.0
Standard *Standard*	1507	S3-CMS5-CSKN L 35060-15-XA-KS-7-S4	798.04.041.12	70.91.11.832.0	70.91.24.723.0
		S3-CMS5-CSKN R 35060-15-XA-KS-7-S4	798.03.041.12	70.91.11.832.0	70.91.24.723.0
Hartmetall *Carbide*	1507	S3-CMS5-CSKN L 35060-15-XA-KC-7-S4	798.04.041.52	70.91.11.882.0	70.91.24.723.0
		S3-CMS5-CSKN R 35060-15-XA-KC-7-S4	798.03.041.52	70.91.11.882.0	70.91.24.723.0

Spannelement Clamping Element

✦ SW4 — 60.09.11.004.0

* ASK SW4 — 70.91.55.233.0

Stützplatte Shim

IP15 — SNGX **12** .... - DO 70.91.55.699.0

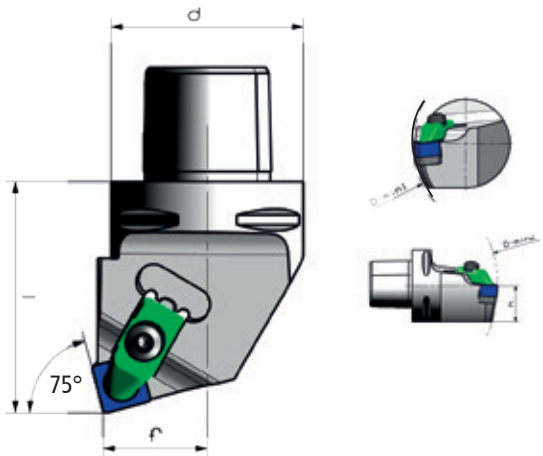
IP20 — SNGX **15** .... - DO 70.91.55.700.0

S3 - CMS 5 - CSRN

Schaft *Shank*	**Abmessungen** *Dimensions* **(mm)**					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	27	60	110	165

Schneid-plattengröße *Insert size*	**Anzugs-moment** *Torgue*	**Anzugs-moment** *Torgue*	**f, l, h - Maße Bezug Messplatte Radius** *Dimensions f, l, h for master insert radius*
SNGX **12** .... - DO	**12** Nm	**4** Nm	SNGX 12 .. **08** .. - DO
SNGX **15** .... - DO	**12** Nm	**5** Nm	SNGX 15 .. **12** .. - DO

Spanwinkel *Rake angle* γ	- 6°
Neigungswinkel *Back rake angle* λ	- 4°



Spannelement *Clamping element*	**SPK-Schneidplatte** *SPK-Cutting insert* **SNGX .... - DO**	**Bezeichnung** *Type*	**SPK-Best. Nr.** *SPK-Ref. no.*	**Ersatzteile** · *Spare parts* ✦	*
Standard *Standard* 	1204	S3-CMS5-CSRN L 27060-12-SA-KS-4-K7	798.04.015.11	70.91.11.831.0	70.91.24.780.0
		S3-CMS5-CSRN R 27060-12-SA-KS-4-K7	798.03.015.11	70.91.11.831.0	70.91.24.780.0
	1207	S3-CMS5-CSRN L 27060-12-SA-KS-7-K4	798.04.015.12	70.91.11.831.0	70.91.24.781.0
		S3-CMS5-CSRN R 27060-12-SA-KS-7-K4	798.03.015.12	70.91.11.831.0	70.91.24.781.0
Hartmetall *Carbide* 	1204	S3-CMS5-CSRN L 27060-12-SA-KC-4-K7	798.04.015.51	70.91.11.881.0	70.91.24.780.0
		S3-CMS5-CSRN R 27060-12-SA-KC-4-K7	798.03.015.51	70.91.11.881.0	70.91.24.780.0
	1207	S3-CMS5-CSRN L 27060-12-SA-KC-7-K4	798.04.015.52	70.91.11.881.0	70.91.24.781.0
		S3-CMS5-CSRN R 27060-12-SA-KC-7-K4	798.03.015.52	70.91.11.881.0	70.91.24.781.0
Standard *Standard* 	1507	S3-CMS5-CSRN L 27060-15-SA-KS-7-S4	798.04.019.12	70.91.11.832.0	70.91.24.723.0
		S3-CMS5-CSRN R 27060-15-SA-KS-7-S4	798.03.019.12	70.91.11.832.0	70.91.24.723.0
Hartmetall *Carbide* 	1507	S3-CMS5-CSRN L 27060-15-SA-KC-7-S4	798.04.019.52	70.91.11.882.0	70.91.24.723.0
		S3-CMS5-CSRN R 27060-15-SA-KC-7-S4	798.03.019.52	70.91.11.882.0	70.91.24.723.0

Spannelement Clamping Element

✦ 

60.09.11.004.0

* 

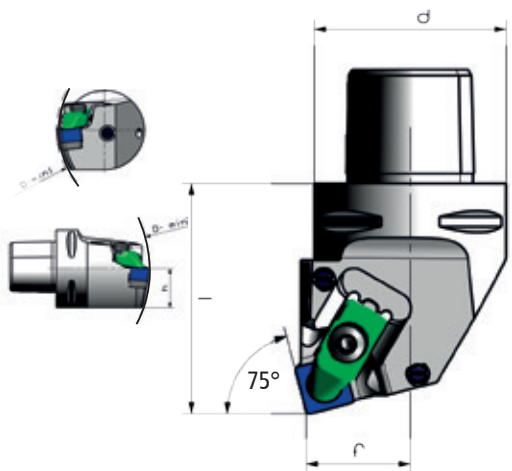
70.91.55.233.0

Stützplatte Shim

SNGX **12** .... - DO
70.91.55.699.0

SNGX **15** .... - DO
70.91.55.700.0

S3 - CMS 5 - CSRN



Schaft *Shank*	Abmessungen *Dimensions* (mm)					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	27	60	110	165

Schneid-plattengröße *Insert size*	Anzugs-moment *Torgue*	Anzugs-moment *Torgue*	f, l, h - Maße Bezug Messplatte Radius *Dimensions f, l, h for master insert radius*
SNGX **12** .... - DO	**12** Nm	**4** Nm	SNGX 12 .. **08** .. - DO
SNGX **15** .... - DO	**12** Nm	**5** Nm	SNGX 15 .. **12** .. - DO

Spanwinkel *Rake angle* γ	- 6°
Neigungswinkel *Back rake angle* λ	- 4°

Spannelement *Clamping element*	**SPK-Schneidplatte** *SPK-Cutting insert* **SNGX .... - DO**	**Bezeichnung** *Type*	**SPK-Best. Nr.** *SPK-Ref. no.*	**Ersatzteile** · *Spare parts* ✦	*
Standard *Standard*	1204	S3-CMS5-CSRN L 27060-12-SAM-KS-4-K7	798.04.016.11	70.91.11.831.0	70.91.24.780.0
		S3-CMS5-CSRN R 27060-12-SAM-KS-4-K7	798.03.016.11	70.91.11.831.0	70.91.24.780.0
	1207	S3-CMS5-CSRN L 27060-12-SAM-KS-7-K4	798.04.016.12	70.91.11.831.0	70.91.24.781.0
		S3-CMS5-CSRN R 27060-12-SAM-KS-7-K4	798.03.016.12	70.91.11.831.0	70.91.24.781.0
Hartmetall *Carbide*	1204	S3-CMS5-CSRN L 27060-12-SAM-KC-4-K7	798.04.016.51	70.91.11.881.0	70.91.24.780.0
		S3-CMS5-CSRN R 27060-12-SAM-KC-4-K7	798.03.016.51	70.91.11.881.0	70.91.24.780.0
	1207	S3-CMS5-CSRN L 27060-12-SAM-KC-7-K4	798.04.016.52	70.91.11.881.0	70.91.24.781.0
		S3-CMS5-CSRN R 27060-12-SAM-KC-7-K4	798.03.016.52	70.91.11.881.0	70.91.24.781.0
Standard *Standard*	1507	S3-CMS5-CSRN L 27060-15-SAM-KS-7-S4	798.04.020.12	70.91.11.832.0	70.91.24.723.0
		S3-CMS5-CSRN R 27060-15-SAM-KS-7-S4	798.03.020.12	70.91.11.832.0	70.91.24.723.0
Hartmetall *Carbide*	1507	S3-CMS5-CSRN L 27060-15-SAM-KC-7-S4	798.04.020.52	70.91.11.882.0	70.91.24.723.0
		S3-CMS5-CSRN R 27060-15-SAM-KC-7-S4	798.03.020.52	70.91.11.882.0	70.91.24.723.0

Spannelement Clamping Element

✦ SW4 — 60.09.11.004.0

* ASK SW4 — 70.91.55.233.0

Stützplatte Shim

IP15 — SNGX **12** .... - DO 70.91.55.699.0

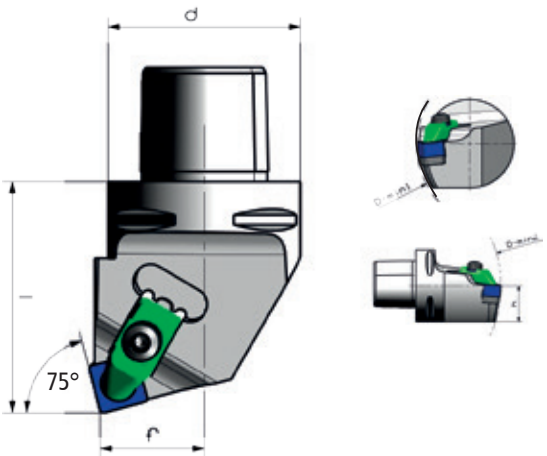
IP20 — SNGX **15** .... - DO 70.91.55.700.0

S3 - CMS 5 - CSRN

Schaft *Shank*	**Abmessungen** *Dimensions* **(mm)**					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	27	60	110	165

Schneid-plattengröße *Insert size*	**Anzugs-moment** *Torque*	**Anzugs-moment** *Torque*	**f, l, h - Maße Bezug Messplatte Radius** *Dimensions f, l, h for master insert radius*
SNGX **12** .... - DO	**12** Nm	**4** Nm	SNGX 12 .. **08** .. - DO
SNGX **15** .... - DO	**12** Nm	**5** Nm	SNGX 15 .. **12** .. - DO

Spanwinkel *Rake angle* γ	- 6°
Neigungswinkel *Back rake angle* λ	- 4°



Spannelement *Clamping element*	**SPK-Schneidplatte** *SPK-Cutting insert* **SNGX .... - DO**	**Bezeichnung** *Type*	**SPK-Best. Nr.** *SPK-Ref. no.*	**Ersatzteile** · *Spare parts* ✦ *	
Standard *Standard*	1204	S3-CMS5-CSRN L 27060-12-XA-KS-4-K7	798.04.017.11	70.91.11.831.0	70.91.24.780.0
		S3-CMS5-CSRN R 27060-12-XA-KS-4-K7	798.03.017.11	70.91.11.831.0	70.91.24.780.0
	1207	S3-CMS5-CSRN L 27060-12-XA-KS-7-K4	798.04.017.12	70.91.11.831.0	70.91.24.781.0
		S3-CMS5-CSRN R 27060-12-XA-KS-7-K4	798.03.017.12	70.91.11.831.0	70.91.24.781.0
Hartmetall *Carbide*	1204	S3-CMS5-CSRN L 27060-12-XA-KC-4-K7	798.04.017.51	70.91.11.881.0	70.91.24.780.0
		S3-CMS5-CSRN R 27060-12-XA-KC-4-K7	798.03.017.51	70.91.11.881.0	70.91.24.780.0
	1207	S3-CMS5-CSRN L 27060-12-XA-KC-7-K4	798.04.017.52	70.91.11.881.0	70.91.24.781.0
		S3-CMS5-CSRN R 27060-12-XA-KC-7-K4	798.03.017.52	70.91.11.881.0	70.91.24.781.0
Standard *Standard*	1507	S3-CMS5-CSRN L 27060-15-XA-KS-7-S4	798.04.021.12	70.91.11.832.0	70.91.24.723.0
		S3-CMS5-CSRN R 27060-15-XA-KS-7-S4	798.03.021.12	70.91.11.832.0	70.91.24.723.0
Hartmetall *Carbide*	1507	S3-CMS5-CSRN L 27060-15-XA-KC-7-S4	798.04.021.52	70.91.11.882.0	70.91.24.723.0
		S3-CMS5-CSRN R 27060-15-XA-KC-7-S4	798.03.021.52	70.91.11.882.0	70.91.24.723.0

Spannelement Clamping Element

✦ SW4 — 60.09.11.004.0

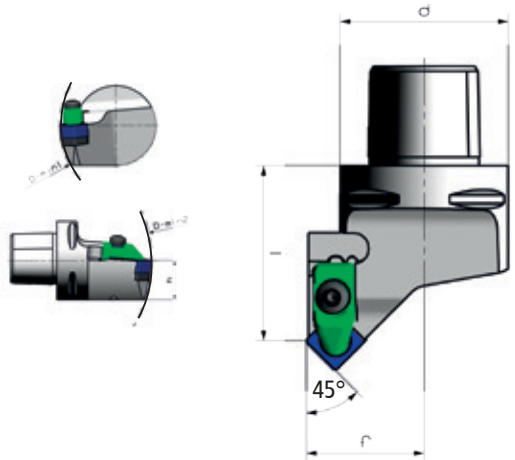
* ASK SW4 — 70.91.55.233.0

Stützplatte Shim

IP15 — SNGX **12** .... - DO 70.91.55.699.0

IP20 — SNGX **15** .... - DO 70.91.55.700.0

S3 - CMS 5 - CSSN



Schaft *Shank*	**Abmessungen** *Dimensions* **(mm)**					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	35	52	110	165

Schneid-plattengröße *Insert size*	**Anzugs-moment** *Torgue*	**Anzugs-moment** *Torgue*	**f, l, h - Maße Bezug Messplatte Radius** *Dimensions f, l, h for master insert radius*
SNGX **12** .... - DO	**12** Nm	**4** Nm	SNGX 12 .. **08** .. - DO
SNGX **15** .... - DO	**12** Nm	**5** Nm	SNGX 15 .. **12** .. - DO

Spanwinkel *Rake angle* γ	- 6°
Neigungswinkel *Back rake angle* λ	- 0°

Spannelement *Clamping element*	**SPK-Schneidplatte** *SPK-Cutting insert* **SNGX .... - DO**	**Bezeichnung** *Type*	**SPK-Best. Nr.** *SPK-Ref. no.*	**Ersatzteile** · *Spare parts* ✦	*
Standard *Standard*	1204	S3-CMS5-CSSN L 35052-12-SA-KS-4-K7	798.04.005.11	70.91.11.831.0	70.91.24.780.0
		S3-CMS5-CSSN R 35052-12-SA-KS-4-K7	798.03.005.11	70.91.11.831.0	70.91.24.780.0
	1207	S3-CMS5-CSSN L 35052-12-SA-KS-7-K4	798.04.005.12	70.91.11.831.0	70.91.24.781.0
		S3-CMS5-CSSN R 35052-12-SA-KS-7-K4	798.03.005.12	70.91.11.831.0	70.91.24.781.0
Hartmetall *Carbide*	1204	S3-CMS5-CSSN L 35052-12-SA-KC-4-K7	798.04.005.51	70.91.11.881.0	70.91.24.780.0
		S3-CMS5-CSSN R 35052-12-SA-KC-4-K7	798.03.005.51	70.91.11.881.0	70.91.24.780.0
	1207	S3-CMS5-CSSN L 35052-12-SA-KC-7-K4	798.04.005.52	70.91.11.881.0	70.91.24.781.0
		S3-CMS5-CSSN R 35052-12-SA-KC-7-K4	798.03.005.52	70.91.11.881.0	70.91.24.781.0
Standard *Standard*	1507	S3-CMS5-CSSN L 35052-15-SA-KS-7-S4	798.04.006.12	70.91.11.832.0	70.91.24.723.0
		S3-CMS5-CSSN R 35052-15-SA-KS-7-S4	798.03.006.12	70.91.11.832.0	70.91.24.723.0
Hartmetall *Carbide*	1507	S3-CMS5-CSSN L 35052-15-SA-KC-7-S4	798.04.006.52	70.91.11.882.0	70.91.24.723.0
		S3-CMS5-CSSN R 35052-15-SA-KC-7-S4	798.03.006.52	70.91.11.882.0	70.91.24.723.0

Spannelement Clamping Element

✦ SW4 — 60.09.11.004.0

* ASK SW4 — 70.91.55.233.0

Stützplatte Shim

IP15 — SNGX **12** .... - DO 70.91.55.699.0

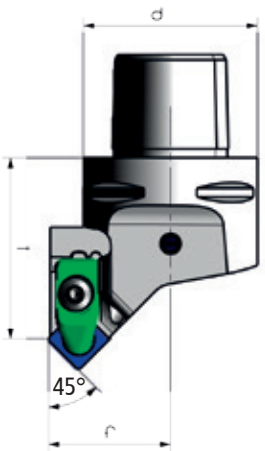
IP20 — SNGX **15** .... - DO 70.91.55.700.0

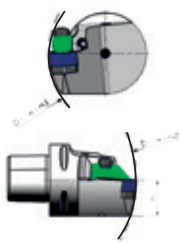
S3 - CMS 5 - CSSN

Schaft *Shank*	**Abmessungen** *Dimensions* **(mm)**					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	35	52	110	165

Schneid-plattengröße *Insert size*	**Anzugs-moment** *Torgue* 	**Anzugs-moment** *Torgue* 	**f, l, h - Maße Bezug Messplatte Radius** *Dimensions f, l, h for master insert radius*
SNGX **12** .... - DO	**12** Nm	**4** Nm	SNGX 12 .. **08** .. - DO
SNGX **15** .... - DO	**12** Nm	**5** Nm	SNGX 15 .. **12** .. - DO

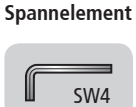
Spanwinkel *Rake angle* γ	- 6°
Neigungswinkel *Back rake angle* λ	0°





Spannelement *Clamping element*	**SPK-Schneidplatte** *SPK-Cutting insert* **SNGX .... - DO**	**Bezeichnung** *Type*	**SPK-Best. Nr.** *SPK-Ref. no.*	**Ersatzteile** · *Spare parts*  *	
Standard *Standard* 	1204	S3-CMS5-CSSN L 35052-12-SAM-KS-4-K7	798.04.007.11	70.91.11.831.0	70.91.24.780.0
		S3-CMS5-CSSN R 35052-12-SAM-KS-4-K7	798.03.007.11	70.91.11.831.0	70.91.24.780.0
	1207	S3-CMS5-CSSN L 35052-12-SAM-KS-7-K4	798.04.007.12	70.91.11.831.0	70.91.24.781.0
		S3-CMS5-CSSN R 35052-12-SAM-KS-7-K4	798.03.007.12	70.91.11.831.0	70.91.24.781.0
Hartmetall *Carbide* 	1204	S3-CMS5-CSSN L 35052-12-SAM-KC-4-K7	798.04.007.51	70.91.11.881.0	70.91.24.780.0
		S3-CMS5-CSSN R 35052-12-SAM-KC-4-K7	798.03.007.51	70.91.11.881.0	70.91.24.780.0
	1207	S3-CMS5-CSSN L 35052-12-SAM-KC-7-K4	798.04.007.52	70.91.11.881.0	70.91.24.781.0
		S3-CMS5-CSSN R 35052-12-SAM-KC-7-K4	798.03.007.52	70.91.11.881.0	70.91.24.781.0
Standard *Standard* 	1507	S3-CMS5-CSSN L 35052-15-SAM-KS-7-S4	798.04.010.12	70.91.11.832.0	70.91.24.723.0
		S3-CMS5-CSSN R 35052-15-SAM-KS-7-S4	798.03.010.12	70.91.11.832.0	70.91.24.723.0
Hartmetall *Carbide* 	1507	S3-CMS5-CSSN L 35052-15-SAM-KC-7-S4	798.04.010.52	70.91.11.882.0	70.91.24.723.0
		S3-CMS5-CSSN R 35052-15-SAM-KC-7-S4	798.03.010.52	70.91.11.882.0	70.91.24.723.0

Spannelement Clamping Element

✦ 

60.09.11.004.0

* 

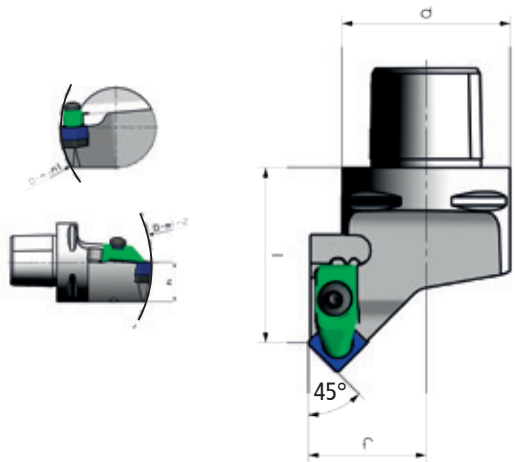
70.91.55.233.0

Stützplatte Shim

SNGX **12** .... - DO
70.91.55.699.0

SNGX **15** .... - DO
70.91.55.700.0

S3 - CMS 5 - CSSN



Schaft *Shank*	**Abmessungen** *Dimensions* **(mm)**					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	35	52	110	165

Schneid-plattengröße *Insert size*	**Anzugs-moment** *Torgue*	**Anzugs-moment** *Torgue*	**f, l, h - Maße Bezug Messplatte Radius** *Dimensions f, l, h for master insert radius*
SNGX **12** .... - DO	**12** Nm	**4** Nm	SNGX 12 .. **08** .. - DO
SNGX **15** .... - DO	**12** Nm	**5** Nm	SNGX 15 .. **12** .. - DO

Spanwinkel *Rake angle* γ	- 6°
Neigungswinkel *Back rake angle* λ	0°

Spannelement *Clamping element*	**SPK-Schneidplatte** *SPK-Cutting insert* **SNGX .... - DO**	**Bezeichnung** *Type*	**SPK-Best. Nr.** *SPK-Ref. no.*	**Ersatzteile** · *Spare parts* ✦	*
Standard *Standard*	1204	S3-CMS5-CSSN L 35052-12-XA-KS-4-K7	798.04.008.11	70.91.11.831.0	70.91.24.780.0
		S3-CMS5-CSSN R 35052-12-XA-KS-4-K7	798.03.008.11	70.91.11.831.0	70.91.24.780.0
	1207	S3-CMS5-CSSN L 35052-12-XA-KS-7-K4	798.04.008.12	70.91.11.831.0	70.91.24.781.0
		S3-CMS5-CSSN R 35052-12-XA-KS-7-K4	798.03.008.12	70.91.11.831.0	70.91.24.781.0
Hartmetall *Carbide*	1204	S3-CMS5-CSSN L 35052-12-XA-KC-4-K7	798.04.008.51	70.91.11.881.0	70.91.24.780.0
		S3-CMS5-CSSN R 35052-12-XA-KC-4-K7	798.03.008.51	70.91.11.881.0	70.91.24.780.0
	1207	S3-CMS5-CSSN L 35052-12-XA-KC-7-K4	798.04.008.52	70.91.11.881.0	70.91.24.781.0
		S3-CMS5-CSSN R 35052-12-XA-KC-7-K4	798.03.008.52	70.91.11.881.0	70.91.24.781.0
Standard *Standard*	1507	S3-CMS5-CSSN L 35052-15-XA-KS-7-S4	798.04.011.12	70.91.11.832.0	70.91.24.723.0
		S3-CMS5-CSSN R 35052-15-XA-KS-7-S4	798.03.011.12	70.91.11.832.0	70.91.24.723.0
Hartmetall *Carbide*	1507	S3-CMS5-CSSN L 35052-15-XA-KC-7-S4	798.04.011.52	70.91.11.882.0	70.91.24.723.0
		S3-CMS5-CSSN R 35052-15-XA-KC-7-S4	798.03.011.52	70.91.11.882.0	70.91.24.723.0

Spannelement Clamping Element

✦ SW4 — 60.09.11.004.0

* ASK SW4 — 70.91.55.233.0

Stützplatte Shim

IP15 — SNGX **12** .... - DO 70.91.55.699.0

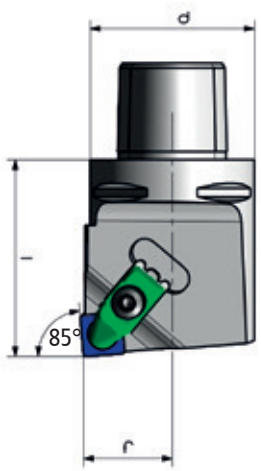
IP20 — SNGX **15** .... - DO 70.91.55.700.0

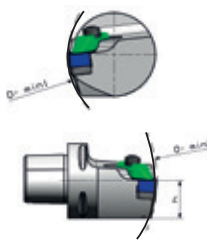
S3 - CMS 5 - CSXN

Schaft *Shank*	**Abmessungen** *Dimensions* **(mm)**					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	27	60	110	165

Schneid-plattengröße *Insert size*	**Anzugs-moment** *Torgue*	**Anzugs-moment** *Torgue*	**f, l, h - Maße Bezug Messplatte Radius** *Dimensions f, l, h for master insert radius*
SNGX **12** .... - DO	**12** Nm	**4** Nm	SNGX 12 .. **08** .. - DO
SNGX **15** .... - DO	**12** Nm	**5** Nm	SNGX 15 .. **12** .. - DO

Spanwinkel *Rake angle* γ	- 6°
Neigungswinkel *Back rake angle* λ	- 4°





Spannelement *Clamping element*	**SPK-Schneidplatte** *SPK-Cutting insert* **SNGX .... - DO**	**Bezeichnung** *Type*	**SPK-Best. Nr.** *SPK-Ref. no.*	**Ersatzteile** · *Spare parts* ✦	*
Standard *Standard*	1204	S3-CMS5-CSXN L 27060-12-SA-KS-4-K7	798.04.025.11	70.91.11.831.0	70.91.24.780.0
		S3-CMS5-CSXN R 27060-12-SA-KS-4-K7	798.03.025.11	70.91.11.831.0	70.91.24.780.0
	1207	S3-CMS5-CSXN L 27060-12-SA-KS-7-K4	798.04.025.12	70.91.11.831.0	70.91.24.781.0
		S3-CMS5-CSXN R 27060-12-SA-KS-7-K4	798.03.025.12	70.91.11.831.0	70.91.24.781.0
Hartmetall *Carbide*	1204	S3-CMS5-CSXN L 27060-12-SA-KC-4-K7	798.04.025.51	70.91.11.881.0	70.91.24.780.0
		S3-CMS5-CSXN R 27060-12-SA-KC-4-K7	798.03.025.51	70.91.11.881.0	70.91.24.780.0
	1207	S3-CMS5-CSXN L 27060-12-SA-KC-7-K4	798.04.025.52	70.91.11.881.0	70.91.24.781.0
		S3-CMS5-CSXN R 27060-12-SA-KC-7-K4	798.03.025.52	70.91.11.881.0	70.91.24.781.0
Standard *Standard*	1507	S3-CMS5-CSXN L 27060-15-SA-KS-7-S4	798.04.029.12	70.91.11.832.0	70.91.24.723.0
		S3-CMS5-CSXN R 27060-15-SA-KS-7-S4	798.03.029.12	70.91.11.832.0	70.91.24.723.0
Hartmetall *Carbide*	1507	S3-CMS5-CSXN L 27060-15-SA-KC-7-S4	798.04.029.52	70.91.11.882.0	70.91.24.723.0
		S3-CMS5-CSXN R 27060-15-SA-KC-7-S4	798.03.029.52	70.91.11.882.0	70.91.24.723.0

Spannelement Clamping Element

✦ SW4 — 60.09.11.004.0

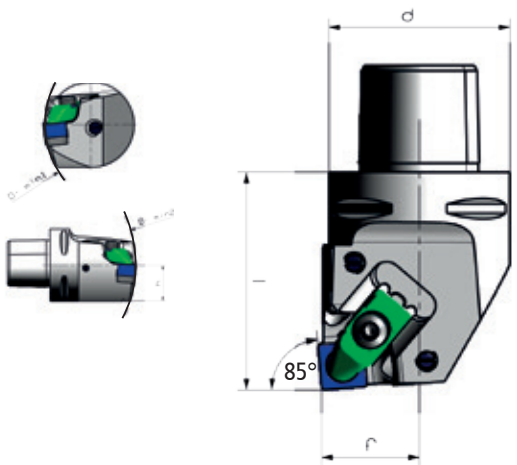
* ASK SW4 — 70.91.55.233.0

Stützplatte Shim

IP15 — SNGX **12** .... - DO 70.91.55.699.0

IP20 — SNGX **15** .... - DO 70.91.55.700.0

S3 - CMS 5 - CSXN



Schaft *Shank*	Abmessungen *Dimensions* (mm)					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	27	60	110	165

Schneidplattengröße *Insert size*	Anzugsmoment *Torgue*	Anzugsmoment *Torgue*	f, l, h - Maße Bezug Messplatte Radius *Dimensions f, l, h for master insert radius*
SNGX **12** .... - DO	**12** Nm	**4** Nm	SNGX 12 .. **08** .. - DO
SNGX **15** .... - DO	**12** Nm	**5** Nm	SNGX 15 .. **12** .. - DO

Spanwinkel *Rake angle* γ	- 6°
Neigungswinkel *Back rake angle* λ	- 4°

Spannelement *Clamping element*	SPK-Schneidplatte *SPK-Cutting insert* **SNGX .... - DO**	Bezeichnung *Type*	SPK-Best. Nr. *SPK-Ref. no.*	Ersatzteile · *Spare parts* ✦	*
Standard *Standard*	1204	S3-CMS5-CSXN L 27060-12-SAM-KS-4-K7	798.04.026.11	70.91.11.831.0	70.91.24.780.0
		S3-CMS5-CSXN R 27060-12-SAM-KS-4-K7	798.03.026.11	70.91.11.831.0	70.91.24.780.0
	1207	S3-CMS5-CSXN L 27060-12-SAM-KS-7-K4	798.04.026.12	70.91.11.831.0	70.91.24.781.0
		S3-CMS5-CSXN R 27060-12-SAM-KS-7-K4	798.03.026.12	70.91.11.831.0	70.91.24.781.0
Hartmetall *Carbide*	1204	S3-CMS5-CSXN L 27060-12-SAM-KC-4-K7	798.04.026.51	70.91.11.881.0	70.91.24.780.0
		S3-CMS5-CSXN R 27060-12-SAM-KC-4-K7	798.03.026.51	70.91.11.881.0	70.91.24.780.0
	1207	S3-CMS5-CSXN L 27060-12-SAM-KC-7-K4	798.04.026.52	70.91.11.881.0	70.91.24.781.0
		S3-CMS5-CSXN R 27060-12-SAM-KC-7-K4	798.03.026.52	70.91.11.881.0	70.91.24.781.0
Standard *Standard*	1507	S3-CMS5-CSXN L 27060-15-SAM-KS-7-S4	798.04.030.12	70.91.11.832.0	70.91.24.723.0
		S3-CMS5-CSXN R 27060-15-SAM-KS-7-S4	798.03.030.12	70.91.11.832.0	70.91.24.723.0
Hartmetall *Carbide*	1507	S3-CMS5-CSXN L 27060-15-SAM-KC-7-S4	798.04.030.52	70.91.11.882.0	70.91.24.723.0
		S3-CMS5-CSXN R 27060-15-SAM-KC-7-S4	798.03.030.52	70.91.11.882.0	70.91.24.723.0

Spannelement Clamping Element

✦ SW4 — 60.09.11.004.0

* ASK SW4 — 70.91.55.233.0

Stützplatte Shim

IP15 — SNGX **12** .... - DO 70.91.55.699.0

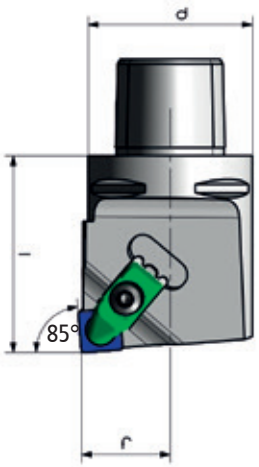
IP20 — SNGX **15** .... - DO 70.91.55.700.0

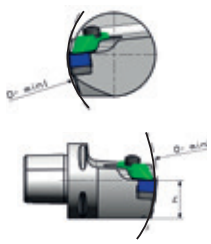
S3 - CMS 5 - CSXN

Schaft *Shank*	**Abmessungen** *Dimensions* **(mm)**					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	27	60	110	165

Schneid-plattengröße *Insert size*	**Anzugs-moment** *Torque*	**Anzugs-moment** *Torque*	**f, l, h - Maße Bezug Messplatte Radius** *Dimensions f, l, h for master insert radius*
SNGX **12** .... - DO	**12** Nm	**4** Nm	SNGX 12 .. **08** .. - DO
SNGX **15** .... - DO	**12** Nm	**5** Nm	SNGX 15 .. **12** .. - DO

Spanwinkel *Rake angle* γ	- 6°
Neigungswinkel *Back rake angle* λ	- 4°





Spannelement *Clamping element*	**SPK-Schneidplatte** *SPK-Cutting insert* **SNGX .... - DO**	**Bezeichnung** *Type*	**SPK-Best. Nr.** *SPK-Ref. no.*	**Ersatzteile** · *Spare parts*	
				✦ *	
Standard *Standard*	1204	S3-CMS5-CSXN L 27060-12-XA-KS-4-K7	798.04.027.11	70.91.11.831.0	70.91.24.780.0
		S3-CMS5-CSXN R 27060-12-XA-KS-4-K7	798.03.027.11	70.91.11.831.0	70.91.24.780.0
	1207	S3-CMS5-CSXN L 27060-12-XA-KS-7-K4	798.04.027.12	70.91.11.831.0	70.91.24.781.0
		S3-CMS5-CSXN R 27060-12-XA-KS-7-K4	798.03.027.12	70.91.11.831.0	70.91.24.781.0
Hartmetall *Carbide*	1204	S3-CMS5-CSXN L 27060-12-XA-KC-4-K7	798.04.027.51	70.91.11.881.0	70.91.24.780.0
		S3-CMS5-CSXN R 27060-12-XA-KC-4-K7	798.03.027.51	70.91.11.881.0	70.91.24.780.0
	1207	S3-CMS5-CSXN L 27060-12-XA-KC-7-K4	798.04.027.52	70.91.11.881.0	70.91.24.781.0
		S3-CMS5-CSXN R 27060-12-XA-KC-7-K4	798.03.027.52	70.91.11.881.0	70.91.24.781.0
Standard *Standard*	1507	S3-CMS5-CSXN L 27060-15-XA-KS-7-S4	798.04.031.12	70.91.11.832.0	70.91.24.723.0
		S3-CMS5-CSXN R 27060-15-XA-KS-7-S4	798.03.031.12	70.91.11.832.0	70.91.24.723.0
Hartmetall *Carbide*	1507	S3-CMS5-CSXN L 27060-15-XA-KC-7-S4	798.04.031.52	70.91.11.882.0	70.91.24.723.0
		S3-CMS5-CSXN R 27060-15-XA-KC-7-S4	798.03.031.52	70.91.11.882.0	70.91.24.723.0

Spannelement Clamping Element

✦ SW4 — 60.09.11.004.0

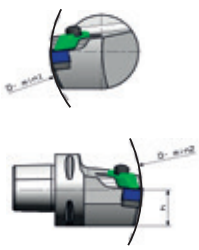
* ASK SW4 — 70.91.55.233.0

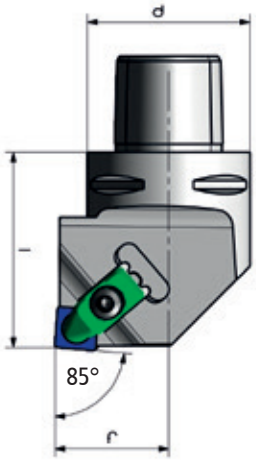
Stützplatte Shim

IP15 — SNGX **12** .... - DO 70.91.55.699.0

IP20 — SNGX **15** .... - DO 70.91.55.700.0

S3 - CMS 5 - CSYN





Schaft *Shank*	Abmessungen *Dimensions* (mm)					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	35	60	110	165

Schneidplattengröße *Insert size*	Anzugsmoment *Torgue*	Anzugsmoment *Torgue*	f, l, h - Maße Bezug Messplatte Radius *Dimensions f, l, h for master insert radius*
SNGX **12** .... - DO	**12** Nm	**4** Nm	SNGX 12 .. **08** .. - DO
SNGX **15** .... - DO	**12** Nm	**5** Nm	SNGX 15 .. **12** .. - DO

Spanwinkel *Rake angle* γ	- 6°
Neigungswinkel *Back rake angle* λ	- 6°

Spannelement *Clamping element*	SPK-Schneidplatte *SPK-Cutting insert* **SNGX .... - DO**	Bezeichnung *Type*	SPK-Best. Nr. *SPK-Ref. no.*	Ersatzteile · *Spare parts* ✦	Ersatzteile · *Spare parts* *
Standard *Standard*	1204	S3-CMS5-CSYN L 35060-12-SA-KS-4-K7	798.04.053.11	70.91.11.831.0	70.91.24.780.0
		S3-CMS5-CSYN R 35060-12-SA-KS-4-K7	798.03.053.11	70.91.11.831.0	70.91.24.780.0
	1207	S3-CMS5-CSYN L 35060-12-SA-KS-7-K4	798.04.053.12	70.91.11.831.0	70.91.24.781.0
		S3-CMS5-CSYN R 35060-12-SA-KS-7-K4	798.03.053.12	70.91.11.831.0	70.91.24.781.0
Hartmetall *Carbide*	1204	S3-CMS5-CSYN L 35060-12-SA-KC-4-K7	798.04.053.51	70.91.11.881.0	70.91.24.780.0
		S3-CMS5-CSYN R 35060-12-SA-KC-4-K7	798.03.053.51	70.91.11.881.0	70.91.24.780.0
	1207	S3-CMS5-CSYN L 35060-12-SA-KC-7-K4	798.04.053.52	70.91.11.881.0	70.91.24.781.0
		S3-CMS5-CSYN R 35060-12-SA-KC-7-K4	798.03.053.52	70.91.11.881.0	70.91.24.781.0
Standard *Standard*	1507	S3-CMS5-CSYN L 35060-15-SA-KS-7-S4	798.04.057.12	70.91.11.832.0	70.91.24.723.0
		S3-CMS5-CSYN R 35060-15-SA-KS-7-S4	798.03.057.12	70.91.11.832.0	70.91.24.723.0
Hartmetall *Carbide*	1507	S3-CMS5-CSYN L 35060-15-SA-KC-7-S4	798.04.057.52	70.91.11.882.0	70.91.24.723.0
		S3-CMS5-CSYN R 35060-15-SA-KC-7-S4	798.03.057.52	70.91.11.882.0	70.91.24.723.0

Spannelement Clamping Element

✦ SW4 — 60.09.11.004.0

* ASK SW4 — 70.91.55.233.0

Stützplatte Shim

SNGX **12** .... - DO
70.91.55.699.0

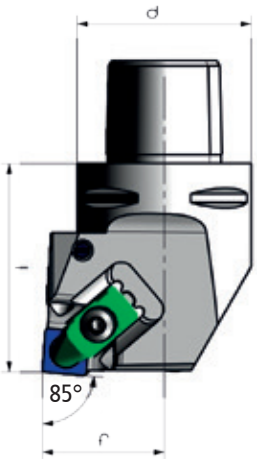
SNGX **15** .... - DO
70.91.55.700.0

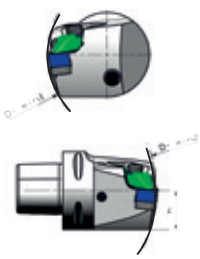
S3 - CMS 5 - CSYN

Schaft *Shank*	**Abmessungen** *Dimensions* **(mm)**					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	35	60	110	165

Schneid-plattengröße *Insert size*	**Anzugs-moment** *Torgue*	**Anzugs-moment** *Torgue*	**f, l, h - Maße Bezug Messplatte Radius** *Dimensions f, l, h for master insert radius*
SNGX **12** .... - DO	**12** Nm	**4** Nm	SNGX 12 .. **08** .. - DO
SNGX **15** .... - DO	**12** Nm	**5** Nm	SNGX 15 .. **12** .. - DO

Spanwinkel *Rake angle* γ	- 6°
Neigungswinkel *Back rake angle* λ	- 6°





Spannelement *Clamping element*	**SPK-Schneidplatte** *SPK-Cutting insert* **SNGX .... - DO**	**Bezeichnung** *Type*	**SPK-Best. Nr.** *SPK-Ref. no.*	**Ersatzteile** · *Spare parts*	
				✦ *	
Standard *Standard*	1204	S3-CMS5-CSYN L 35060-12-SAM-KS-4-K7	798.04.054.11	70.91.11.831.0	70.91.24.780.0
		S3-CMS5-CSYN R 35060-12-SAM-KS-4-K7	798.03.054.11	70.91.11.831.0	70.91.24.780.0
	1207	S3-CMS5-CSYN L 35060-12-SAM-KS-7-K4	798.04.054.12	70.91.11.831.0	70.91.24.781.0
		S3-CMS5-CSYN R 35060-12-SAM-KS-7-K4	798.03.054.12	70.91.11.831.0	70.91.24.781.0
Hartmetall *Carbide*	1204	S3-CMS5-CSYN L 35060-12-SAM-KC-4-K7	798.04.054.51	70.91.11.881.0	70.91.24.780.0
		S3-CMS5-CSYN R 35060-12-SAM-KC-4-K7	798.03.054.51	70.91.11.881.0	70.91.24.780.0
	1207	S3-CMS5-CSYN L 35060-12-SAM-KC-7-K4	798.04.054.52	70.91.11.881.0	70.91.24.781.0
		S3-CMS5-CSYN R 35060-12-SAM-KC-7-K4	798.03.054.52	70.91.11.881.0	70.91.24.781.0
Standard *Standard*	1507	S3-CMS5-CSYN L 35060-15-SAM-KS-7-S4	798.04.058.12	70.91.11.832.0	70.91.24.723.0
		S3-CMS5-CSYN R 35060-15-SAM-KS-7-S4	798.03.058.12	70.91.11.832.0	70.91.24.723.0
Hartmetall *Carbide*	1507	S3-CMS5-CSYN L 35060-15-SAM-KC-7-S4	798.04.058.52	70.91.11.882.0	70.91.24.723.0
		S3-CMS5-CSYN R 35060-15-SAM-KC-7-S4	798.03.058.52	70.91.11.882.0	70.91.24.723.0

Spannelement Clamping Element

✦ SW4 — 60.09.11.004.0

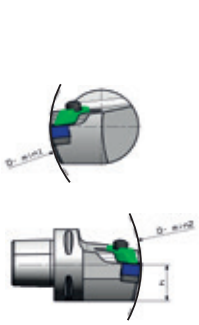
* ASK SW4 — 70.91.55.233.0

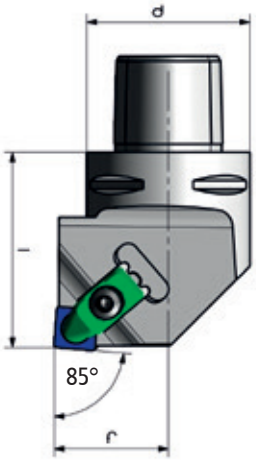
Stützplatte Shim

IP15 — SNGX **12** .... - DO 70.91.55.699.0

IP20 — SNGX **15** .... - DO 70.91.55.700.0

S3 - CMS 5 - CSYN





Schaft *Shank*	Abmessungen *Dimensions* (mm)					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	35	60	110	165

Schneidplattengröße *Insert size*	Anzugsmoment *Torgue*	Anzugsmoment *Torgue*	f, l, h - Maße Bezug Messplatte Radius *Dimensions f, l, h for master insert radius*
SNGX **12** .... - DO	**12** Nm	**4** Nm	SNGX 12 .. **08** .. - DO
SNGX **15** .... - DO	**12** Nm	**5** Nm	SNGX 15 .. **12** .. - DO

Spanwinkel *Rake angle* γ	- 6°
Neigungswinkel *Back rake angle* λ	- 6°

Spannelement *Clamping element*	SPK-Schneidplatte *SPK-Cutting insert* **SNGX .... - DO**	Bezeichnung *Type*	SPK-Best. Nr. *SPK-Ref. no.*	Ersatzteile · *Spare parts* ✦	Ersatzteile · *Spare parts* *
Standard *Standard*	1204	S3-CMS5-CSYN L 35060-12-XA-KS-4-K7	798.04.055.11	70.91.11.831.0	70.91.24.780.0
		S3-CMS5-CSYN R 35060-12-XA-KS-4-K7	798.03.055.11	70.91.11.831.0	70.91.24.780.0
	1207	S3-CMS5-CSYN L 35060-12-XA-KS-7-K4	798.04.055.12	70.91.11.831.0	70.91.24.781.0
		S3-CMS5-CSYN R 35060-12-XA-KS-7-K4	798.03.055.12	70.91.11.831.0	70.91.24.781.0
Hartmetall *Carbide*	1204	S3-CMS5-CSYN L 35060-12-XA-KC-4-K7	798.04.055.51	70.91.11.881.0	70.91.24.780.0
		S3-CMS5-CSYN R 35060-12-XA-KC-4-K7	798.03.055.51	70.91.11.881.0	70.91.24.780.0
	1207	S3-CMS5-CSYN L 35060-12-XA-KC-7-K4	798.04.055.52	70.91.11.881.0	70.91.24.781.0
		S3-CMS5-CSYN R 35060-12-XA-KC-7-K4	798.03.055.52	70.91.11.881.0	70.91.24.781.0
Standard *Standard*	1507	S3-CMS5-CSYN L 35060-15-XA-KS-7-S4	798.04.059.12	70.91.11.832.0	70.91.24.723.0
		S3-CMS5-CSYN R 35060-15-XA-KS-7-S4	798.03.059.12	70.91.11.832.0	70.91.24.723.0
Hartmetall *Carbide*	1507	S3-CMS5-CSYN L 35060-15-XA-KC-7-S4	798.04.059.52	70.91.11.882.0	70.91.24.723.0
		S3-CMS5-CSYN R 35060-15-XA-KC-7-S4	798.03.059.52	70.91.11.882.0	70.91.24.723.0

Spannelement Clamping Element

✦ SW4 — 60.09.11.004.0

* ASK SW4 — 70.91.55.233.0

Stützplatte Shim

IP15 — SNGX **12** .... - DO 70.91.55.699.0

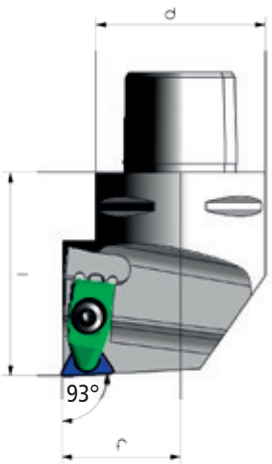
IP20 — SNGX **15** .... - DO 70.91.55.700.0

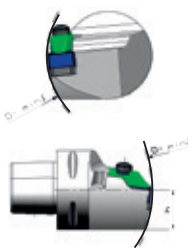
S3 - CMS 5 - CTUN

Schaft *Shank*	Abmessungen *Dimensions* (mm)					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	35	60	110	165

Schneid-plattengröße *Insert size*	Anzugs-moment *Torgue*	Anzugs-moment *Torgue*	f, l, h - Maße Bezug Messplatte Radius *Dimensions f, l, h for master insert radius*
TNGX **16** .... - DO	**12** Nm	**5** Nm	TNGX 16 .. **08** .. - DO

Spanwinkel *Rake angle* γ	- 6°
Neigungswinkel *Back rake angle* λ	- 6°





Spannelement *Clamping element*	SPK-Schneidplatte *SPK-Cutting insert* TNGX .... - DO	Bezeichnung *Type*	SPK-Best. Nr. *SPK-Ref. no.*	Ersatzteile · *Spare parts* ✦	*
Standard *Standard*	1604	S3-CMS5-CTUN L 35060-16-SA-KS-4-K7	798.14.001.11	70.91.11.830.0	70.91.24.786.0
		S3-CMS5-CTUN R 35060-16-SA-KS-4-K7	798.13.001.11	70.91.11.830.0	70.91.24.786.0
	1607	S3-CMS5-CTUN L 35060-16-SA-KS-7-K4	798.14.001.12	70.91.11.830.0	70.91.24.787.0
		S3-CMS5-CTUN R 35060-16-SA-KS-7-K4	798.13.001.12	70.91.11.830.0	70.91.24.787.0
Hartmetall *Carbide*	1604	S3-CMS5-CTUN L 35060-16-SA-KC-4-K7	798.14.001.51	70.91.11.880.0	70.91.24.786.0
		S3-CMS5-CTUN R 35060-16-SA-KC-4-K7	798.13.001.51	70.91.11.880.0	70.91.24.786.0
	1607	S3-CMS5-CTUN L 35060-16-SA-KC-7-K4	798.14.001.52	70.91.11.880.0	70.91.24.787.0
		S3-CMS5-CTUN R 35060-16-SA-KC-7-K4	798.13.001.52	70.91.11.880.0	70.91.24.787.0

Spannelement Clamping Element

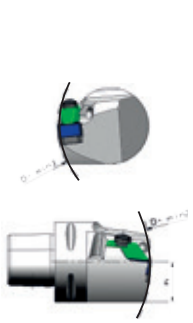
✦ SW4 — 60.09.11.004.0

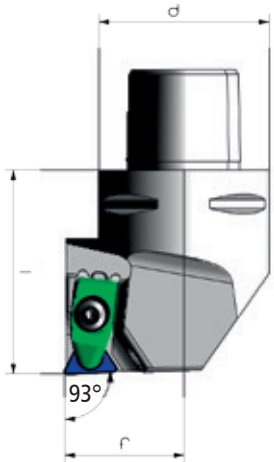
* ASK SW4 — 70.91.55.233.0

Stützplatte Shim

IP09 — TNGX **16** .... - DO
70.91.55.698.0

S3 - CMS 5 - CTUN





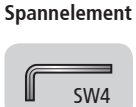
Schaft *Shank*	Abmessungen *Dimensions* (mm)					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	35	60	110	165

Schneid-plattengröße *Insert size*	Anzugs-moment *Torgue* 	Anzugs-moment *Torgue* 	f, l, h - Maße Bezug Messplatte Radius *Dimensions f, l, h for master insert radius*
TNGX **16** .... - DO	**12** Nm	**5** Nm	TNGX 16 .. **08** .. - DO

Spanwinkel *Rake angle* γ	- 6°
Neigungswinkel *Back rake angle* λ	- 6°

Spannelement *Clamping element*	SPK-Schneidplatte *SPK-Cutting insert* **TNGX .... - DO**	Bezeichnung *Type*	SPK-Best. Nr. *SPK-Ref. no.*	Ersatzteile · *Spare parts*  *	
Standard *Standard* 	1604	S3-CMS5-CTUN L 35060-16-SAM-KS-4-K7	798.14.002.11	70.91.11.830.0	70.91.24.786.0
		S3-CMS5-CTUN R 35060-16-SAM-KS-4-K7	798.13.002.11	70.91.11.830.0	70.91.24.786.0
	1607	S3-CMS5-CTUN L 35060-16-SAM-KS-7-K4	798.14.002.12	70.91.11.830.0	70.91.24.787.0
		S3-CMS5-CTUN R 35060-16-SAM-KS-7-K4	798.13.002.12	70.91.11.830.0	70.91.24.787.0
Hartmetall *Carbide* 	1604	S3-CMS5-CTUN L 35060-16-SAM-KC-4-K7	798.14.002.51	70.91.11.880.0	70.91.24.786.0
		S3-CMS5-CTUN R 35060-16-SAM-KC-4-K7	798.13.002.51	70.91.11.880.0	70.91.24.786.0
	1607	S3-CMS5-CTUN L 35060-16-SAM-KC-7-K4	798.14.002.52	70.91.11.880.0	70.91.24.787.0
		S3-CMS5-CTUN R 35060-16-SAM-KC-7-K4	798.13.002.52	70.91.11.880.0	70.91.24.787.0

Spannelement Clamping Element

✦ 

60.09.11.004.0

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70.91.55.233.0

Stützplatte Shim

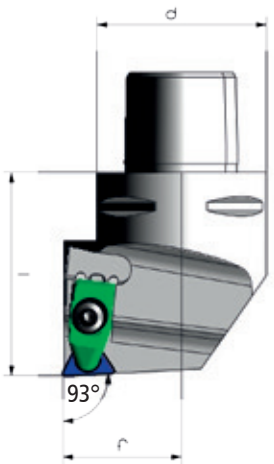
TNGX **16** .... - DO
70.91.55.698.0

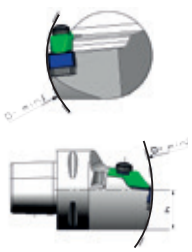
S3 - CMS 5 - CTUN

Schaft *Shank*	**Abmessungen** *Dimensions* **(mm)**					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	35	60	110	165

Schneid-plattengröße *Insert size*	**Anzugs-moment** *Torgue*	**Anzugs-moment** *Torgue*	**f, l, h - Maße Bezug Messplatte Radius** *Dimensions f, l, h for master insert radius*
TNGX **16** .... - DO	**12** Nm	**5** Nm	TNGX 16 .. **08** .. - DO

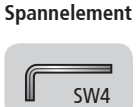
Spanwinkel *Rake angle* γ	- 6°
Neigungswinkel *Back rake angle* λ	- 6°





Spannelement *Clamping element*	**SPK-Schneidplatte** *SPK-Cutting insert* **TNGX .... - DO**	**Bezeichnung** *Type*	**SPK-Best. Nr.** *SPK-Ref. no.*	**Ersatzteile** · *Spare parts* ✦	*
Standard *Standard* 	1604	S3-CMS5-CTUN L 35060-16-XA-KS-4-K7	798.14.003.11	70.91.11.830.0	70.91.24.786.0
		S3-CMS5-CTUN R 35060-16-XA-KS-4-K7	798.13.003.11	70.91.11.830.0	70.91.24.786.0
	1607	S3-CMS5-CTUN L 35060-16-XA-KS-7-K4	798.14.003.12	70.91.11.830.0	70.91.24.787.0
		S3-CMS5-CTUN R 35060-16-XA-KS-7-K4	798.13.003.12	70.91.11.830.0	70.91.24.787.0
Hartmetall *Carbide* 	1604	S3-CMS5-CTUN L 35060-16-XA-KC-4-K7	798.14.003.51	70.91.11.880.0	70.91.24.786.0
		S3-CMS5-CTUN R 35060-16-XA-KC-4-K7	798.13.003.51	70.91.11.880.0	70.91.24.786.0
	1607	S3-CMS5-CTUN L 35060-16-XA-KC-7-K4	798.14.003.52	70.91.11.880.0	70.91.24.787.0
		S3-CMS5-CTUN R 35060-16-XA-KC-7-K4	798.13.003.52	70.91.11.880.0	70.91.24.787.0

Spannelement Clamping Element

✦ 

60.09.11.004.0

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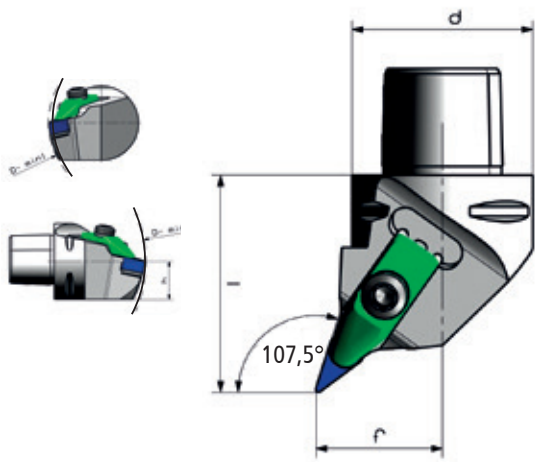
70.91.55.233.0

Stützplatte Shim

TNGX **16** .... - DO
70.91.55.698.0

S3 - CMS 5 - CVHN



Schaft *Shank*	**Abmessungen** *Dimensions* **(mm)**					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	35	60	110	165

Schneid-plattengröße *Insert size*	**Anzugs-moment** *Torgue*	**Anzugs-moment** *Torgue*	**f, l, h - Maße Bezug Messplatte Radius** *Dimensions f, l, h for master insert radius*
VNGX **16** .... - DO	**12** Nm	**3** Nm	VNGX 16 .. **08** .. - DO

Spanwinkel *Rake angle* γ	- 4°
Neigungswinkel *Back rake angle* λ	- 11°

Spannelement *Clamping element*	**SPK-Schneidplatte** *SPK-Cutting insert* **VNGX .... - DO**	**Bezeichnung** *Type*	**SPK-Best. Nr.** *SPK-Ref. no.*	**Ersatzteile** · *Spare parts* ✦ *	
Standard *Standard*	1604	S3-CMS5-CVHN L 35060-16-SA-KS-4-K6	798.24.109.11	70.91.11.834.0	70.91.24.798.0
		S3-CMS5-CVHN R 35060-16-SA-KS-4-K6	798.23.109.11	70.91.11.834.0	70.91.24.798.0
	1607	S3-CMS5-CVHN L 35060-16-SA-KS-7-S3	798.24.109.12	70.91.11.834.0	70.91.24.794.0
		S3-CMS5-CVHN R 35060-16-SA-KS-7-S3	798.23.109.12	70.91.11.834.0	70.91.24.794.0

Spannelement Clamping Element

✦ SW4 — 60.09.11.004.0

* ASK SW4 — 70.91.55.233.0

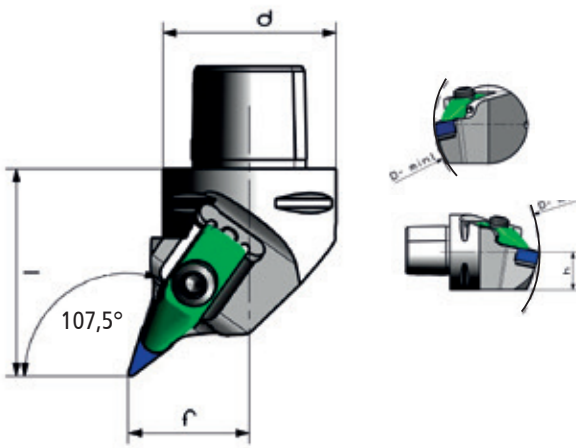
Stützplatte Shim

IP09 — VNGX **16** .... - DO
70.91.55.698.0

S3 - CMS 5 - CVHN

Schaft *Shank*	**Abmessungen** *Dimensions* **(mm)**					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	35	60	110	165

Schneid-plattengröße *Insert size*	**Anzugs-moment** *Torgue*	**Anzugs-moment** *Torgue*	**f, l, h - Maße Bezug Messplatte Radius** *Dimensions f, l, h for master insert radius*
VNGX **16** .... - DO	**12** Nm	**3** Nm	VNGX 16 .. **08** .. - DO



Spanwinkel *Rake angle* γ	- 4°
Neigungswinkel *Back rake angle* λ	- 11°

Spannelement *Clamping element*	**SPK-Schneidplatte** *SPK-Cutting insert* **VNGX .... - DO**	**Bezeichnung** *Type*	**SPK-Best. Nr.** *SPK-Ref. no.*	**Ersatzteile** · *Spare parts*	
Standard *Standard*	1604	S3-CMS5-CVHN L 35060-16-SAM-KS-4-K6	798.24.110.11	70.91.11.834.0	70.91.24.798.0
		S3-CMS5-CVHN R 35060-16-SAM-KS-4-K6	798.23.110.11	70.91.11.834.0	70.91.24.798.0
	1607	S3-CMS5-CVHN L 35060-16-SAM-KS-7-S3	798.24.110.12	70.91.11.834.0	70.91.24.794.0
		S3-CMS5-CVHN R 35060-16-SAM-KS-7-S3	798.23.110.12	70.91.11.834.0	70.91.24.794.0

Spannelement Clamping Element

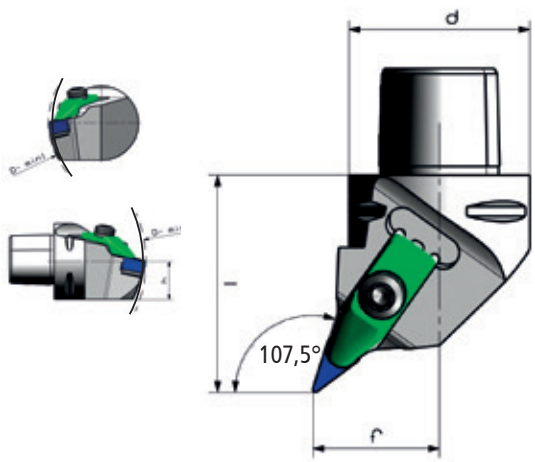
✦ SW4 — 60.09.11.004.0

* ASK SW4 — 70.91.55.233.0

Stützplatte Shim

IP09 — VNGX **16** .... - DO 70.91.55.698.0

S3 - CMS 5 - CVHN



Schaft *Shank*	**Abmessungen** *Dimensions* **(mm)**					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	35	60	110	165

Schneid-plattengröße *Insert size*	**Anzugs-moment** *Torgue*	**Anzugs-moment** *Torgue*	**f, l, h - Maße Bezug Messplatte Radius** *Dimensions f, l, h for master insert radius*
VNGX **16** .... - DO	**12** Nm	**3** Nm	VNGX 16 .. **08** .. - DO

Spanwinkel *Rake angle* γ	- 4°
Neigungswinkel *Back rake angle* λ	- 11°

Spannelement *Clamping element*	**SPK-Schneidplatte** *SPK-Cutting insert* **VNGX .... - DO**	**Bezeichnung** *Type*	**SPK-Best. Nr.** *SPK-Ref. no.*	**Ersatzteile** · *Spare parts* ✦	*
Standard *Standard*	1604	S3-CMS5-CVHN L 35060-16-XA-KS-4-K6	798.24.111.11	70.91.11.834.0	70.91.24.798.0
		S3-CMS5-CVHN R 35060-16-XA-KS-4-K6	798.23.111.11	70.91.11.834.0	70.91.24.798.0
	1607	S3-CMS5-CVHN L 35060-16-XA-KS-7-S3	798.24.111.12	70.91.11.834.0	70.91.24.794.0
		S3-CMS5-CVHN R 35060-16-XA-KS-7-S3	798.23.111.12	70.91.11.834.0	70.91.24.794.0

Spannelement Clamping Element

✦ SW4 — 60.09.11.004.0

* ASK SW4 — 70.91.55.233.0

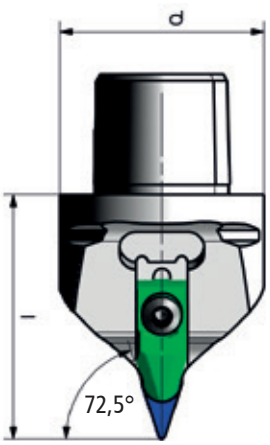
Stützplatte Shim

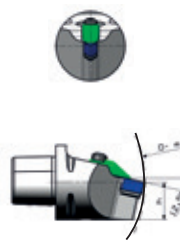
IP15 — VNGX **16** .... - DO
70.91.55.698.0

S3 - CMS 5 - CVVN

Schaft *Shank*	**Abmessungen** *Dimensions* **(mm)**					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	-	60	-	165

Schneid-plattengröße *Insert size*	**Anzugs-moment** *Torgue*	**Anzugs-moment** *Torgue*	**f, l, h - Maße Bezug Messplatte Radius** *Dimensions f, l, h for master insert radius*
VNGX **16** .... - DO	**12** Nm	**3** Nm	VNGX 16 .. **08** .. - DO





Spanwinkel *Rake angle* γ	- 12,5°
Neigungswinkel *Back rake angle* λ	-

Spannelement *Clamping element*	**SPK-Schneidplatte** *SPK-Cutting insert* **VNGX .... - DO**	**Bezeichnung** *Type*	**SPK-Best. Nr.** *SPK-Ref. no.*	**Ersatzteile** · *Spare parts*	
				✦ *	
Standard *Standard*	1604	S3-CMS5-CVVN N 00060-16-SA-KS-4-K6	798.26.001.11	70.91.11.833.0	70.91.24.798.0
	1607	S3-CMS5-CVVN N 00060-16-SA-KS-7-S3	798.26.001.12	70.91.11.833.0	70.91.24.794.0

Spannelement Clamping Element

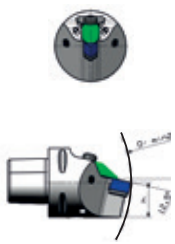
✦ SW4 — 60.09.11.004.0

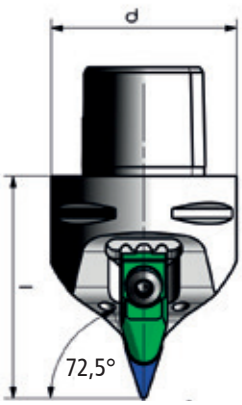
* ASK SW4 — 70.91.55.233.0

Stützplatte Shim

IP09 — VNGX **16** .... - DO
70.91.55.698.0

S3 - CMS 5 - CVVN





Schaft *Shank*	Abmessungen *Dimensions* (mm)					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	-	60	-	165

Schneid-plattengröße *Insert size*	Anzugs-moment *Torgue* 	Anzugs-moment *Torgue* 	f, l, h - Maße Bezug Messplatte Radius *Dimensions f, l, h for master insert radius*
VNGX **16** .... - DO	**12** Nm	**3** Nm	VNGX 16 .. **08** .. - DO

Spanwinkel *Rake angle* γ	- 12,5°
Neigungswinkel *Back rake angle* λ	-

Spannelement *Clamping element*	SPK-Schneidplatte *SPK-Cutting insert* **VNGX .... - DO**	Bezeichnung *Type*	SPK-Best. Nr. *SPK-Ref. no.*	Ersatzteile · *Spare parts* 	
Standard *Standard* 	1604	S3-CMS5-CVVN N 00060-16-SAM-KS-4-K6	798.26.002.11	70.91.11.833.0	70.91.24.798.0
	1607	S3-CMS5-CVVN N 00060-16-SAM-KS-7-S3	798.26.002.12	70.91.11.833.0	70.91.24.794.0

Spannelement Clamping Element

✦ SW4 — 60.09.11.004.0

* ASK SW4 — 70.91.55.233.0

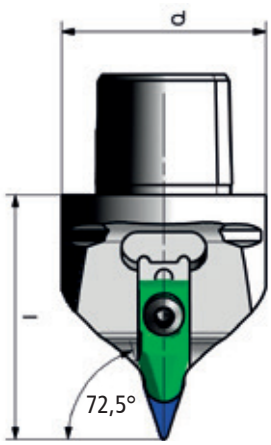
Stützplatte Shim

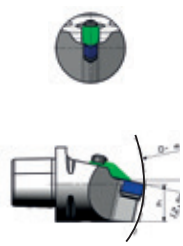
IP15 — VNGX **16** .... - DO
70.91.55.698.0

S3 - CMS 5 - CVVN

Schaft *Shank*	**Abmessungen** *Dimensions* **(mm)**					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	-	60	-	165

Schneid-plattengröße *Insert size*	**Anzugs-moment** *Torgue* 	**Anzugs-moment** *Torgue* 	**f, l, h - Maße Bezug Messplatte Radius** *Dimensions f, l, h for master insert radius*
VNGX **16** .... - DO	**12** Nm	**3** Nm	VNGX 16 .. **08** .. - DO

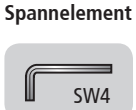




Spanwinkel *Rake angle* γ	- 12,5°
Neigungswinkel *Back rake angle* λ	-

Spannelement *Clamping element*	**SPK-Schneidplatte** *SPK-Cutting insert* **VNGX .... - DO**	**Bezeichnung** *Type*	**SPK-Best. Nr.** *SPK-Ref. no.*	**Ersatzteile** · *Spare parts*  *	
Standard *Standard* 	1604	S3-CMS5-CVVN N 00060-16-XA-KS-4-K6	798.26.003.11	70.91.11.834.0	70.91.24.798.0
	1607	S3-CMS5-CVVN N 00060-16-XA-KS-7-S3	798.26.003.12	70.91.11.834.0	70.91.24.794.0

Spannelement Clamping Element

✦ 

60.09.11.004.0

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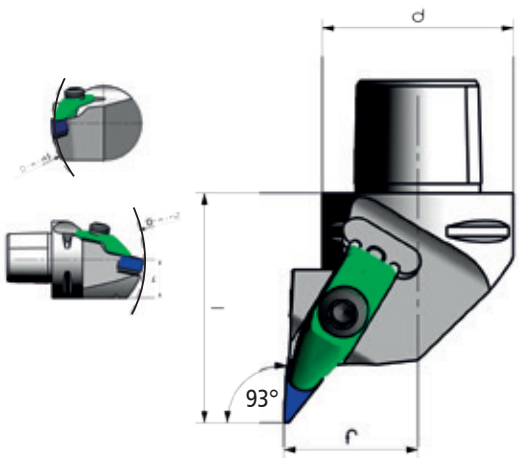
70.91.55.233.0

Stützplatte Shim

VNGX **16** .... - DO
70.91.55.698.0

S3 - CMS 5 - CVJN



Schaft *Shank*	**Abmessungen** *Dimensions* **(mm)**					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	35	60	110	165

Schneid-plattengröße *Insert size*	**Anzugs-moment** *Torgue*	**Anzugs-moment** *Torgue*	**f, l, h - Maße Bezug Messplatte Radius** *Dimensions f, l, h for master insert radius*
VNGX **16** .... - DO	**12** Nm	**3** Nm	VNGX 16 .. **08** .. - DO

Spanwinkel *Rake angle* γ	- 4°
Neigungswinkel *Back rake angle* λ	- 11°

Spannelement *Clamping element*	**SPK-Schneidplatte** *SPK-Cutting insert* **VNGX .... - DO**	**Bezeichnung** *Type*	**SPK-Best. Nr.** *SPK-Ref. no.*	**Ersatzteile** · *Spare parts* ✦	*
Standard *Standard*	1604	S3-CMS5-CVJN L 35060-16-SA-KS-4-K6	798.24.113.11	70.91.11.834.0	70.91.24.798.0
		S3-CMS5-CVJN R 35060-16-SA-KS-4-K6	798.23.113.11	70.91.11.834.0	70.91.24.798.0
	1607	S3-CMS5-CVJN L 35060-16-SA-KS-7-S3	798.24.113.12	70.91.11.834.0	70.91.24.794.0
		S3-CMS5-CVJN R 35060-16-SA-KS-7-S3	798.23.113.12	70.91.11.834.0	70.91.24.794.0

Spannelement Clamping Element

✦ SW4 — 60.09.11.004.0

* ASK SW4 — 70.91.55.233.0

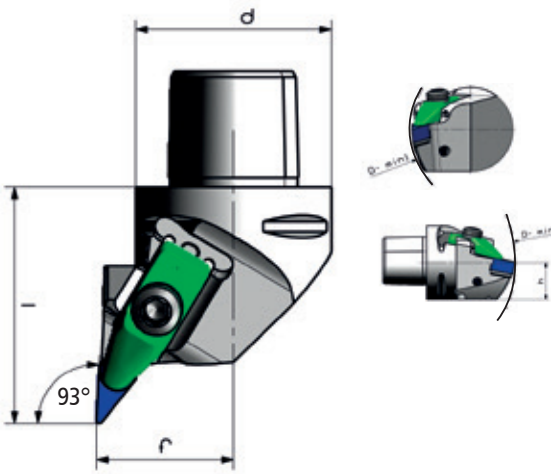
Stützplatte Shim

IP15 — VNGX **16** .... - DO
70.91.55.698.0

S3 - CMS 5 - CVJN

Schaft *Shank*	**Abmessungen** *Dimensions* **(mm)**					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	35	60	110	165

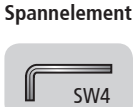
Schneid-plattengröße *Insert size*	**Anzugs-moment** *Torgue* 	**Anzugs-moment** *Torgue* 	**f, l, h - Maße Bezug Messplatte Radius** *Dimensions f, l, h for master insert radius*
VNGX **16** .... - DO	**12** Nm	**3** Nm	VNGX 16 .. **08** .. - DO



Spanwinkel *Rake angle* γ	- 4°
Neigungswinkel *Back rake angle* λ	- 11°

Spannelement *Clamping element*	**SPK-Schneidplatte** *SPK-Cutting insert* **VNGX .... - DO**	**Bezeichnung** *Type*	**SPK-Best. Nr.** *SPK-Ref. no.*	**Ersatzteile** · *Spare parts* 	
Standard *Standard* 	1604	S3-CMS5-CVJN L 35060-16-SAM-KS-4-K6	798.24.114.11	70.91.11.834.0	70.91.24.798.0
		S3-CMS5-CVJN R 35060-16-SAM-KS-4-K6	798.23.114.11	70.91.11.834.0	70.91.24.798.0
	1607	S3-CMS5-CVJN L 35060-16-SAM-KS-7-S3	798.24.114.12	70.91.11.834.0	70.91.24.794.0
		S3-CMS5-CVJN R 35060-16-SAM-KS-7-S3	798.23.114.12	70.91.11.834.0	70.91.24.794.0

Spannelement Clamping Element

✦ 

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Stützplatte Shim

VNGX **16** .... - DO
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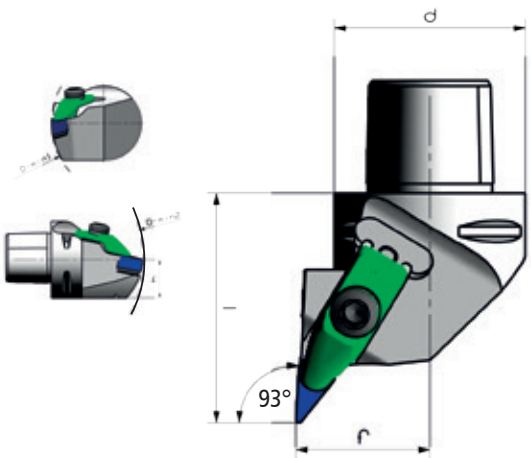
S3 - CMS 5 - CVJN



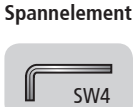
Schaft *Shank*	**Abmessungen** *Dimensions* **(mm)**					
	d	h	f	l	D_{min1}	D_{min2}
CMS 5	50	25	35	60	110	165

Schneid-plattengröße *Insert size*	**Anzugs-moment** *Torgue* 	**Anzugs-moment** *Torgue* 	**f, l, h - Maße Bezug Messplatte Radius** *Dimensions f, l, h for master insert radius*
VNGX **16** .... - DO	**12** Nm	**3** Nm	VNGX 16 .. **08** .. - DO

Spanwinkel *Rake angle* γ	- 4°
Neigungswinkel *Back rake angle* λ	- 11°

Spannelement *Clamping element*	**SPK-Schneidplatte** *SPK-Cutting insert* **VNGX .... - DO**	**Bezeichnung** *Type*	**SPK-Best. Nr.** *SPK-Ref. no.*	**Ersatzteile** · *Spare parts*  *	
Standard *Standard* 	1604	S3-CMS5-CVJN L 35060-16-XA-KS-4-K6	798.24.115.11	70.91.11.834.0	70.91.24.798.0
		S3-CMS5-CVJN R 35060-16-XA-KS-4-K6	798.23.115.11	70.91.11.834.0	70.91.24.798.0
	1607	S3-CMS5-CVJN L 35060-16-XA-KS-7-S3	798.24.115.12	70.91.11.834.0	70.91.24.794.0
		S3-CMS5-CVJN R 35060-16-XA-KS-7-S3	798.23.115.12	70.91.11.834.0	70.91.24.794.0

Spannelement Clamping Element

✦ 

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CeramTec
THE CERAMIC EXPERTS

CeramTec GmbH
SPK-Cutting Tool Division
Hauptstraße 56
73061 Ebersbach / Fils
Germany

Phone: +49 7163 166-239
Fax: +49 7163 166-388
info@spk-tools.com
www.spk-tools.com / www.ceramtec.com

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