The Catalogue 2025

Cutting Tools

India Selection

CERATIZIT is a high-technology engineering group specialised in cutting tools and hard material solutions.

Tooling a Sustainable Future

ceratizit.com

CERATIZIT GROUP

Tooling a Sustainable Future

CERATIZIT: Your specialist in sustainable cutting tools and hard material solutions.

Are you looking for a reliable partner for your tooling and machining needs? Then look no further! CERATIZIT is much more than just a supplier of tools. Our experts are also on hand to advise you with their extensive industry knowledge and decades of experience.

Is an optimised carbon footprint just as important to you as efficient production processes? With the Product Carbon Footprint (PCF) classification system for our innovative carbide solutions, you can choose the best sustainable product for you. Good for the environment, good for your production line.

For more than 100 years, CERATIZIT has been a pioneer in developing exceptional hard material solutions for machining and protection against wear. We can therefore guarantee our customers the highest levels of quality and access to the latest developments in the carbide sector – all-round cutting tools expertise from a single source.

Contact us

It couldn't be easier

Ordering via the Online Shop

marketing.india@ceratizit.com
cutting.tools/in/en

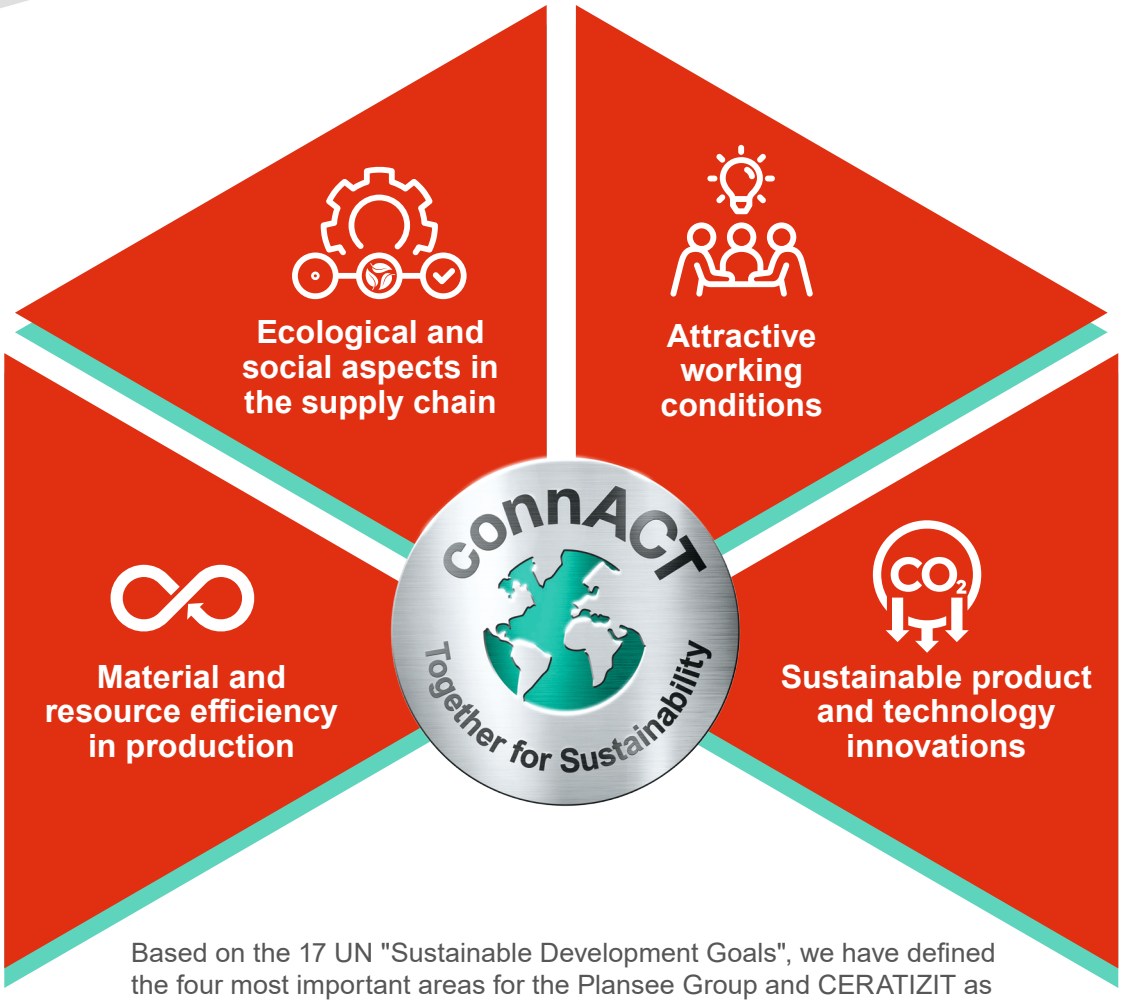
Manufacturing consulting and process optimization on site

Your personal application engineer

Your customer number

Sustainability is not a goal, it's a mission.

We take our environmental responsibility seriously. By 2025, we want to become the sustainability leaders in the carbide and machining industry, which is why we are implementing our sustainability mission throughout the entire value chain.



Based on the 17 UN "Sustainable Development Goals", we have defined the four most important areas for the Plansee Group and CERATIZIT as part of a top-down and bottom-up process. In the first step we will devote a greater focus to those aspects that have the greatest impact: climate neutrality and the circular economy.

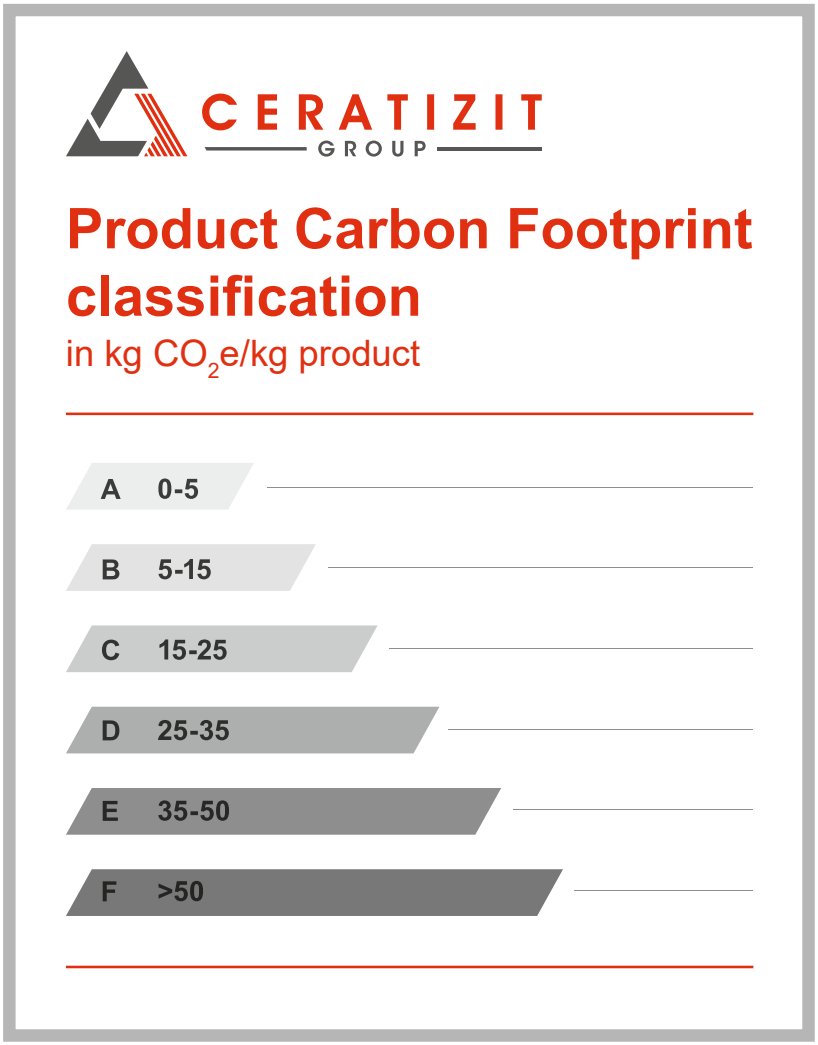
Mission #1: Carbon-neutral by 2025

Mission #2: Reduce the use of virgin raw materials

Discover more about our commitment to sustainability on our website.
cutting.tools/en/sustainability

Product Carbon Footprint

"Our goal is to establish a common market standard for calculating and classifying the carbon footprint of cutting tools and carbide powders. In this way we can offer our customers the transparency they want in regard to the carbon footprint," explains board spokesperson Dr Andreas Lackner



Similar to other evaluation systems, the carbon footprint of a product should be identifiable and comparable at a glance.

We have adopted the alphabetic PCF classification (Product Carbon Footprint) in every product data sheet or quote. Since September 2023 the PCF rating for the assessed products has been visible to all customers.

JUST
OUR
THING

The machining solution

Everything required for machining.
All from a single source.

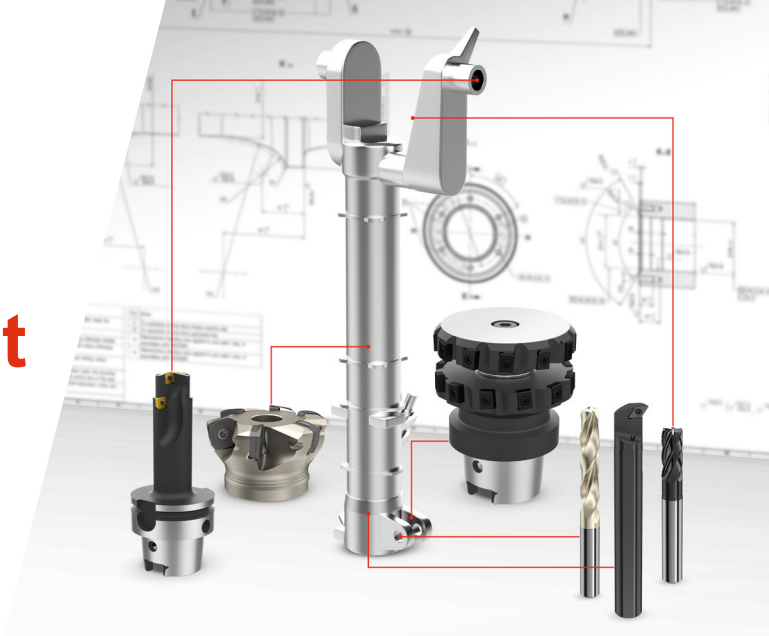
We develop a holistic package for our customers covering their machining needs, stand by their side as a reliable solutions partner, and ensure they can call on the right high-quality tool every time. That's us. That's JUST OUR THING. To deliver on our promise, we listen closely to you, drill down to your exact requirements, and provide you with competent, professional advice. Ultra-modern logistics processes mean that the tools will be with you in next to no time. The complete machining solution? We can provide everything you need. This is our response to market requirements and our motivation to work together to raise machining to the next level.

JUST OUR THING

An extensive selection of high-quality products.

Precision machining with high-quality tools

Our tools promise to deliver quality, precision and process-security. More than 65,000 different items make up the largest range of cutting tools in the world. As a result you stand to benefit from longer service lives, increased process security and an enormous potential for cost savings. And above all: the right tool for every application.



Strong application and project support across India.

Working together for the best solution

Working together with you to improve the standard of machining is JUST OUR THING. And we spare no effort in delivering it. You will enjoy the services of a dedicated on-site application engineer and an experienced project team, who are constantly developing innovative tool solutions. With our global network of experts with specialist knowledge in the machining industry and the digital sector, we always get the best out of your production processes.

Order today. Delivered tomorrow.

Where's your order? On the way to you straight away.

Be it a single item or large order, our main concern is that your goods are delivered as quickly as possible. Round the clock ordering in our online shop and 99% availability thanks to automated logistics processes keep your production lines running smoothly.

Digital cutting solutions

Unlock hidden potentials with the digital solutions from CERATIZIT for process optimisation along the entire production chain.

If you have any questions about our digital solutions, contact our sales team directly to find out how we can optimize your processes, too.

- Save money and time
- Improve quality
- Conserve and optimize resources
- Guarantee transparent operation around the clock
- Ensure reliable planning

cts.ceratizit.com/int/en/digitalcuttingsolutions

ToolScope

Full process control thanks to digital monitoring for optimizing your production processes.

cutting.tools/en/toolscope

JUST OUR THING

Sustainability is part of your agenda? We help you along the way:

- **CERATIZIT Packaging**
  Recycled plastic protects high-quality tools and the environment
- **CERATIZIT Recycling**
  Recycled materials reduce the use of scarce primary resources
- **CERATIZIT ReStart**
  Our regrinding service for cutting tools

Contact us today!

Discover more about our commitment to sustainability on our website
cutting.tools/en/sustainability

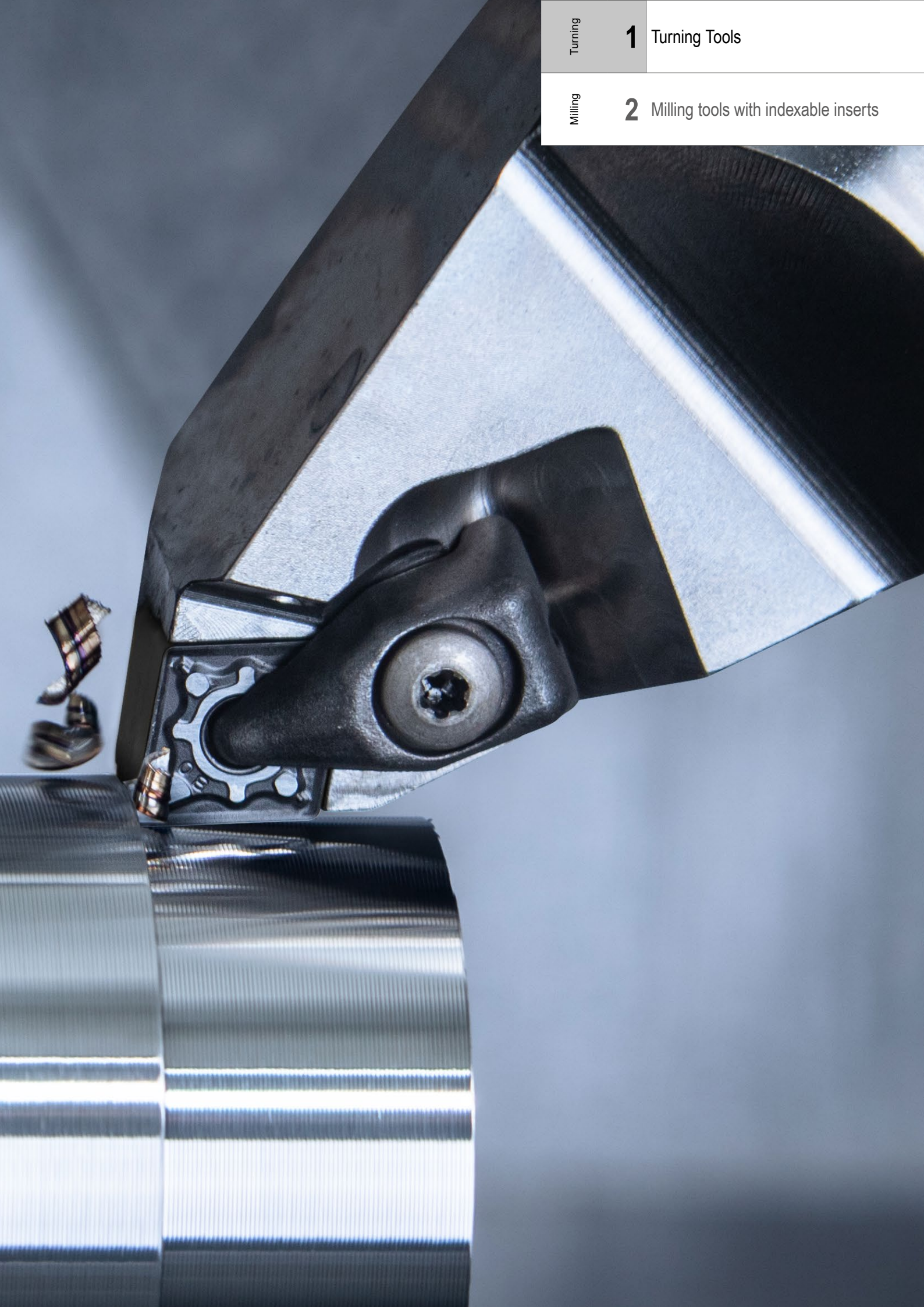


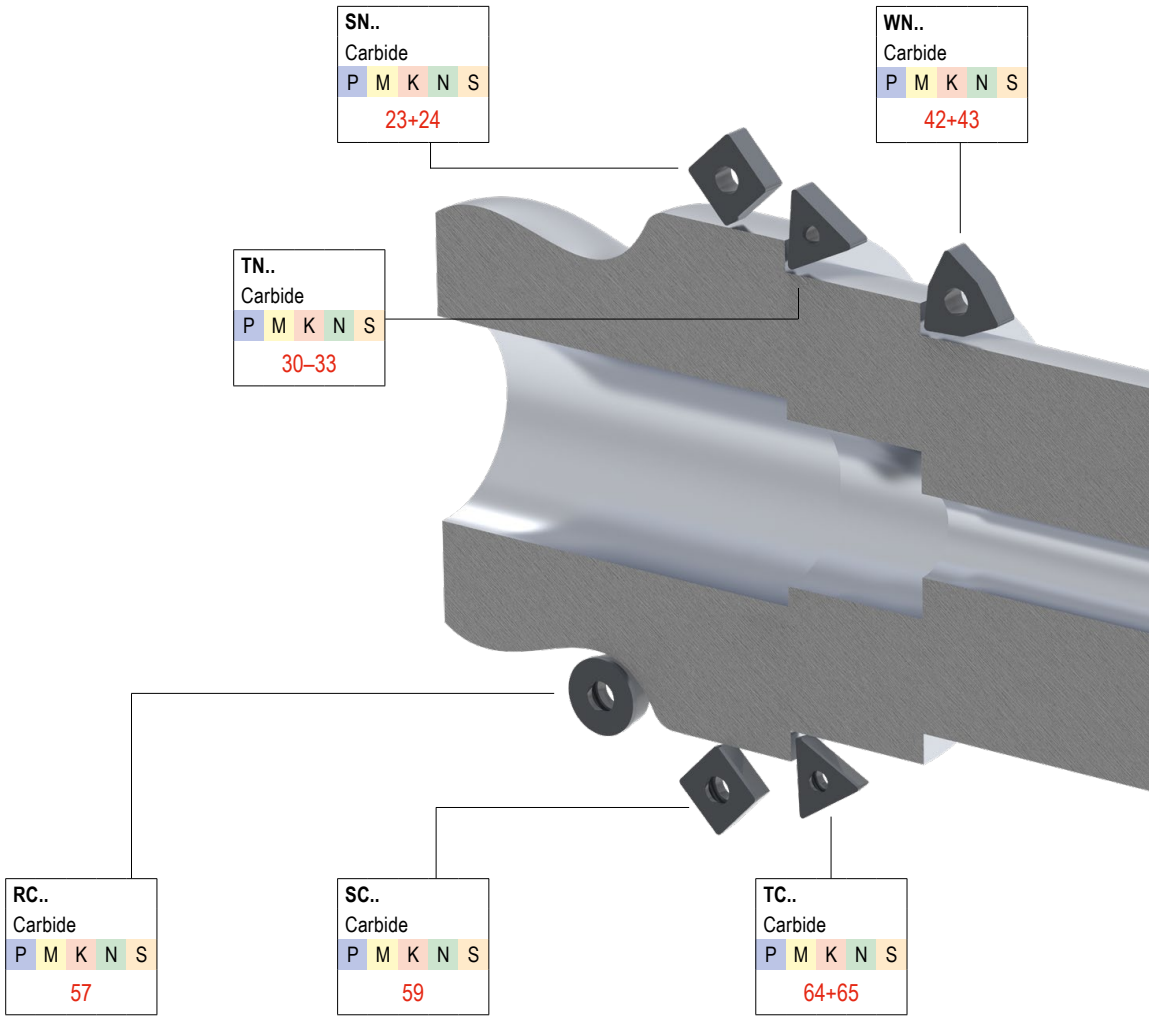
Table of contents

CERATIZIT \ Performance

Premium quality tools for high performance.

The premium quality tools from the **CERATIZIT Performance** product line have been designed for specific applications and are distinguished by their outstanding performance. If you make high demands on the performance of your production and want to achieve the very best results, we recommend the Premium tools in this product line.

Toolfinder – Application



Symbol explanation

CTCP125 *Carbide Grade*

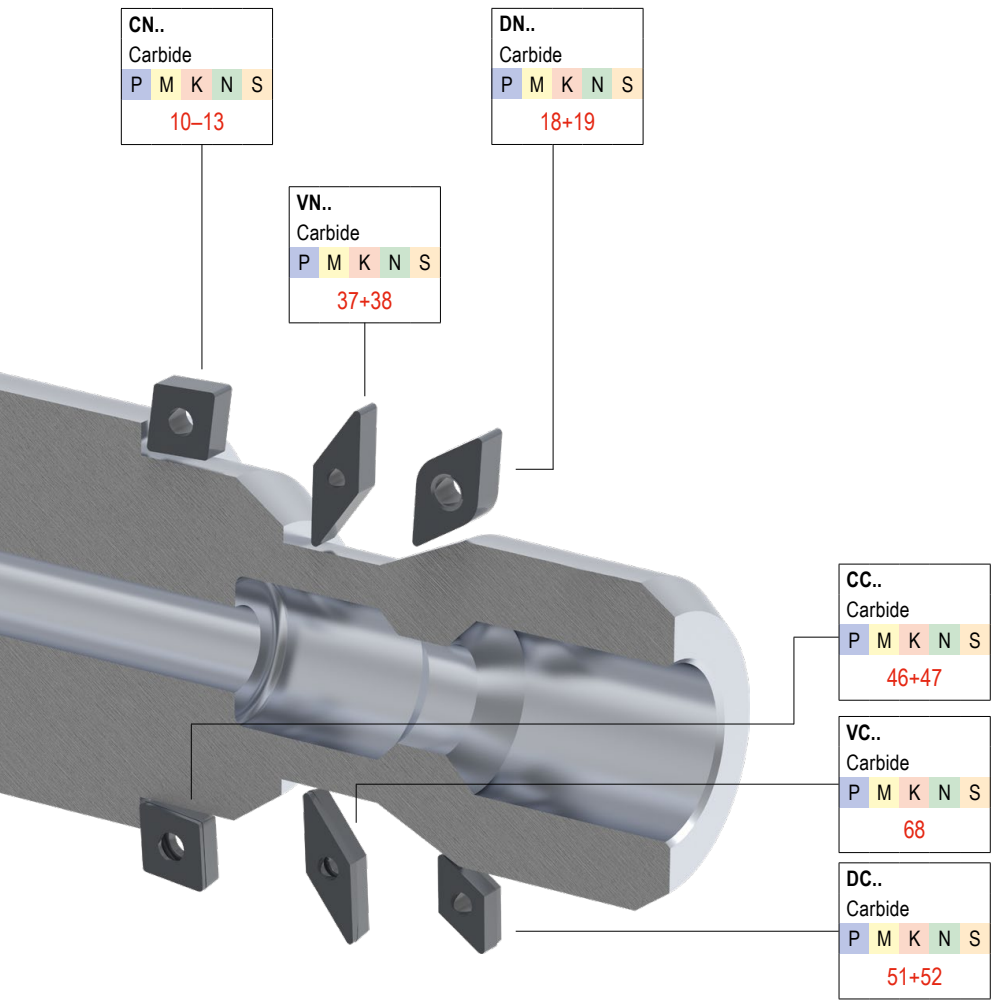
F	Fine Machining
M	Medium Machining
R	Rough Machining

Smooth cut
Irregular cutting depth
Interrupted cut

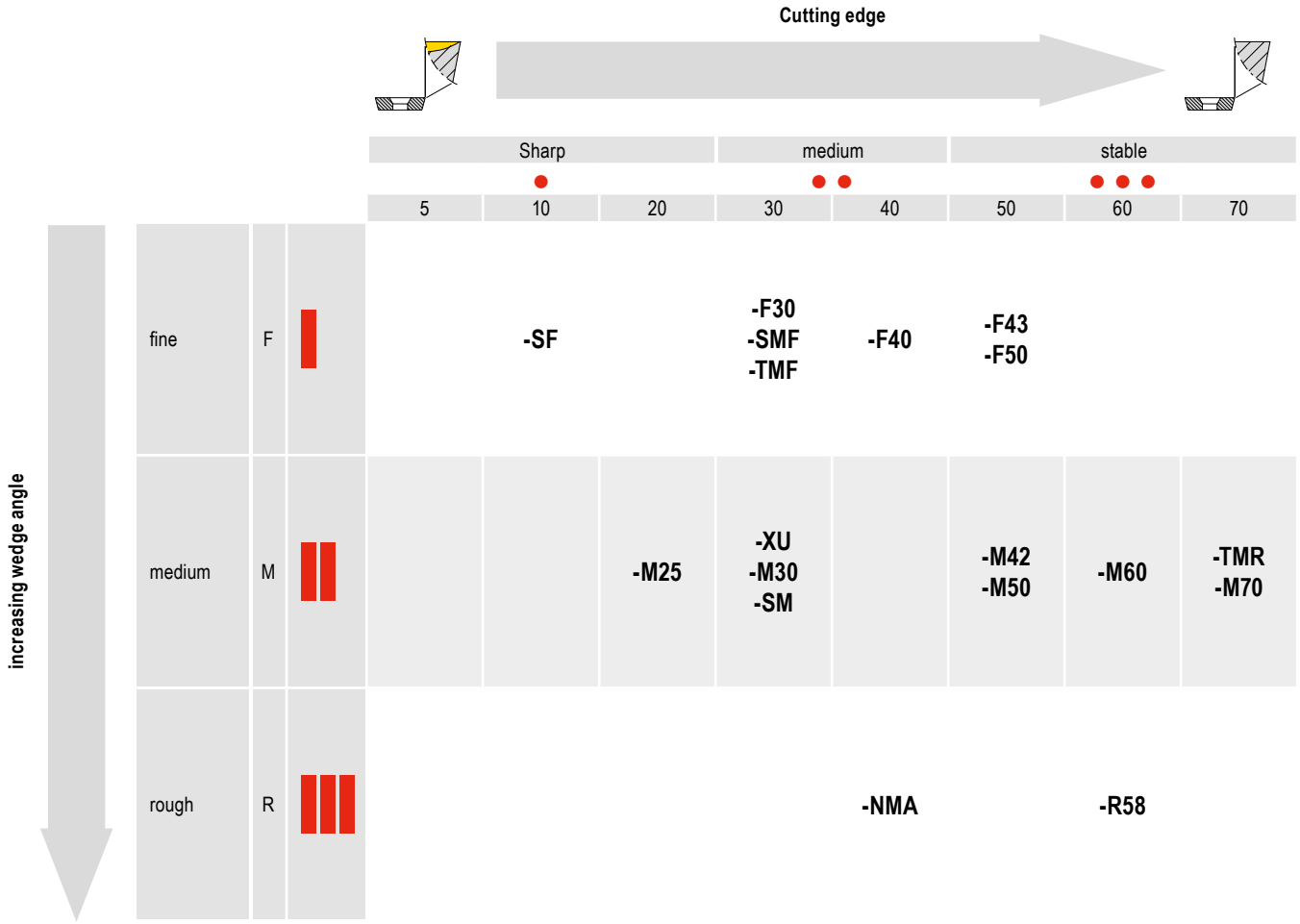
Int. coolant supply

Direct Cooling — DirectCooling

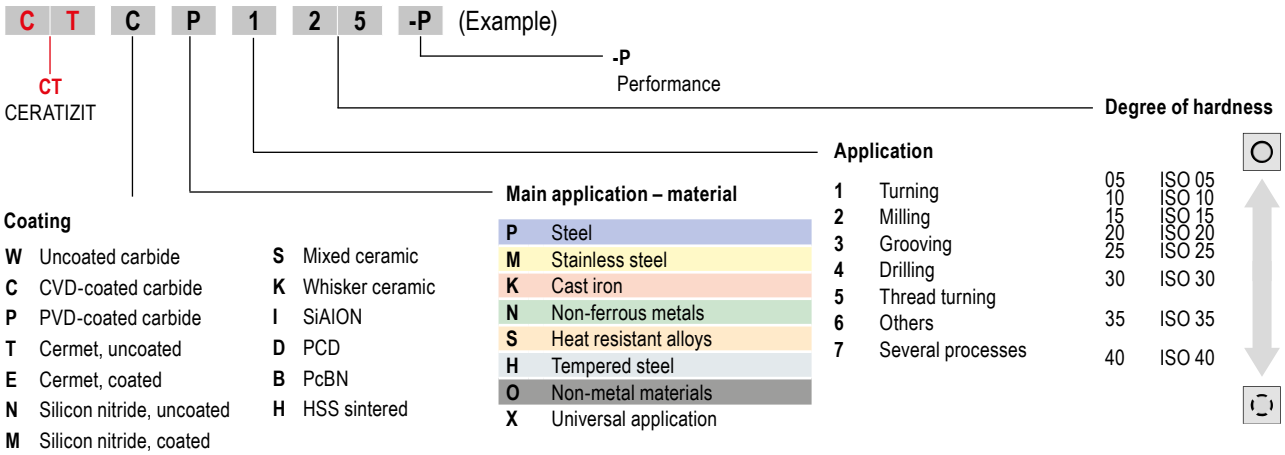
A detailed overview of grades can be found in the technical appendix on → **page** 96



Chip Breakers Overview



Grade description



Toolfinder – negative inserts

				Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat resistant alloys	Tempered steel	Non-metal materials	Geometry						
				P	M	K	N	S	H	O	CN..	DN..	KN..	SN..	TN..	VN..	WN..
Main application: **Steel and cast iron**	Sharp	Fine	-F40	●		○										37+38	
			-F50	●		○					10	18			30+31	37	42
			-TMF	●	○	○										37	
		Medium	-XU	●		○						18					
			-M40	●		○											
			-M50	●	○	○					10+11	18+19			30–32		42
			-TMR	●		○					11+12			23	30–32		
			-M70 | -11, -12	●	○	○					10+11	18+19		23+24	30–32		42
		Rough	.NMA	●	○						12			24	31		42
			-R28	●	○	○											
			-R58	●	○	○					11+13						
	stable		-R88	●	○	○											
Main application: **Stainless**	Sharp	Fine	-F30	○	●			○			12				32	37	
		Medium	-M30	○	●			○			12	19			32		43
			-42	○	●			○									
			-M42	○	●			●			13				33		43
			-M60	○	●			○			13	19			33		43
	stable		-M70	○	●			○									
Main application: **Heat-resistant**	Sharp	Fine															
		Medium															
	stable		-M42	○	●		○	●			13						

Toolfinder – positive inserts

					Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat resistant alloys	Tempered steel	Non-metal materials	Geometry								
					P	M	K	N	S	H	O	CC..	DC..	RC..	SC..	SP..	TC..	TP..	VC..	WC..
Main application: **Steel and cast iron**	Sharp ↕ stable	Fine	-SF		●	○	○					46	51						68	
		Medium	-SMF		●	○	○					46	51				64		68	
			-SM		●	○	●					46+47	51	57	59		64		68	
Main application: **Stainless**	Sharp ↕ stable	Fine	-F43		○	●			○			47	52				65			
		Medium	-M25		○	●			●			47	52				65			
			-M55		○	●			●											

Toolfinder – holders

Toolholders and boring bars for negative inserts

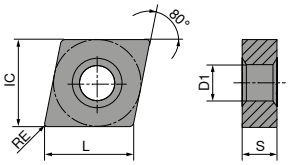
Geometry	Tool holder	Boring bars
CN..	14–16	17
DN..	20+21	22
SN..	25–28	29
TN..	34+35	36
VN..	39–41	
WN..	44	45

Toolholders and boring bars for positive inserts

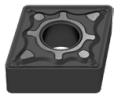
Geometry	Tool holder	Boring bars
CC..	48+49	50
DC..	53+54	55+56
RC..	58	
SC..	60–62	63
TC..	66	67
VC..	69+70	71

CNMG / CNMM / CNMA

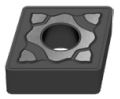
Designation	L	S	D1	IC
	mm	mm	mm	mm
CNMG 0903..	9.7	3.18	3.81	9.52
CNM. 1204..	12.9	4.76	5.16	12.70
CNMG 1606..	16.1	6.35	6.35	15.87
CNM. 1906..	19.3	6.35	7.94	19.05



CNMG

	-F50 CTCP125	-F50 CTIC1135	-M50 CTCP125	-M50 CTIC1135
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
				
	F	F	M	M
	CNMG	CNMG	CNMG	CNMG
	76 132 ...	76 132 ...	76 135 ...	76 135 ...
ISO / RE mm				
090308EN 0.8	918012	418002		
120404EN 0.4	928012	428002		
120408EN 0.8			930012	430002
P	●	●	●	●
M		○		○
K	○		○	
N				
S				
H				
O				

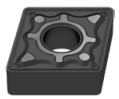
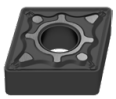
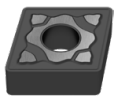
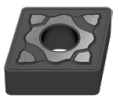
CNMG

	-M70 CTCP125	-M70 CTIC1135
	DRAGONSKIN	DRAGONSKIN
		
	M	M
	CNMG	CNMG
	76 119 ...	76 119 ...
ISO / RE mm		
120408EN 0.8	930012	430002
120412EN 1.2	932012	432002
160616EN 1.6	946012	446002
P	●	●
M		○
K	○	
N		
S		
H		
O		

CNMG / CNMM

		-TMR CTCP125	-TMR CTIC1135	-R58 CTCP125	-R58 CTIC1135
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
		M	M	R	R
		CNMG	CNMG	CNMM	CNMM
		76 280 ...	76 280 ...	76 115 ...	76 115 ...
ISO	RE mm				
190612EN	1.2	956012	456002		
190616EN	1.6	958012	458002		
190624EN	2.4			960012	460002
P		●	●	●	●
M			○		○
K		○		○	
N					
S					
H					
O					

CNMG

		-M50 CTCK110	-M50 CTCK120	-M70 CTCK110	-M70 CTCK120
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
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		CNMG	CNMG	CNMG	CNMG
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ISO	RE mm				
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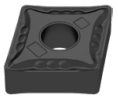
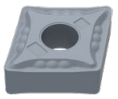
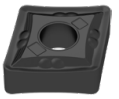
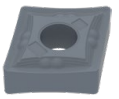
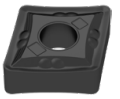
120412EN	1.2			932002	032012
160616EN	1.6			946002	046012
P		○	○	○	○
M					
K		●	●	●	●
N					
S					
H					
O					

CNMG / CNMA

		-TMR CTCK110 DRAGONSKIN	-TMR CTCK120 DRAGONSKIN	CTCK110 DRAGONSKIN	CTCK120 DRAGONSKIN
					
		M CNMG	M CNMG	R CNMA	R CNMA
		70 109 ...	70 109 ...	70 100 ...	70 100 ...
ISO	RE mm				
120404EN	0.4			928002	028012
120408EN	0.8			930002	030012
120412EN	1.2			932002	032012
120416EN	1.6			934002	034012
190612EN	1.2	956002	056012	956002	056012
190616EN	1.6	958002	058012	958002	058012
P		○	○	○	○
M					
K		●	●	●	●
N					
S					
H					
O					

CNMG

		-F30 CTCM120 DRAGONSKIN	-F30 CTPM125 DRAGONSKIN	-F30 CTCM130 DRAGONSKIN	-M30 CTCM120 DRAGONSKIN	-M30 CTPM125 DRAGONSKIN	-M30 CTCM130 DRAGONSKIN
							
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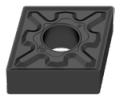
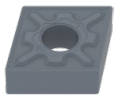
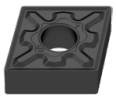
		75 010 ...	75 010 ...	75 010 ...	75 011 ...	75 011 ...	75 011 ...
ISO	RE mm						
120404EN	0.4	128002	228002	328002			
120408EN	0.8				130002	230002	330002
P		○	○	○	○	○	○
M		●	●	●	●	●	●
K							
N							
S				○			○
H							
O							

CNMG

		NEW	NEW	NEW
		-M42 CTCM120	-M42 CTPM125	-M42 CTCM130
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
				
		M	M	M
		CNMG	CNMG	CNMG
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120412EN	1.2	132002	232002	332002
P		○	○	○
M		●	●	●
K				
N				
S				○
H				
O				

CNMG / CNMM

		-M60 CTCM120	-M60 CTPM125	-M60 CTCM130	-R58 CTCM120	-R58 CTPM125	-R58 CTCM130
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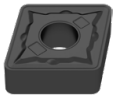
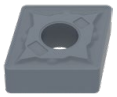
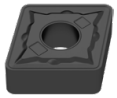
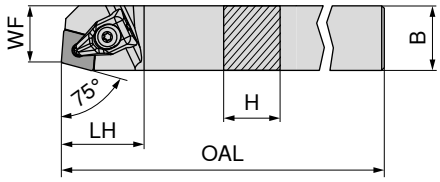
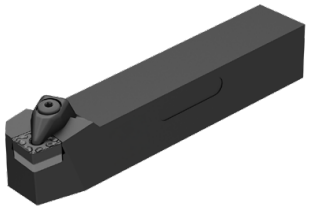
							
		M	M	M	R	R	R
		CNMG	CNMG	CNMG	CNMM	CNMM	CNMM
		75 012 ...	75 012 ...	75 012 ...	75 053 ...	75 053 ...	75 053 ...
ISO	RE mm						
120412EN	1.2	132002	232002	332002			
190624EN	2.4				160002	260002	360002
P		○	○	○	○	○	○
M		●	●	●	●	●	●
K							
N							
S				○			○
H							
O							

MaxiLock-D – DCBN 75° – Toolholder with top clamping

Scope of supply:
Tool holder with Torx key



Illustrations show right-hand versions



	Left-hand	Right-hand
	70 501 ...	**70 500 ...**

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert		
DCBN R/L 2525 M12	25	25	150	32	22	4	CN.. 1204	**825002**	**825002**


XPress type
70 950 ...

Key D
80 950 ...

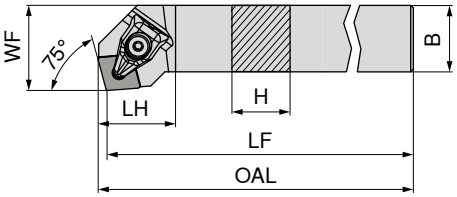

Clamping screw
70 950 ...


Carbide type C
70 950 ...

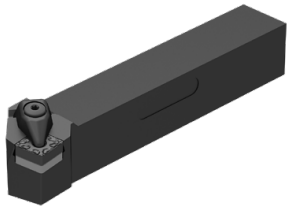
Spare parts for Article no.				
70 500 825002 / 70 501 825002	**824**	**120**	**820**	**810**

MaxiLock-D – DCKN 75° – Toolholder with top clamping

Scope of supply:
Tool holder with Torx key



Illustrations show right-hand versions



	Left-hand	Right-hand
	70 505 ...	**70 504 ...**

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert		
DCKN R/L 2525 M12	25	25	152.9	28.9	32	4	CN.. 1204	**825002**	**825002**


XPress type
70 950 ...

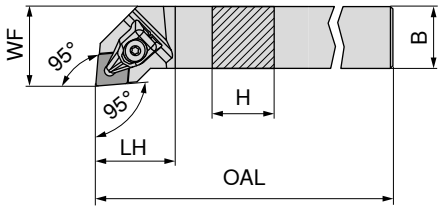
Key D
80 950 ...


Clamping screw
70 950 ...

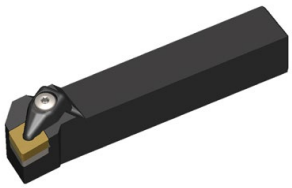

Carbide type C
70 950 ...

Spare parts for Article no.				
70 504 825002 / 70 505 825002	**824**	**120**	**820**	**810**

MaxiLock-D – DCLN 95° – Toolholder with top clamping



Illustrations show right-hand versions

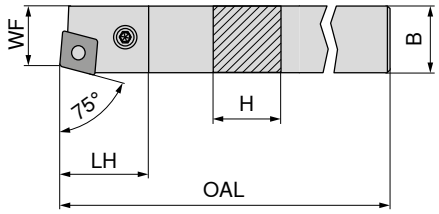


ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert	Left-hand 70 509 ...	Right-hand 70 508 ...
DCLN R/L 2020 K09	20	20	125	24	25	2	CN.. 0903	**520002**	**520002**
DCLN R/L 2020 K12	20	20	125	32	25	4	CN.. 1204	**620002**	**620002**
DCLN R/L 2525 M12	25	25	150	32	32	4	CN.. 1204	**625002**	**625002**
DCLN R/L 2525 M16	25	25	150	38	32	6,5	CN.. 1606	**725002**	**725002**
DCLN R/L 3232 P19	32	32	170	42	40	6,5	CN.. 1906	**832002**	**832002**

Spare parts for Article no.	 XPress type 70 950 ...	 Key D 80 950 ...	 Clamping screw 70 950 ...	 Carbide type C 70 950 ...
70 508 520002 / 70 509 520002	**823**	**118**	**819**	**848**
70 508 620002 / 70 509 620002	**824**	**120**	**820**	**810**
70 508 625002 / 70 509 625002	**824**	**120**	**820**	**810**
70 508 725002 / 70 509 725002	**825**	**121**	**821**	**814**
70 508 832002 / 70 509 832002	**826**	**121**	**821**	**816**

MaxiLock-N – PCBN 75° – Toolholder with lever clamping

Scope of supply:
Tool holder with allen key



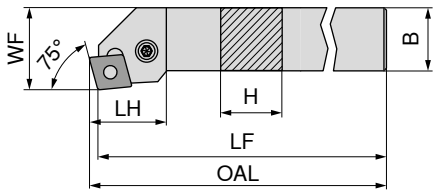
Illustrations show right-hand versions

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert	Left-hand 70 501 ...	Right-hand 70 500 ...
PCBN R/L 2525 M12	25	25	150	27.7	22	4	CN.. 1204	**025002**	**025002**

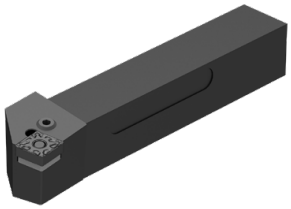
Spare parts for Article no.	 Key I 70 950 ...	 Shim 70 950 ...	 Assembly pin 70 950 ...	 Lever 70 950 ...	 Clamping screw 70 950 ...	 Carbide type C 70 950 ...
70 500 025002 / 70 501 025002	**176**	**198**	**192**	**187**	**209**	**233**

MaxiLock-N – PCKN 75° – Toolholder with lever clamping

Scope of supply:
Tool holder with allen key



Illustrations show right-hand versions



	Left-hand	Right-hand
	70 505 ...	**70 504 ...**

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert		
PCKN R/L 2525 M12	25	25	153.07	31.4	32	4	CN.. 1204	**025002**	**025002**


Key I — **70 950 ...**


Shim — **70 950 ...**

Assembly pin — **70 950 ...**


Lever — **70 950 ...**

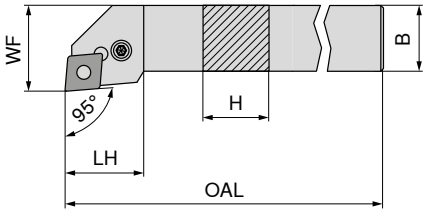

Clamping screw — **70 950 ...**


Carbide type C — **70 950 ...**

Spare parts for Article no.						
70 504 025002 / 70 505 025002	**176**	**198**	**192**	**187**	**209**	**233**

MaxiLock-N – PCLN 95° – Toolholder with lever clamping

Scope of supply:
Tool holder with allen key



Illustrations show right-hand versions

	Left-hand	Right-hand
	70 509 ...	**70 508 ...**

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert		
PCLN R/L 2020 K12	20	20	125	27.4	25	4	CN.. 1204	**020002**	**020002**
PCLN R/L 2525 M12	25	25	150	28.0	32	4	CN.. 1204	**125002**	**125002**
PCLN R/L 2525 P16	25	25	170	32.7	32	4	CN.. 1606	**225002**	**225002**
PCLN R/L 3232 P19	32	32	170	38.0	40	8	CN.. 1906	**232002**	**232002**


Key I — **70 950 ...**


Shim — **70 950 ...**

Assembly pin — **70 950 ...**

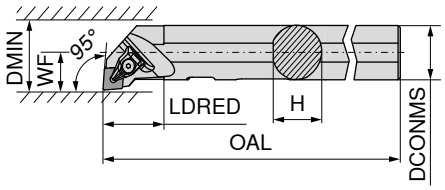

Lever — **70 950 ...**


Clamping screw — **70 950 ...**


Carbide type C — **70 950 ...**

Spare parts for Article no.						
70 508 020002 / 70 509 020002	**176**	**198**	**192**	**187**	**209**	**233**
70 508 125002 / 70 509 125002	**176**	**198**	**192**	**187**	**209**	**233**
70 508 225002 / 70 509 225002	**176**	**391**	**394**	**385**	**388**	**380**
70 508 232002 / 70 509 232002	**396**	**392**	**395**	**386**	**389**	**381**

MaxiLock-D – DCLN 95° – Boring bar with top clamping



Illustrations show right-hand versions

ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert	Left-hand 70 557 ...	Right-hand 70 556 ...
S20S DCLN R/L 09	20	19	180	35	13	25	2	CN.. 0903	**620002**	**020002**
S25R DCLN R/L 12	25	24	200	36	17	32	4	CN.. 1204	**625002**	**125002**
S32S DCLN R/L 12	32	31	250	40	22	40	4	CN.. 1204	**632002**	**232002**


XPress type
70 950 ...

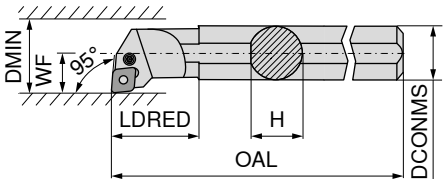

Key D
80 950 ...


Clamping screw
70 950 ...


Carbide type C
70 950 ...

Spare parts for Article no.				
70 556 020002 / 70 557 620002	**823**	**118**	**819**	**848**
70 556 125002 / 70 557 625002	**824**	**120**	**820**	**810**
70 556 232002 / 70 557 632002	**824**	**120**	**128**	**810**

MaxiLock-N – PCLN 95° – Boring bar with lever clamping



Illustrations show right-hand versions

ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	torque moment Nm	Insert	Left-hand 70 557 ...	Right-hand 70 556 ...
S25T PCLN R/L 12	25	23	300	22.0	17	4	CN.. 1204	**025002**	**025002**
S32S PCLN R/L 12	32	31	250	24.1	22	4	CN.. 1204	**032002**	**032002**


Key I
70 950 ...


Shim
70 950 ...


Assembly pin
70 950 ...


Lever
70 950 ...

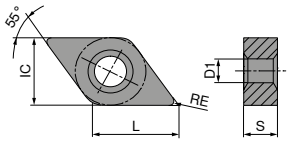

Clamping screw
70 950 ...


Carbide type C
70 950 ...

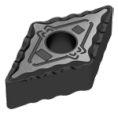
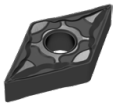
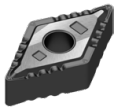
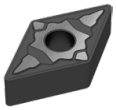
Spare parts for Article no.						
70 556 025002 / 70 557 025002	**176**	**198**	**192**	**187**	**205**	**233**
70 556 032002 / 70 557 032002	**176**	**198**	**192**	**187**	**205**	**233**

DNMG

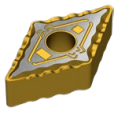
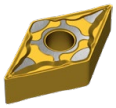
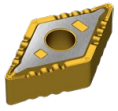
Designation	L mm	S mm	D1 mm	IC mm
DNMG 1506..	15.5	6.35	5.16	12.7



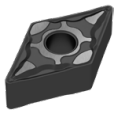
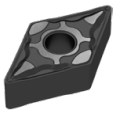
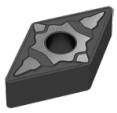
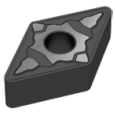
DNMG

	-F50 CTCP125	-M50 CTCP125	-XU CTCP125	-M70 CTCP125
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
				
	F	M	M	M
	DNMG	DNMG	DNMG	DNMG
	76 134 ...	76 136 ...	76 291 ...	76 263 ...
ISO / RE mm				
150604EN 0.4	928012			
150608EN 0.8		930012	930012	
150612EN 1.2				932012
P	●	●	●	●
M				
K	○	○	○	○
N				
S				
H				
O				

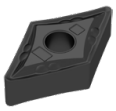
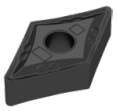
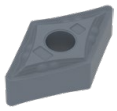
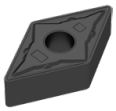
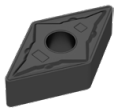
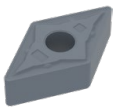
DNMG

	-F50 CTIC1135	-M50 CTIC1135	-XU CTIC1135	-M70 CTIC1135
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
				
	F	M	M	M
	DNMG	DNMG	DNMG	DNMG
	76 134 ...	76 136 ...	76 291 ...	76 263 ...
ISO / RE mm				
150604EN 0.4	428002			
150608EN 0.8		430002	430002	
150612EN 1.2				432002
P	●	●	●	●
M	○	○	○	○
K				
N				
S				
H				
O				

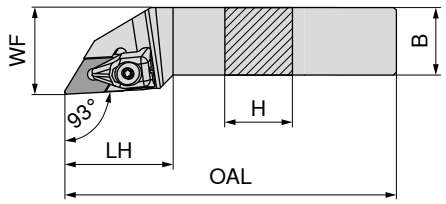
DNMG

	-M50 CTCK110	-M50 CTCK120	-M70 CTCK110	-M70 CTCK120
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
				
	M	M	M	M
	DNMG	DNMG	DNMG	DNMG
	70 133 ...	70 133 ...	70 263 ...	70 263 ...
ISO / RE mm				
150608EN 0.8	930002	030012		
150612EN 1.2			932002	032012
P	○	○	○	○
M				
K	●	●	●	●
N				
S				
H				
O				

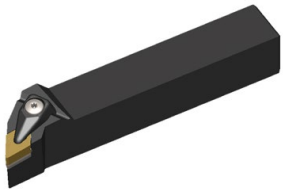
DNMG

		NEW				
	-M30 CTCM120	-M30 CTCM130	-M30 CTPM125	-M60 CTCM120	-M60 CTCM130	-M60 CTPM125
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
						
	M	M	M	M	M	M
	DNMG	DNMG	DNMG	DNMG	DNMG	DNMG
	75 014 ...	75 014 ...	75 014 ...	75 015 ...	75 015 ...	75 015 ...
ISO / RE mm						
150608EN 0.8	130002	330002	230002			
150612EN 1.2				132002	332002	232002
P	○	○	○	○	○	○
M	●	●	●	●	●	●
K						
N						
S		○			○	
H						
O						

MaxiLock-D – DDJN 93° – Toolholder with top clamping



Illustrations show right-hand versions



	Left-hand	Right-hand
	70 541 ...	**70 540 ...**

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert		
DDJN R/L 2525 M15	25	25	150	40	32	3.2	DN.. 1506	**725002**	**725002**
DDJN R/L 3225 P15	32	25	170	40	32	3.2	DN.. 1506	**832002**	**832002**

XPress type

Key D

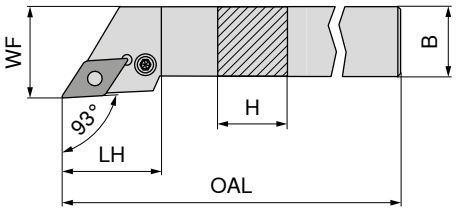
Clamping screw

Solid Carbide Seat D

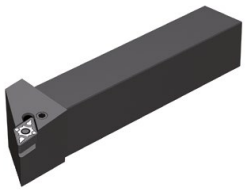
	70 950 ...	**80 950 ...**	**70 950 ...**	**70 950 ...**
Spare parts for Article no.				
70 540 725002 / 70 541 725002	**824**	**120**	**820**	**811**
70 540 832002 / 70 541 832002	**824**	**120**	**820**	**811**

MaxiLock-N – PDJN 93° – Toolholder with lever clamping

Scope of supply:
Tool holder with allen key



Illustrations show right-hand versions



	Left-hand	Right-hand
	70 541 ...	**70 540 ...**

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert		
PDJN R/L 2525 M15	25	25	150	34.7	32	3,2	DN.. 1506	**025002**	**025002**
PDJN R/L 3225 P15	32	25	170	34.7	32	3,2	DN.. 1506	**132002**	**032002**

Key I

Shim

Assembly pin

Lever

Clamping screw

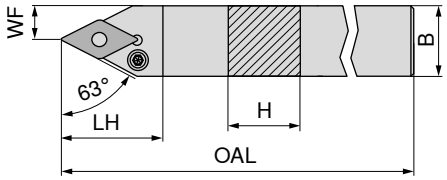
Solid Carbide Seat D

	70 950 ...	**70 950 ...**	**70 950 ...**	**70 950 ...**	**70 950 ...**	**70 950 ...**
Spare parts for Article no.						
70 540 025002 / 70 541 025002	**176**	**198**	**192**	**188**	**388**	**236**
70 540 032002 / 70 541 132002	**176**	**198**	**192**	**188**	**388**	**236**

MaxiLock-N – PDNN 63° – Toolholder with lever clamping

Scope of supply:

Tool holder with allen key



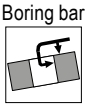
Illustrations show right-hand versions

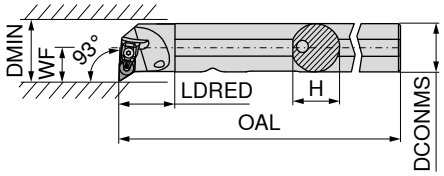
								Left-hand		Right-hand	
								70 537 ...		**70 536 ...**	
ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert				
PDNN R/L 2525 M15	25	25	150	36.5	12.50	3.2	DN.. 1506	**025002**		**025002**	
PDNN R/L 3225 P15	32	25	170	35.0	12.75	3.2	DN.. 1506	**732002**		**632002**	

	 Key I		 Shim		Assembly pin		 Lever		 Clamping screw		 Solid Carbide Seat D	
	70 950 ...		**70 950 ...**		**70 950 ...**		**70 950 ...**		**70 950 ...**		**70 950 ...**	
Spare parts for Article no.												
70 536 025002 / 70 537 025002	**176**		**198**		**192**		**188**		**388**		**236**	
70 536 632002 / 70 537 732002	**176**		**198**		**192**		**188**		**388**		**236**	

MaxiLock-D – DDUN 93° – Boring bar with top clamping

Scope of supply:
Boring bar with Torx key





Illustrations show right-hand versions

ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert	Left-hand 70 569 ...	Right-hand 70 568 ...
S32S DDUN R/L 15	32	31	250	40	22	40	3.2	DN.. 1506	732002	732002


XPress type
70 950 ...
824

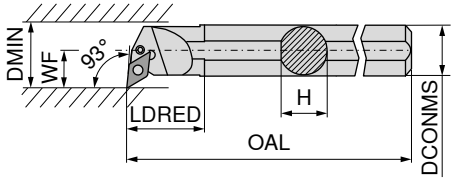
Key D
80 950 ...
120


Clamping screw
70 950 ...
128


Solid Carbide Seat D
70 950 ...
811

Spare parts for Article no.
70 568 732002 / 70 569 732002

MaxiLock-N – PDUN 93° – Boring bar with lever clamping



Illustrations show right-hand versions

ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert	Left-hand 70 569 ...	Right-hand 70 568 ...
S32T PDUN R/L 15	32	30	250	50	22	40	3,2	DN.. 1506	032002	032002


Key I
70 950 ...
176


Shim
70 950 ...
198

Assembly pin
70 950 ...
192


Lever
70 950 ...
188

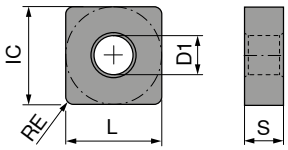

Clamping screw
70 950 ...
209


Solid Carbide Seat D
70 950 ...
236

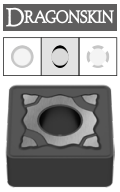
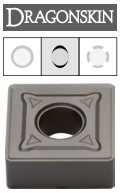
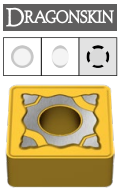
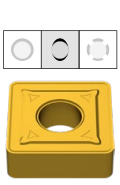
Spare parts for Article no.
70 568 032002 / 70 569 032002

SNMG / SNMA

Designation	L	S	D1	IC
	mm	mm	mm	mm
SNMG 1204..	12.70	4.76	5.16	12.70
SNMG 1906..	19.05	6.35	7.94	19.05
SNM. 2507..	25.40	7.94	9.12	25.40



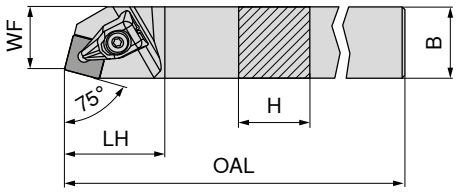
SNMG

	-M70 CTCP125	-TMR CTCP125	-M70 CTIC1135	-TMR CTIC1135
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	
				
	M	M	M	M
	SNMG	SNMG	SNMG	SNMG
	76 225 ...	76 125 ...	76 225 ...	76 125 ...
ISO				
120408EN	918012		418002	
120412EN	920012		420002	
190612EN	944012	944012	444002	444002
190616EN		946012		446002
250724EN		960012		460002
P	●	●	●	●
M			○	○
K	○	○		
N				
S				
H				
O				

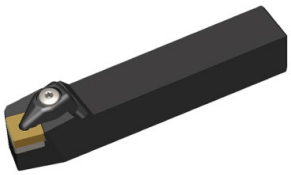
SNMA / SNMG

		CTCK110	CTCK120	-M70 CTCK110	-TMR CTCK110	-M70 CTCK120	-TMR CTCK120
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
		R	R	M	M	M	M
		SNMA	SNMA	SNMG	SNMG	SNMG	SNMG
		70 114 ...	70 114 ...	70 225 ...	70 305 ...	70 225 ...	70 305 ...
ISO	RE mm						
120404EN	0.4	916002	016012				
120408EN	0.8	918002	018012	918002		018012	
120412EN	1.2	920002	020012	920002		020012	
190612EN	1.2			944002	944002	044012	044012
190616EN	1.6				946002		046012
250724EN	2.4	960002	060012		960002		060012
P		○	○	○	○	○	○
M							
K		●	●	●	●	●	●
N							
S							
H							
O							

MaxiLock-D – DSBN 75° – Toolholder with top clamping



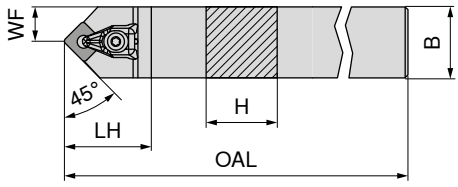
Illustrations show right-hand versions

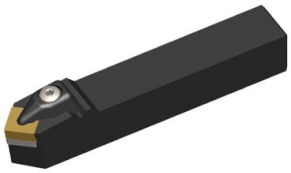


ISO designation	H	B	OAL	LH	WF	torque moment	Insert	Left-hand	Right-hand
	mm	mm	mm	mm	mm	Nm		70 521 ...	70 520 ...
DSBN R/L 2020 K12	20	20	125	35	17	4	SN.. 1204	620002	620002
DSBN R/L 2525 M12	25	25	150	35	22	4	SN.. 1204	625002	625002
DSBN R/L 3232 P19	32	32	170	48	27	6,5	SN.. 1906	732002	732002

Spare parts for Article no.	XPress type	Key-T	Key D	Clamping screw	Solid Carbide support S
	70 950 ...	70 950 ...	80 950 ...	70 950 ...	70 950 ...
70 520 620002	824		120	820	813
70 521 620002	824			820	813
70 520 625002 / 70 521 625002	824		120	820	813
70 520 732002 / 70 521 732002	826	90800		821	817

MaxiLock-D – DSDN 45° – Toolholder with top clamping

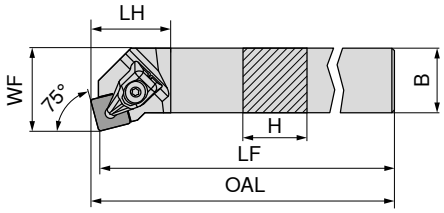




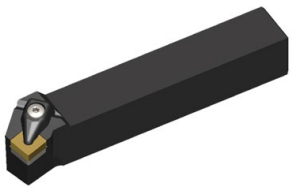
ISO designation	H	B	OAL	LH	WF	torque moment	Insert	Neutral
	mm	mm	mm	mm	mm	Nm		70 516 ...
DSDN N 2020 K12	20	20	125	38	10.3	4	SN.. 1204	620002
DSDN N 2525 M12	25	25	150	38	12.5	4	SN.. 1204	625002
DSDN N 3232 P19	32	32	170	51	16.0	4	SN.. 1906	232002

Spare parts for Article no.	XPress type	Key-T	Key D	Clamping screw	Solid Carbide support S
	70 950 ...	70 950 ...	80 950 ...	70 950 ...	70 950 ...
70 516 620002	824		120	820	813
70 516 625002	824		120	820	813
70 516 232002	826	90800		821	817

MaxiLock-D – DSKN 75° – Toolholder with top clamping



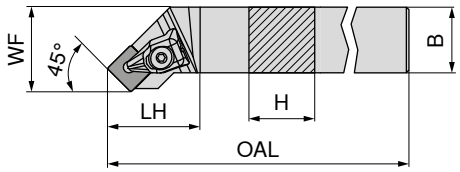
Illustrations show right-hand versions



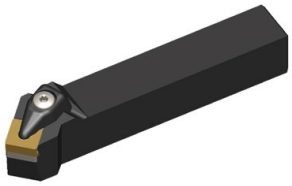
ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert	Left-hand 70 525 ...	Right-hand 70 524 ...
DSKN R/L 2020 K12	20	20	128.3	28	25	4	SN.. 1204	**620002**	**620002**
DSKN R/L 2525 M12	25	25	153.3	28	32	4	SN.. 1204	**625002**	**625002**

Spare parts for Article no.	XPress type 70 950 ...	Key D 80 950 ...	Clamping screw 70 950 ...	Solid Carbide support S 70 950 ...
70 524 620002 / 70 525 620002	**824**	**120**	**820**	**813**
70 524 625002 / 70 525 625002	**824**	**120**	**820**	**813**

MaxiLock-D – DSSN 45° – Toolholder with top clamping



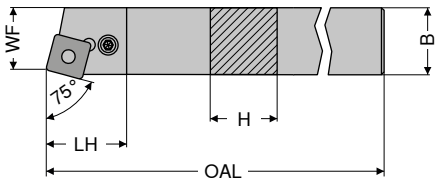
Illustrations show right-hand versions



ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert	Left-hand 70 513 ...	Right-hand 70 512 ...
DSSN R/L 2020 K12	20	20	125	35	25	4	SN.. 1204	**620002**	**620002**
DSSN R/L 2525 M12	25	25	150	35	32	4	SN.. 1204	**625002**	**625002**
DSSN R/L 3232 P19	32	32	170	32	32	6.5	SN.. 1906	**232002**	**632002**

Spare parts for Article no.	XPress type 70 950 ...	Key-T 70 950 ...	Key D 80 950 ...	Clamping screw 70 950 ...	Solid Carbide support S 70 950 ...
70 512 620002 / 70 513 620002	**824**		**120**	**820**	**813**
70 512 625002 / 70 513 625002	**824**		**120**	**820**	**813**
70 512 632002 / 70 513 232002	**826**	**90800**		**821**	**817**

MaxiLock-N – PSBN 75° – Toolholder with lever clamping



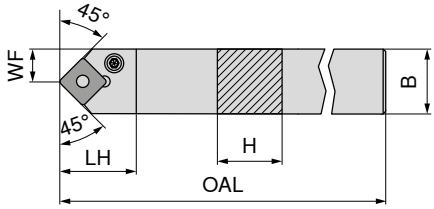
Illustrations show right-hand versions

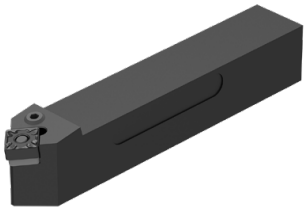
ISO designation	H	B	OAL	LH	WF	torque moment	Insert	Left-hand	Right-hand
	mm	mm	mm	mm	mm	Nm		70 521 ...	70 520 ...
PSBN R/L 2020 K12	20	20	125	27.5	17	4	SNM. 1204	020002	020002
PSBN R/L 2525 M12	25	25	150	27.5	22	4	SNM. 1204	025002	025002
PSBN R/L 3232 P19	32	32	170	39.2	27	8	SNM. 1906	032002	032002

Spare parts for Article no.	Key I	Shim	Assembly pin	Lever	Clamping screw	Solid Carbide support S
	70 950 ...	70 950 ...	70 950 ...	70 950 ...	70 950 ...	70 950 ...
70 520 020002 / 70 521 020002	176	198	192	187	209	230
70 520 025002 / 70 521 025002	176	198	192	187	209	230
70 520 032002 / 70 521 032002	396	392	395	386	389	383

MaxiLock-N – PSDN 45° – Toolholder with lever clamping

Scope of supply:
Tool holder with allen key





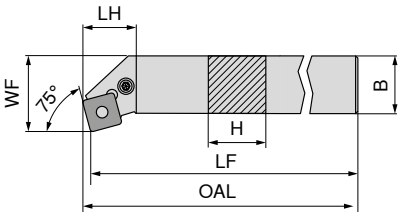
ISO designation	H	B	OAL	LH	WF	torque moment	Insert	Neutral
	mm	mm	mm	mm	mm	Nm		70 516 ...
PSDN N 2020 K12	20	20	125	27.6	10.3	4	SNM. 1204	020002
PSDN N 2525 M12	25	25	150	27.6	12.8	4	SNM. 1204	025002
PSDN N 3232 P19	32	32	170	40.4	16.0	8	SNM. 1906	032002

Spare parts for Article no.	Key I	Shim	Assembly pin	Lever	Clamping screw	Solid Carbide support S
	70 950 ...	70 950 ...	70 950 ...	70 950 ...	70 950 ...	70 950 ...
70 516 020002	176	198	192	187	209	230
70 516 025002	176	198	192	187	209	230
70 516 032002	396	392	395	386	389	383

MaxiLock-N – PSKN 75° – Toolholder with lever clamping

Scope of supply:

Tool holder with allen key



Illustrations show right-hand versions

ISO designation	H	B	OAL	LH	WF	torque moment	Insert	Left-hand	Right-hand
	mm	mm	mm	mm	mm	Nm		70 525 ...	70 524 ...
PSKN R/L 3232 P19	32	32	170.0	38.0	32	4	SN.. 1906	032002	032002
PSKN R/L 2020 K12	20	20	128.3	22.7	25	4	SNM. 1204	020002	020002
PSKN R/L 2525 M12	25	25	153.3	22.7	32	4	SNM. 1204	025002	025002


Key I — 70 950 ...


Shim — 70 950 ...

Assembly pin — 70 950 ...


Lever — 70 950 ...


Clamping screw — 70 950 ...

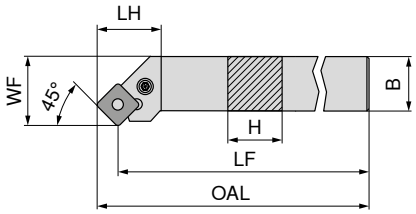

Solid Carbide support S — 70 950 ...

Spare parts for Article no.						
70 524 032002 / 70 525 032002	396	392	395	386	389	383
70 524 020002 / 70 525 020002	176	198	192	187	209	230
70 524 025002 / 70 525 025002	176	198	192	187	209	230

MaxiLock-N – PSSN 45° – Toolholder with lever clamping

Scope of supply:

Tool holder with allen key



Illustrations show right-hand versions

ISO designation	H	B	OAL	LH	WF	torque moment	Insert	Left-hand	Right-hand
	mm	mm	mm	mm	mm	Nm		70 513 ...	70 512 ...
PSSN R/L 2020 K12	20	20	134.0	28.0	25	4	SNM. 1204	020002	020002
PSSN R/L 2525 M12	25	25	159.0	29.3	32	4	SNM. 1204	025002	025002
PSSN R/L 3232 P19	32	32	183.5	40.2	40	8	SNM. 1906	032002	032002


Key I — 70 950 ...


Shim — 70 950 ...

Assembly pin — 70 950 ...


Lever — 70 950 ...

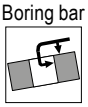

Clamping screw — 70 950 ...

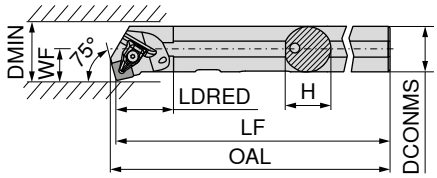

Solid Carbide support S — 70 950 ...

Spare parts for Article no.						
70 512 020002 / 70 513 020002	176	198	192	187	209	230
70 512 025002 / 70 513 025002	176	198	192	187	209	230
70 512 032002 / 70 513 032002	396	392	395	386	389	383

MaxiLock-D – DSKN 75° – Boring bar with top clamping

Scope of supply:
Boring bar with Torx key





Illustrations show right-hand versions

ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert	Left-hand 70 561 ...	Right-hand 70 560 ...
S32S DSKN R/L 12	32	31	254.2	40	22	40	4	SN.. 1204	**732002**	**732002**


XPress type
70 950 ...
824

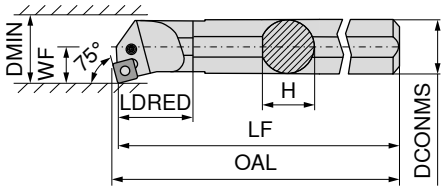

Key D
80 950 ...
120


Clamping screw
70 950 ...
128


Solid Carbide support S
70 950 ...
813

Spare parts for Article no.
70 560 732002 / 70 561 732002

MaxiLock-N – PSKN 75° – Boring bar with lever clamping



Illustrations show right-hand versions

ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert	Left-hand 70 561 ...	Right-hand 70 560 ...
S32S PSKN R/L 12	32	30	250	50	22	40	4	SNM. 1204	**032002**	**032002**


Key I
70 950 ...
176


Shim
70 950 ...
198


Assembly pin
70 950 ...
192


Lever
70 950 ...
187

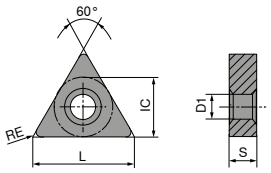

Clamping screw
70 950 ...
205


Solid Carbide support S
70 950 ...
230

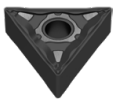
Spare parts for Article no.
70 560 032002 / 70 561 032002

TNMG / TNMA

Designation	L	S	D1	IC
	mm	mm	mm	mm
TNM. 1604..	16.5	4.76	3.81	9.52
TNM. 2204..	22.0	4.76	5.16	12.70



TNMG

	-F50 CTCP125	-M50 CTCP125	-M70 CTCP125	-TMR CTCP125
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
				
	F	M	M	M
	TNMG	TNMG	TNMG	TNMG
	76 146 ...	76 138 ...	76 155 ...	76 201 ...
ISO / RE mm				
160404EN 0.4	916012			
160408EN 0.8	918012	918012	918012	
160412EN 1.2			920012	
220408EN 0.8				930012
220412EN 1.2			932012	932012
220416EN 1.6				934012
P	●	●	●	●
M				
K	○	○	○	○
N				
S				
H				
O				

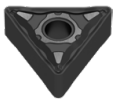
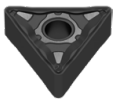
TNMG

	-F50 CTIC1135	-M50 CTIC1135	-M70 CTIC1135	-TMR CTIC1135
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
				
	F	M	M	M
	TNMG	TNMG	TNMG	TNMG
	76 146 ...	76 138 ...	76 155 ...	76 201 ...
ISO / RE mm				
160404EN 0.4	416002			
160408EN 0.8	418002	418002	418002	
160412EN 1.2			420002	
220408EN 0.8				430002
220412EN 1.2			432002	432002
220416EN 1.6				434002
P	●	●	●	●
M	○	○	○	○
K				
N				
S				
H				
O				

TNMA

	CTCK110	CTCK120
	DRAGONSKIN	DRAGONSKIN
		
	R	M
	TNMA	TNMA
	70 134 ...	70 134 ...
ISO / RE mm		
160408EN 0.8	918002	018012
160412EN 1.2	920002	020012
220408EN 0.8	930002	030012
P	○	○
M		
K	●	●
N		
S		
H		
O		

TNMG

		-M50 CTCK110	-M50 CTCK120	-M70 CTCK110	-M70 CTCK120	-TMR CTCK110	-TMR CTCK120
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
		M	M	M	M	M	M
		TNMG	TNMG	TNMG	TNMG	TNMG	TNMG
		70 306 ...	70 306 ...	70 155 ...	70 155 ...	70 315 ...	70 315 ...
ISO	RE mm						
160408EN	0.8	918002	018012	918002	018012		
160412EN	1.2			920002	020012		
220408EN	0.8			932002		930002	030012
220412EN	1.2				032012	932002	032012
220416EN	1.6					934002	034012
P		○	○	○	○	○	○
M							
K		●	●	●	●	●	●
N							
S							
H							
O							

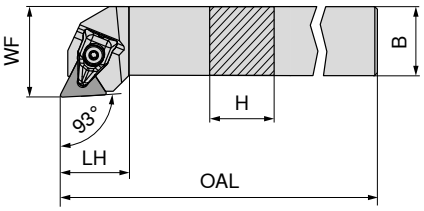
TNMG

		-F30 CTCM120	-F30 CTCM130	-F30 CTPM125	-M30 CTCM120	-M30 CTCM130	-M30 CTPM125
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
		F	F	F	M	M	M
		TNMG	TNMG	TNMG	TNMG	TNMG	TNMG
		75 019 ...	75 019 ...	75 019 ...	75 020 ...	75 020 ...	75 020 ...
ISO	RE mm						
160404EN	0.4	116002	316002	216002			
160408EN	0.8				118002	318002	218002
P		○	○	○	○	○	○
M		●	●	●	●	●	●
K							
N							
S			○			○	
H							
O							

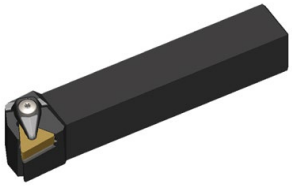
TNMG

		NEW	NEW	NEW			
		-M42 CTCM120	-M42 CTCM130	-M42 CTPM125	-M60 CTCM120	-M60 CTCM130	-M60 CTPM125
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
		M	M	M	M	M	M
		TNMG	TNMG	TNMG	TNMG	TNMG	TNMG
		75 035 ...	75 035 ...	75 035 ...	75 021 ...	75 021 ...	75 021 ...
ISO	RE mm						
160408EN	0.8	118002	318002	218002	120002	320002	220002
160412EN	1.2						
P		○	○	○	○	○	○
M		●	●	●	●	●	●
K							
N							
S			○			○	
H							
O							

MaxiLock-D – DTJN 93° – Toolholder with top clamping



Illustrations show right-hand versions



	Left-hand	Right-hand
	70 591 ...	**70 590 ...**

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert		
DTJN R/L 2020 K16	20	20	125	23	25	3	TNM. 1604	**820002**	**820002**
DTJN R/L 2525 M16	25	25	150	24	32	3	TNM. 1604	**825002**	**825002**


XPress type

Key D

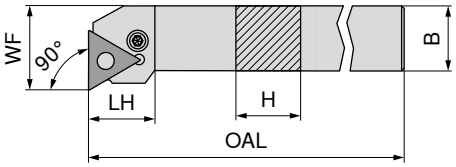

Clamping screw


Solid Carbide Seat T

	70 950 ...	**80 950 ...**	**70 950 ...**	**70 950 ...**
Spare parts for Article no.				
70 590 820002 / 70 591 820002	**823**	**118**	**819**	**847**
70 590 825002 / 70 591 825002	**823**	**118**	**819**	**847**

MaxiLock-N – PTFN 90° – Toolholder with lever clamping

Scope of supply:
Tool holder with allen key



Illustrations show right-hand versions

	Left-hand	Right-hand
	70 535 ...	**70 534 ...**

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert		
PTFN R/L 2020 K16	20	20	125	20.2	25	3	TNM. 1604	**020002**	**020002**
PTFN R/L 2525 M16	25	25	150	20.2	32	3	TNM. 1604	**025002**	**025002**
PTFN R/L 2525 M22	25	25	150	25.2	32	4	TNM. 2204	**125002**	**125002**
PTFN R/L 3225 P22	32	32	170	25.2	40	4	TNM. 2204	**032002**	**032002**

Key I


Shim

Assembly pin


Lever

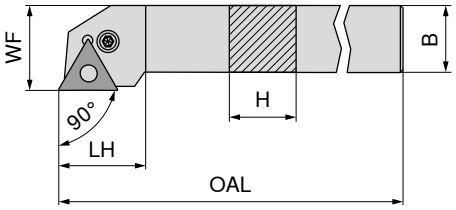

Clamping screw


Solid Carbide Seat T

	70 950 ...	**70 950 ...**	**70 950 ...**	**70 950 ...**	**70 950 ...**	**70 950 ...**
Spare parts for Article no.						
70 534 020002 / 70 535 020002	**175**	**197**	**191**	**185**	**208**	**225**
70 534 025002 / 70 535 025002	**175**	**197**	**191**	**185**	**208**	**225**
70 534 125002 / 70 535 125002	**176**	**198**	**192**		**209**	**226**
70 534 032002 / 70 535 032002	**176**	**198**	**192**		**209**	**226**

MaxiLock-N – PTGN 91° – Toolholder with lever clamping

Scope of supply:
Tool holder with allen key



Illustrations show right-hand versions

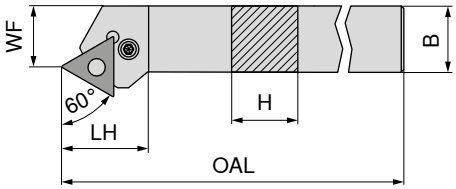
NEW

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert	Left-hand 70 533 ...	Right-hand 70 598 ...
PTGN R/L 2020 K16	20	20	125	21	25	3	TNM. 1604	020002	020002
PTGN R/L 2525 M16	25	25	150	25	32	3	TNM. 1604	025002	025002
PTGN R/L 2525 M22	25	25	150	29	32	4	TNM. 2204	125002	125002
PTGN R/L 3232 P22	32	32	170	29	40	4	TNM. 2204	032002	032002

Spare parts for Article no.	 Key I 70 950 ...	 Shim 70 950 ...	 Assembly pin 70 950 ...	 Lever 70 950 ...	 Clamping screw 70 950 ...	 Solid Carbide Seat T 70 950 ...
70 533 020002 / 70 598 020002	175	197	191	185	208	225
70 533 025002 / 70 598 025002	175	197	191	185	208	225
70 533 125002 / 70 598 125002	176	198	192	187	209	226
70 533 032002 / 70 598 032002	176	198	192	187	209	226

MaxiLock-N – PTTN 60° – Toolholder with lever clamping

Scope of supply:
Tool holder with allen key

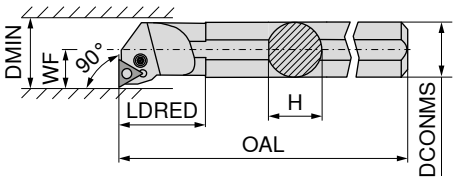


Illustrations show right-hand versions

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert	Left-hand 70 529 ...	Right-hand 70 528 ...
PTTN R/L 2020 K16	20	20	125	25.9	17	3	TNM. 1604	020002	020002
PTTN R/L 2525 M16	25	25	150	25.0	22	3	TNM. 1604	025002	025002

Spare parts for Article no.	 Key I 70 950 ...	 Shim 70 950 ...	 Assembly pin 70 950 ...	 Lever 70 950 ...	 Clamping screw 70 950 ...	 Solid Carbide Seat T 70 950 ...
70 528 020002 / 70 529 020002	175	197	191	185	208	225
70 528 025002 / 70 529 025002	175	197	191	185	208	225

MaxiLock-N – PTFN 90° – Boring bar with lever clamping



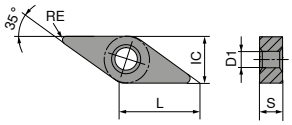
Illustrations show right-hand versions

									Left-hand	Right-hand
									70 565 ...	**70 564 ...**
ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert		
S25R PTFN R/L 16	25	23	200	17.5	17	32	3	TNM. 1604	**025002**	**025002**
S32S PTFN R/L 16	32	30	250	18.0	22	40	3	TNM. 1604	**032002**	**032002**

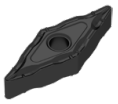
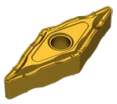
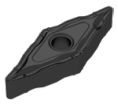
	 Key I	 Shim	Assembly pin	 Lever	 Clamping screw	 Solid Carbide Seat T
	70 950 ...	**70 950 ...**	**70 950 ...**	**70 950 ...**	**70 950 ...**	**70 950 ...**
Spare parts for Article no.						
70 564 025002 / 70 565 025002	**175**	**197**	**191**	**185**	**208**	**225**
70 564 032002 / 70 565 032002	**175**	**197**	**191**	**185**	**208**	**225**

VNMG

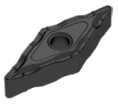
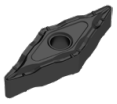
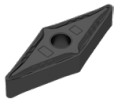
Designation	L mm	S mm	D1 mm	IC mm
VNMG 12T3..	12.7	3.97	4.40	7.15
VNMG 1604..	16.6	4.76	3.81	9.52



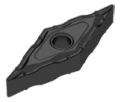
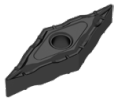
VNMG

		-TMF CTCP125	-TMF CTIC1135	-F50 CTCP125 DRAGONSKIN	-F50 CTIC1135 DRAGONSKIN	-F40 CTCP125 DRAGONSKIN	-F40 CTIC1135
							
		F VNMG	F VNMG	F VNMG	F VNMG	F VNMG	F VNMG
		76 202 ...	76 202 ...	76 156 ...	76 156 ...	76 000 ...	76 000 ...
ISO	RE mm						
12T304EN	0.4	904012	404002				
12T308EN	0.8	908012	408002				
160404EN	0.4			916012	416002		
160408EN	0.8			918012	418002	918012	418002
P		●	●	●	●	●	●
M			○		○		○
K		○		○		○	
N							
S							
H							
O							

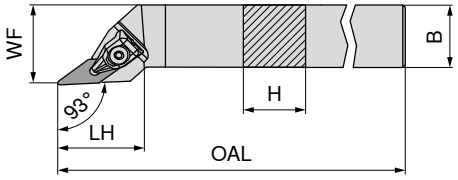
VNMG

		-TMF CTCM120	-TMF CTCM130	-TMF CTPM125	-F30 CTCM120 DRAGONSKIN	-F30 CTCM130 DRAGONSKIN	-F30 CTPM125 DRAGONSKIN
							
		F VNMG	F VNMG	F VNMG	F VNMG	F VNMG	F VNMG
		75 314 ...	75 314 ...	75 314 ...	75 022 ...	75 022 ...	75 022 ...
ISO	RE mm						
12T304EN	0.4	104002	304002	204002			
12T308EN	0.8	108002	308002	208002			
160404EN	0.4				116002	316002	216002
P		○	○	○	○	○	○
M		●	●	●	●	●	●
K							
N							
S			○			○	
H							
O							

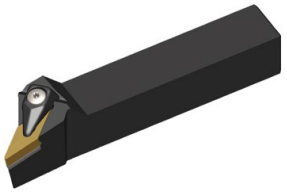
VNMG

		-F40 CTCM120	-F40 CTCM130	-F40 CTPM125
				
		F	F	F
		VNMG	VNMG	VNMG
		75 000 ...	75 000 ...	75 000 ...
ISO	RE mm			
160408EN	0.8	118002	318002	218002
P		○	○	○
M		●	●	●
K				
N				
S			○	
H				
O				

MaxiLock-D – DVJN 93° – Toolholder with top clamping



Illustrations show right-hand versions



ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert	Left-hand 70 503 ...	Right-hand 70 502 ...
DVJN R/L 2020 K16	20	20	125	39	25	2	VN.. 1604	**620002**	**620002**
DVJN R/L 2525 M16	25	25	150	39	32	2	VN.. 1604	**725002**	**725002**


XPress type **70 950 ...**


Key D **80 950 ...**

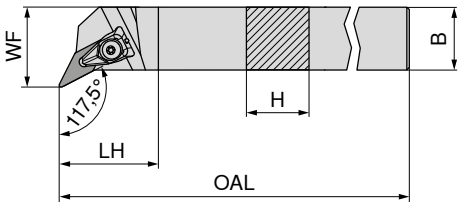

Clamping screw **70 950 ...**


Solid Carbide Seat V **70 950 ...**

Spare parts for Article no.				
70 502 620002 / 70 503 620002	**835**	**118**	**819**	**806**
70 502 725002 / 70 503 725002	**835**	**118**	**819**	**806**

MaxiLock-D – DVPN 117,5° – Toolholder with top clamping

Scope of supply:
Tool holder with Torx key



Illustrations show right-hand versions

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert	Left-hand 70 494 ...	Right-hand 70 494 ...
DVPN L 2525 M16	25	25	150	39	32	2	VN.. 1604	**025002**	**025012**


XPress type **70 950 ...**

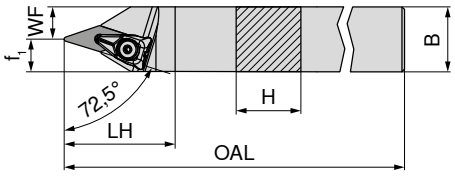

Key D **80 950 ...**


Clamping screw **70 950 ...**


Solid Carbide Seat V **70 950 ...**

Spare parts for Article no.				
70 494 025012 / 70 494 025002	**835**	**118**	**819**	**806**

MaxiLock-D – DVVN 72.5° – Toolholder with top clamping



Neutral

70 506 ...

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert	
DVVN N 2020 K16	20	20	125	43	7.5	2	VN.. 1604	**620002**
DVVN N 2525 M16	25	25	150	43	12.5	2	VN.. 1604	**625002**

XPress type

70 950 ...

Key D

80 950 ...

Clamping screw

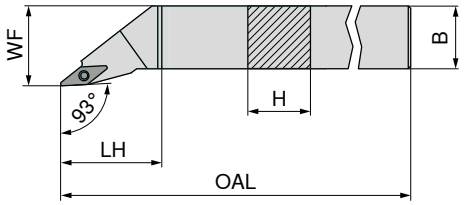
70 950 ...

Solid Carbide Seat V

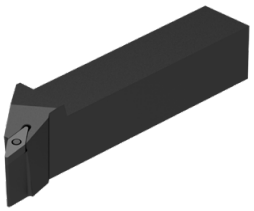
70 950 ...

Spare parts for Article no.				
70 506 620002	**835**	**118**	**819**	**806**
70 506 625002	**835**	**118**	**819**	**806**

MaxiLock-S – SVJN 93° – Toolholder with screw clamping



Illustrations show right-hand versions



NEW Left-hand

70 538 ...

NEW Right-hand

70 538 ...

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	Insert		
SVJN R/L 2020 K12	20	20	125	30	25	VN.. 12T3	**020002**	**020012**
SVJN R/L 2525 M12	25	25	150	30	32	VN.. 12T3	**025002**	**025012**

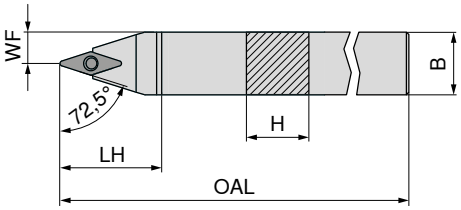
Key-T

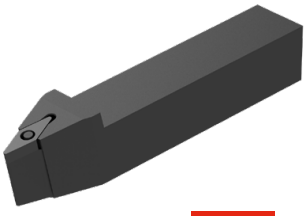
80 950 ...

Spare parts for Article no.	
70 538 020012 / 70 538 020002	**085**
70 538 025012 / 70 538 025002	**085**

The suitable clamping screw for these holders can be ordered under material number 4027334.

MaxiLock-S – SVVN 72,5° – Toolholder with screw clamping





NEW

Neutral

70 539 ...

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	Insert	
SVVN N 2020 K12	20	20	150	30	10.0	VN.. 12T3	**020002**
SVVN N 2525 M12	25	25	150	30	12.5	VN.. 12T3	**025002**

Key-T

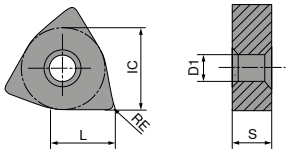
80 950 ...

Spare parts for Article no.	
70 539 020002	**085**
70 539 025002	**085**

The suitable clamping screw for these holders can be ordered under material number 4027334.

WNMG / WNMA

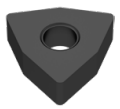
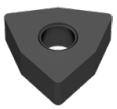
Designation	L	S	D1	IC
	mm	mm	mm	mm
WNMG 0604..	6.5	4.76	3.81	9.52
WNM. 0804..	8.6	4.76	5.16	12.70



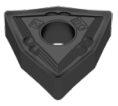
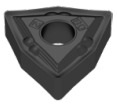
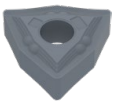
WNMG

	-F50 CTCP125	-F50 CTIC1135	-M50 CTCP125	-M50 CTIC1135	-M70 CTCP125	-M70 CTIC1135
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
						
	F	F	M	M	M	M
	WNMG	WNMG	WNMG	WNMG	WNMG	WNMG
	76 157 ...	76 157 ...	76 139 ...	76 139 ...	76 273 ...	76 273 ...
ISO / RE mm						
060404EN 0.4	904012	404002				
060408EN 0.8			906012	406002	906012	406002
060412EN 1.2			908012	408002		
080408EN 0.8					918012	418002
080412EN 1.2			920012	420002	920012	420002
P	●	●	●	●	●	●
M		○		○		○
K	○		○		○	
N						
S						
H						
O						

WNMA / WNMG

	CTCK110	CTCK120	-M50 CTCK110	-M50 CTCK120	-M70 CTCK110	-M70 CTCK120
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
						
	R	R	M	M	M	M
	WNMA	WNMA	WNMG	WNMG	WNMG	WNMG
	70 169 ...	70 169 ...	70 139 ...	70 139 ...	70 273 ...	70 273 ...
ISO / RE mm						
060408EN 0.8			906002	006012	906002	006012
060412EN 1.2			908002	008012		
080408EN 0.8					918002	018012
080412EN 1.2	920002	020012	920002	020012	920002	020012
P	○	○	○	○	○	○
M						
K	●	●	●	●	●	●
N						
S						
H						
O						

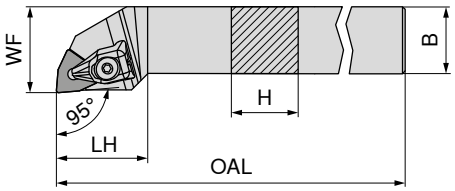
WNMG

		NEW	NEW	NEW
		-M30 CTCM120	-M30 CTCM130	-M30 CTPM125	-M42 CTCM120	-M42 CTCM130	-M42 CTPM125
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
		M WNMG	M WNMG	M WNMG	M WNMG	M WNMG	M WNMG
		75 025 ...	75 025 ...	75 025 ...	75 036 ...	75 036 ...	75 036 ...
ISO	RE mm						
060408EN	0.8	106002	306002	206002	106002	306002	206002
P		○	○	○	○	○	○
M		●	●	●	●	●	●
K							
N							
S			○			○	
H							
O							

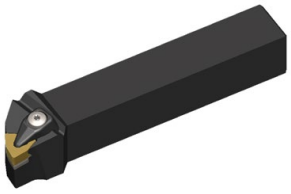
WNMG

		-M60 CTCM120	-M60 CTCM130	-M60 CTPM125
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
				
		M WNMG	M WNMG	M WNMG
		75 026 ...	75 026 ...	75 026 ...
ISO	RE mm			
080408EN	0.8	118002	318002	218002
080412EN	1.2	120002	320002	220002
P		○	○	○
M		●	●	●
K				
N				
S			○	
H				
O				

MaxiLock-D – DWLN 95° – Toolholder with top clamping



Illustrations show right-hand versions



ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert	Left-hand 70 543 ...	Right-hand 70 542 ...
DWLN R/L 2020 K06	20	20	125	27	25	2	WN.. 0604	**720002**	**720002**
DWLN R/L 2525 M06	25	25	150	27	32	2	WN.. 0604	**725002**	**725002**
DWLN R/L 2020 K08	20	20	125	34	25	4	WN.. 0804	**620002**	**620002**
DWLN R/L 2525 M08	25	25	150	34	32	4	WN.. 0804	**625002**	**625002**


XPress type
70 950 ...


Key D
80 950 ...

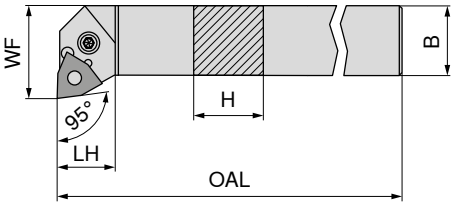

Clamping screw
70 950 ...


Solid Carbide Seat W
70 950 ...

Spare parts for Article no.				
70 542 720002 / 70 543 720002	**823**	**118**	**819**	**807**
70 542 725002 / 70 543 725002	**823**	**118**	**819**	**807**
70 542 620002 / 70 543 620002	**824**	**120**	**820**	**812**
70 542 625002 / 70 543 625002	**824**	**120**	**820**	**812**

MaxiLock-N – PWLN 95° – Toolholder with lever clamping

Scope of supply:
Tool holder with allen key



Illustrations show right-hand versions

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert	Left-hand 70 543 ...	Right-hand 70 542 ...
PWLN R/L 2020 K06	20	20	125	25	25	3	WNMG 0604	**120002**	**020002**
PWLN R/L 2525 M06	25	25	150	25	32	3	WNMG 0604	**025002**	**225002**
PWLN R/L 2020 K08	20	20	125	25	25	4	WNMG 0804	**020002**	**120002**
PWLN R/L 2525 M08	25	25	150	25	32	4	WNMG 0804	**125002**	**025002**


Key I
70 950 ...


Shim
70 950 ...

Assembly pin
70 950 ...


Lever
70 950 ...

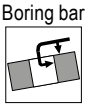

Clamping screw
70 950 ...

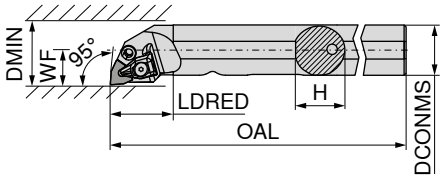

Solid Carbide Seat W
70 950 ...

Spare parts for Article no.						
70 542 020002 / 70 543 120002	**175**	**122**	**191**	**185**	**208**	**127**
70 542 225002 / 70 543 025002	**175**	**122**	**191**	**185**	**208**	**127**
70 542 120002 / 70 543 020002	**176**	**198**	**192**	**187**	**209**	**235**
70 542 025002 / 70 543 125002	**176**	**198**	**192**	**187**	**209**	**235**

MaxiLock-D – DWLN 95° – Boring bar with top clamping

Scope of supply:
Boring bar with Torx key





Illustrations show right-hand versions

ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert	Left-hand 70 573 ...	Right-hand 70 572 ...
S25R DWLN R/L 06	25	24	200	32	17	32	2	WN.. 0604	**625002**	**625002**
S25T DWLN R/L 08	25	23	300	40	17	32	4	WN.. 0804	**825002**	**825002**
S32S DWLN R/L 08	32	31	250	40	22	44	4	WN.. 0804	**832002**	**832002**


XPress type

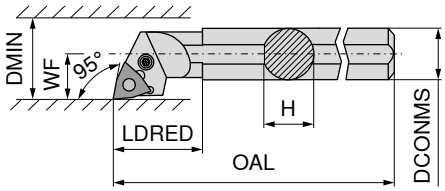

Key D


Clamping screw


Solid Carbide Seat W

Spare parts for Article no.	70 950 ...	80 950 ...	70 950 ...	70 950 ...
70 572 625002 / 70 573 625002	**823**	**118**	**819**	**807**
70 572 825002 / 70 573 825002	**824**	**120**	**820**	**812**
70 572 832002 / 70 573 832002	**824**	**120**	**820**	**812**

MaxiLock-N – PWLN 95° – Boring bar with lever clamping



Illustrations show right-hand versions

ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert	Left-hand 70 573 ...	Right-hand 70 572 ...
S20Q PWLN R/L 06	20	18	180	25	13	25	2	WNMG 0604	**020002**	**025002**
S25R PWLN R/L 06	25	23	200	30	17	32	2	WNMG 0604	**125002**	**125002**
S25R PWLN R/L 08	25	23	200	40	17	32	4	WNMG 0804	**225002**	**225002**
S32S PWLN R/L 08	32	30	250	50	22	40	4	WNMG 0804	**032002**	**032002**


Key I


Shim


Assembly pin


Lever

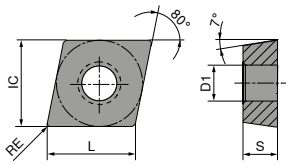

Clamping screw


Solid Carbide Seat W

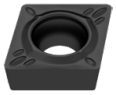
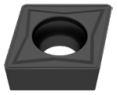
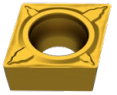
Spare parts for Article no.	70 950 ...	70 950 ...	70 950 ...	70 950 ...	70 950 ...	70 950 ...
70 572 025002 / 70 573 020002	**175**	**122**	**191**	**129**	**217**	**127**
70 572 125002 / 70 573 125002	**175**	**122**	**191**	**185**	**208**	**127**
70 572 225002 / 70 573 225002	**176**	**198**	**192**	**187**	**205**	**235**
70 572 032002 / 70 573 032002	**176**	**198**	**192**	**187**	**209**	**235**

CCMT

Designation	L	S	D1	IC
	mm	mm	mm	mm
CCMT 0602..	6.4	2.38	2.8	6.35
CCMT 09T3..	9.7	3.97	4.4	9.52
CCMT 1204..	12.9	4.76	5.5	12.70



CCMT

	-SF CTCP125	-SM CTCP125	-SMF CTCP125	-SF CTIC1135	-SM CTIC1135	-SMF CTIC1135
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
						
	F	M	F	F	M	F
	CCMT	CCMT	CCMT	CCMT	CCMT	CCMT
	76 253 ...	76 252 ...	76 249 ...	76 253 ...	76 252 ...	76 249 ...
ISO / RE mm						
060204EN 0.4	904012	904012		404002	404002	
060208EN 0.8		906012	906012		406002	406002
09T304EN 0.4		916012			416002	
09T308EN 0.8		918012			418002	
120408EN 0.8		930012			430002	
P	●	●	●	●	●	●
M				○	○	○
K	○	○	○			
N						
S						
H						
O						

CCMT

		-SM CTCK110 DRAGONSKIN	-SM CTCK120 DRAGONSKIN
			
		M CCMT 70 252 ...	M CCMT 70 252 ...
ISO	RE mm		
060204EN	0.4	904002	004012
060208EN	0.8	906002	006012
09T304EN	0.4	916002	016012
09T308EN	0.8	918002	018012
120408EN	0.8	930002	030012
P		○	○
M			
K		●	●
N			
S			
H			
O			

CCMT

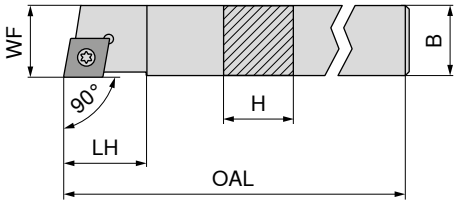
			NEW		NEW		NEW
		-M25 CTCM120 DRAGONSKIN	-F43 CTCM120 DRAGONSKIN	-M25 CTPM125 DRAGONSKIN	-F43 CTPM125 DRAGONSKIN	-M25 CTCM130 DRAGONSKIN	-F43 CTCM130 DRAGONSKIN
							
		F CCMT 75 210 ...	F CCMT 75 031 ...	F CCMT 75 210 ...	F CCMT 75 031 ...	F CCMT 75 210 ...	F CCMT 75 031 ...
ISO	RE mm						
060204EN	0.4	104002		204002		304002	
09T304EN	0.4	116002	116002	216002	216002	316002	316002
09T308EN	0.8	118002	118002	218002	218002	318002	318002
P		○	○	○	○	○	○
M		●	●	●	●	●	●
K							
N							
S						○	○
H							
O							

MaxiLock-S – SCAC 90° – Toolholder with screw clamping

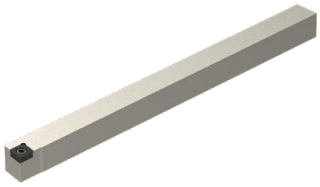
▲ for sliding head lathes

Scope of supply:

Tool holder with Torx key



Illustrations show right-hand versions



								NEW Left-hand	NEW Right-hand
ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert	**70 633 ...**	**70 633 ...**
SCAC R/L 2020 K09	20	20	125	13	20	3.2	CC.. 09T3	**020002**	**020012**
SCAC R/L 2525 M12	25	25	150	17	25	5	CC.. 1204	**025002**	**025012**

Key D

Clamping screw

Carbide type C

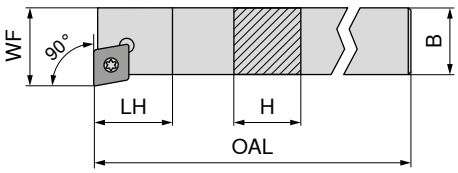
Threaded sleeve

Spare parts for Article no.	**80 950 ...**	**70 950 ...**	**70 950 ...**	**70 950 ...**
70 633 020012 / 70 633 020002		**87900**		
70 633 025012 / 70 633 025002	**120**	**820**	**166**	**170**

MaxiLock-S – SCFC 90° – Toolholder with screw clamping

Scope of supply:

Tool holder with Torx key



Illustrations show right-hand versions

								Left-hand	Right-hand
ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert	**70 761 ...**	**70 760 ...**
SCFC R/L 2020 K12	20	20	125	17	25	5	CC.. 1204	**020002**	**020002**

Combination Key

Clamping screw

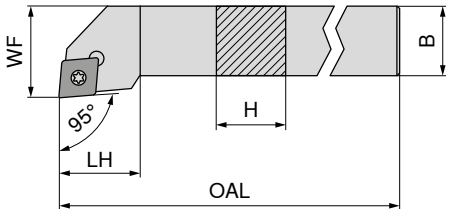
Carbide type C

Threaded sleeve

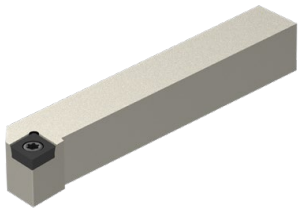
Spare parts for Article no.	**70 950 ...**	**70 950 ...**	**70 950 ...**	**70 950 ...**
70 760 020002 / 70 761 020002	**398**	**114**	**166**	**170**

MaxiLock-S – SCLC 95° – Toolholder with screw clamping

Scope of supply:
Tool holder with Torx key



Illustrations show right-hand versions



								NEW Left-hand	NEW Right-hand
ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert	**70 636 ...**	**70 636 ...**
SCLC R/L 2020 K09	20	20	125	17	25	3,2	CC.. 09T3	**020002**	**020012**
SCLC R/L 2525 M12	25	25	150	20	32	5	CC.. 1204	**025002**	**025012**


Key D
80 950 ...


Clamping screw
70 950 ...

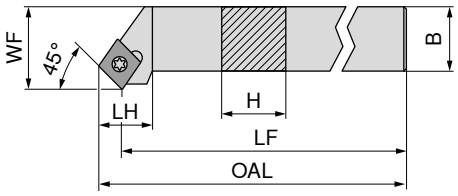

Carbide type C
70 950 ...


Threaded sleeve
70 950 ...

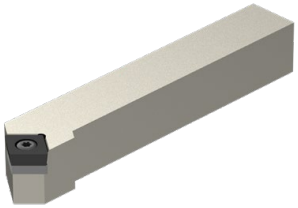
Spare parts for Article no.			
70 636 020012 / 70 636 020002		**87900**	
70 636 025012 / 70 636 025002	**120**	**820**	**166**	**170**

MaxiLock-S – SCSC 45° – Toolholder with screw clamping

Scope of supply:
Tool holder with Torx key



Illustrations show right-hand versions



								NEW Left-hand	NEW Right-hand
ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert	**70 638 ...**	**70 638 ...**
SCSC R/L 2525 M12	25	25	158.45	20	32	5	CC.. 1204	**025002**	**025012**


Key D
80 950 ...


Clamping screw
70 950 ...

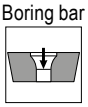

Carbide type C
70 950 ...

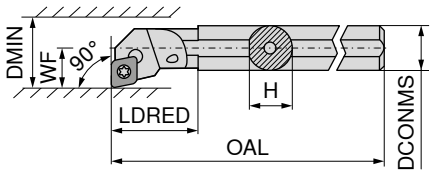

Threaded sleeve
70 950 ...

Spare parts for Article no.				
70 638 025012 / 70 638 025002	**120**	**820**	**166**	**170**

MaxiLock-S – SCFC 90° – Boring bar with screw clamping

Scope of supply:
Boring bar with Torx key





Illustrations show right-hand versions

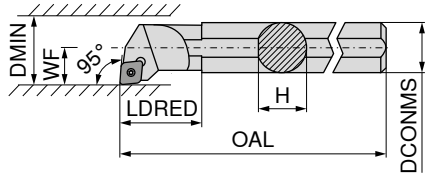
ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert	Left-hand 70 793 ...	Right-hand 70 792 ...
S08F SCFC R/L 06	8	7.6	80	17	5	11	1,2	CC.. 0602	**008002**	**008002**
S10H SCFC R/L 06	10	9.5	100	19	7	13	1,2	CC.. 0602	**010002**	**010002**
S12K SCFC R/L 06	12	11.5	125	22	9	16	1,2	CC.. 0602	**012002**	**012002**


Key D


Clamping screw

Spare parts for Article no.	80 950 ...	70 950 ...
70 792 008002 / 70 793 008002	**110**	**116**
70 792 010002 / 70 793 010002	**110**	**116**
70 792 012002 / 70 793 012002	**110**	**116**

MaxiLock-S – SCLC 95° – Boring bar with screw clamping



Illustrations show right-hand versions

ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert	Left-hand 70 717 ...	Right-hand 70 716 ...
S08H SCLC R/L 06	8	7.2	100	8	5	11	1.2	CC.. 0602	**008002**	**008002**
S10K SCLC R/L 06	10	9.0	125	10	7	13	1.2	CC.. 0602	**010002**	**010002**
S12M SCLC R/L 06	12	11.0	150	10	9	16	1.2	CC.. 0602	**012002**	**012002**
S12K SCLC R/L 09	12	11.0	125	10	9	16	3.2	CC.. 09T3	**112002**	**112002**
S12M SCLC R/L 09	12	11.5	150	22	9	16	3.2	CC.. 09T3	**212002**	**212002**
S16Q SCLC R/L 09	16	14.5	180	16	11	20	3.2	CC.. 09T3	**116002**	**116002**
S16R SCLC R/L 09	16	14.5	200	16	11	20	3.2	CC.. 09T3	**016002**	**016002**
S20M SCLC R 09	20	18.0	180	25	11	25	3.2	CC.. 09T3		**120002**
S20S SCLC R/L 09	20	18.0	250	16	13	25	3.2	CC.. 09T3	**020002**	**020002**
S25T SCLC R/L 09	25	23.0	300	36	17	32	3.2	CC.. 09T3	**025002**	**025002**
S32S SCLC R/L 12	32	30.0	250	50	22	40	5	CC.. 1204	**032002**	**032002**


Key D


Combination Key


Clamping screw

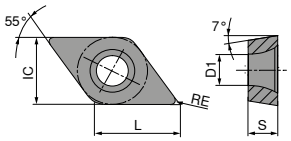

Carbide type C


Threaded sleeve

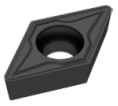
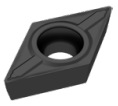
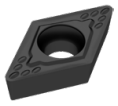
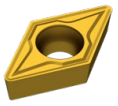
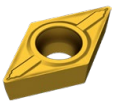
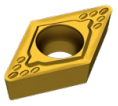
Spare parts for Article no.	80 950 ...	70 950 ...	70 950 ...	70 950 ...	70 950 ...
70 716 008002 / 70 717 008002	**110**		**116**		
70 716 010002 / 70 717 010002	**110**		**116**		
70 716 012002 / 70 717 012002	**110**		**116**		
70 716 112002 / 70 717 112002	**110**		**116**		
70 716 212002 / 70 717 212002	**113**		**110**		
70 716 116002 / 70 717 116002	**113**		**110**		
70 716 016002 / 70 717 016002	**113**		**110**		
70 716 120002	**113**		**110**		
70 716 020002 / 70 717 020002	**113**		**110**		
70 716 032002 / 70 717 032002		**398**	**114**	**166**	**170**

DCMT

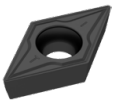
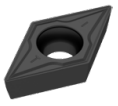
Designation	L mm	S mm	D1 mm	IC mm
DCMT 0702..	7.75	2.38	2.8	6.35
DCMT 11T3..	11.60	3.97	4.4	9.52



DCMT

	-SM CTCP125	-SMF CTCP125	-SF CTCP125	-SM CTIC1135	-SMF CTIC1135	-SF CTIC1135
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
						
	M	F	F	M	F	F
	DCMT	DCMT	DCMT	DCMT	DCMT	DCMT
	76 258 ...	76 265 ...	76 259 ...	76 258 ...	76 265 ...	76 259 ...
ISO / RE mm						
070204EN 0.4	904012			404002		
11T304EN 0.4	916012	916012		416002	416002	
11T308EN 0.8	918012		918012	418002		418002
P	●	●	●	●	●	●
M				○	○	○
K	○	○	○			
N						
S						
H						
O						

DCMT

	-SM CTCK110	-SM CTCK120
	DRAGONSKIN	DRAGONSKIN
		
	M	M
	DCMT	DCMT
	70 258 ...	70 258 ...
ISO / RE mm		
070204EN 0.4	904002	004012
11T304EN 0.4	916002	016012
11T308EN 0.8	918002	018012
P	○	○
M		
K	●	●
N		
S		
H		
O		

DCMT

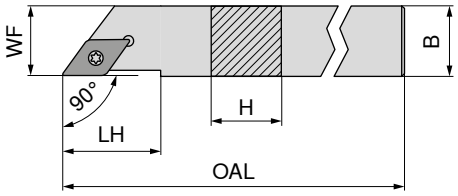
			NEW			NEW		NEW
		-M25 CTCM120	-F43 CTCM120	-M25 CTPM125	-F43 CTPM125	-M25 CTCM130	-F43 CTCM130
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
		F	F	F	F	F	F
		DCMT	DCMT	DCMT	DCMT	DCMT	DCMT
		75 213 ...	75 032 ...	75 213 ...	75 032 ...	75 213 ...	75 032 ...
ISO	RE mm						
11T304EN	0.4	116002	116002	216002	216002	316002	316002
11T308EN	0.8	118002	118002	218002	218002	318002	318002
P		○	○	○	○	○	○
M		●	●	●	●	●	●
K							
N							
S						○	○
H							
O							

MaxiLock-S – SDAC 90° – Toolholder with screw clamping

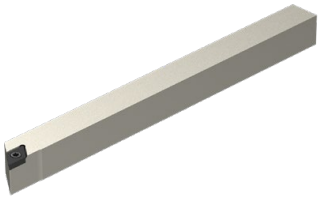
▲ for sliding head lathes

Scope of supply:

Tool holder with Torx key



Illustrations show right-hand versions



ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert	NEW Left-hand 70 639 ...	NEW Right-hand 70 639 ...
SDAC R/L 2020 K07	20	20	125	14	20	1.2	DC.. 0702	020002	020012
SDAC R/L 2020 K11	20	20	125	21	20	3.2	DC.. 11T3	120002	120012

Key D

Clamping screw

Solid Carbide Seat D

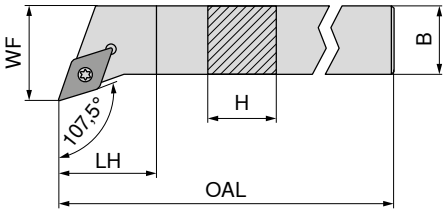
Threaded sleeve

Spare parts for Article no.	Key D 80 950 ...	Clamping screw 70 950 ...	Solid Carbide Seat D 70 950 ...	Threaded sleeve 70 950 ...
70 639 020012 / 70 639 020002	039	857		
70 639 120012 / 70 639 120002		87900	106	171

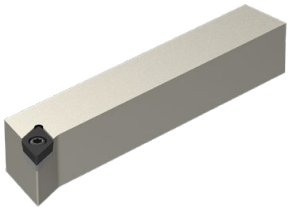
MaxiLock-S – SDHC 107.5° – Toolholder with screw clamping

Scope of supply:

Tool holder with Torx key



Illustrations show right-hand versions



ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert	NEW Left-hand 70 642 ...	NEW Right-hand 70 642 ...
SDHC R/L 2020 K07	20	20	125	12	25	1.2	DC.. 0702	020002	020012
SDHC R/L 2525 M11	25	25	150	14	25	3.2	DC.. 11T3	025002	025012

Key D

Clamping screw

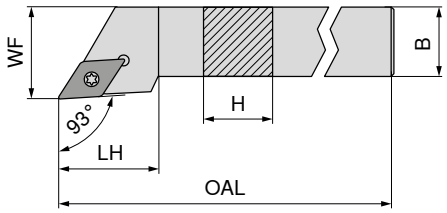
Solid Carbide Seat D

Threaded sleeve

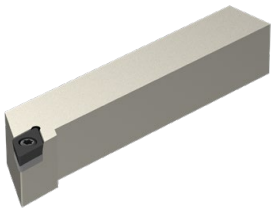
Spare parts for Article no.	Key D 80 950 ...	Clamping screw 70 950 ...	Solid Carbide Seat D 70 950 ...	Threaded sleeve 70 950 ...
70 642 020012 / 70 642 020002	039	857		
70 642 025012 / 70 642 025002	120	87900	106	171

MaxiLock-S – SDJC 93° – Toolholder with screw clamping

Scope of supply:
Tool holder with Torx key



Illustrations show right-hand versions



	NEW Left-hand	NEW Right-hand
	70 643 ...	70 643 ...

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert		
SDJC R/L 2020 K07	20	20	125	20	25	1.2	DC.. 0702	**020002**	**020012**
SDJC R/L 2020 K11	20	20	125	20	25	3.2	DC.. 11T3	**120002**	**120012**


Key D
80 950 ...


Clamping screw
70 950 ...

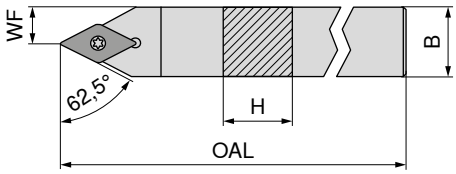

Solid Carbide Seat D
70 950 ...

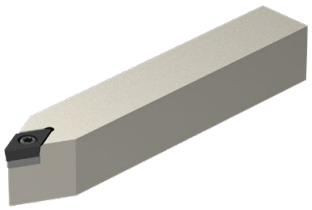

Threaded sleeve
70 950 ...

Spare parts for Article no.				
70 643 020012 / 70 643 020002	**039**	**857**		
70 643 120012 / 70 643 120002	**120**	**87900**	**106**	**171**

MaxiLock-S – SDNC 62.5° – Toolholder with screw clamping

Scope of supply:
Tool holder with Torx key





	NEW Neutral
	70 645 ...

ISO designation	H mm	B mm	OAL mm	WF mm	torque moment Nm	Insert	
SDNC N 2020 K07	20	20	125	10	1.2	DC.. 0702	**020002**
SDNC N 2020 K11	20	20	125	10	3.2	DC.. 11T3	**120002**


Key D
80 950 ...

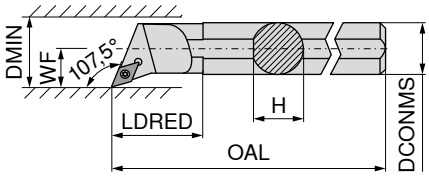

Clamping screw
70 950 ...


Solid Carbide Seat D
70 950 ...


Threaded sleeve
70 950 ...

Spare parts for Article no.				
70 645 020002	**039**	**857**		
70 645 120002	**120**	**87900**	**106**	**171**

MaxiLock-S – SDQC 107.5° – Boring bar with screw clamping



Illustrations show right-hand versions

									Left-hand	Right-hand
									70 741 ...	**70 740 ...**
ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert		
S12K SDQC R/L 07	12	11.5	125	22	9.0	16	1,2	DC.. 0702	**012002**	**012002**
S16M SDQC R/L 07	16	15.0	150	29	11.0	20	1,2	DC.. 0702	**016002**	**016002**
S20Q SDQC R/L 11	20	18.5	180	32	14.5	27	3,2	DC.. 11T3	**020002**	**020002**
S25R SDQC R/L 11	25	23.0	200	36	17.0	32	3,2	DC.. 11T3	**025002**	**025002**

Key D


Combination Key


Clamping screw

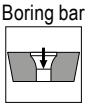

Solid Carbide Seat D

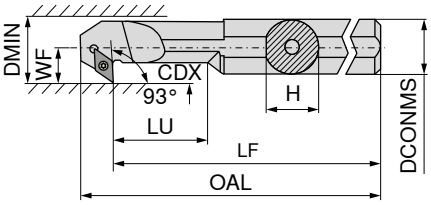

Threaded sleeve

Spare parts for Article no.					
	80 950 ...	**70 950 ...**	**70 950 ...**	**70 950 ...**	**70 950 ...**
70 740 012002 / 70 741 012002	**110**		**13800**		
70 740 016002 / 70 741 016002	**110**		**13800**		
70 740 020002 / 70 741 020002	**113**	**398**	**113**	**106**	**171**
70 740 025002 / 70 741 025002	**113**	**398**	**113**	**106**	**171**

MaxiLock-S – SDXC 93° – Boring bar with screw clamping

Scope of supply:
Boring bar with Torx key





Illustrations show right-hand versions

									Left-hand	Right-hand
									70 733 ...	**70 732 ...**
ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert		
S12K SDXC R/L 07	12	11.5	137.0	24	9	16	1,2	DC.. 0702	**012002**	**012002**
S16M SDXC R/L 07	16	15.0	162.0	38	11	20	1,2	DC.. 0702	**016002**	**016002**
S20Q SDXC R/L 11	20	18.5	196.5	40	13	25	3,2	DC.. 11T3	**020002**	**020002**
S25R SDXC R/L 11	25	23.0	216.8	57	17	32	3,2	DC.. 11T3	**025002**	**025002**


Key D


Combination Key

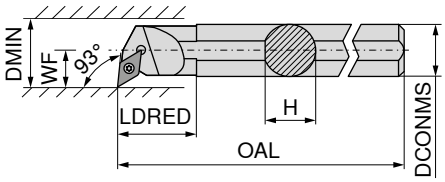

Clamping screw


Solid Carbide Seat D


Threaded sleeve

Spare parts for Article no.					
	80 950 ...	**70 950 ...**	**70 950 ...**	**70 950 ...**	**70 950 ...**
70 732 012002 / 70 733 012002	**110**		**13800**		
70 732 016002 / 70 733 016002	**110**		**13800**		
70 732 020002 / 70 733 020002	**113**		**110**		
70 732 025002 / 70 733 025002		**398**	**113**	**106**	**171**

MaxiLock-S – SDUC 93° – Boring bar with screw clamping



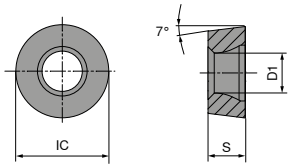
Illustrations show right-hand versions

ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert	Left-hand 70 737 ...	Right-hand 70 736 ...
S12Q SDUC R/L 07	12	11	180	12.5	9	17	1,2	DC.. 0702	**012002**	**012002**
S16Q SDUC R/L 07	16	15	180	29.0	11	20	1,2	DC.. 0702	**016002**	**016002**
S20S SDUC R/L 11	20	18	250	20.0	13	25	3,2	DC.. 11T3	**020002**	**120002**
S25T SDUC R/L 11	25	23	300	36.0	17	32	3,2	DC.. 11T3	**125002**	**125002**

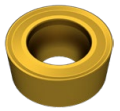
Spare parts for Article no.	 Key D 80 950 ...	 Combination Key 70 950 ...	 Clamping screw 70 950 ...	 Solid Carbide Seat D 70 950 ...	 Threaded sleeve 70 950 ...
70 736 012002 / 70 737 012002	**110**		**13800**		
70 736 016002 / 70 737 016002	**110**		**13800**		
70 736 120002 / 70 737 020002	**113**		**110**		
70 736 125002 / 70 737 125002	**113**	**398**	**113**	**106**	**171**

RCMT

Designation	S mm	D1 mm	IC mm
RCMT 2006..	6.35	6.5	20
RCMT 2507..	7.94	7.2	25



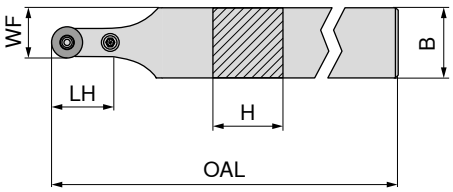
RCMT

	-SM CTIC1135	-SM CTCP125
	DRAGONSKIN	DRAGONSKIN
		
	M	M
	RCMT	RCMT
	76 264 ...	76 264 ...
ISO / RE mm		
2006M0SN 10.0	450002	950012
2507M0SN 12.5	462002	962012
P	●	●
M	○	
K		○
N		
S		
H		
O		

RCMT

	-SM CTCK110	-SM CTCK120
	DRAGONSKIN	DRAGONSKIN
		
	F	F
	RCMT	RCMT
	70 188 ...	70 188 ...
ISO / RE mm		
2006M0SN 10.0	962002	062012
2507M0SN 12.5	950002	050012
P	○	○
M		
K	●	●
N		
S		
H		
O		

MaxiLock-N – PRDC 0° – Toolholder with lever clamping



Neutral

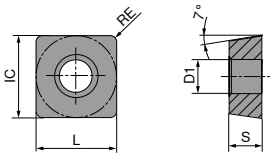
70 544 ...

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert	
PRDCN 3232 S20	32	32	250	32	26	5	RCMT 2006	**232002**

	 Key I	 Shim	Assembly pin	 Lever	 Clamping screw	 Solid carbide support R
	70 950 ...	**70 950 ...**	**70 950 ...**	**70 950 ...**	**70 950 ...**	**70 950 ...**
Spare parts for Article no.						
70 544 232002	**176**	**391**	**192**	**28100**	**28500**	**27400**

SCMT

Designation	L mm	S mm	D1 mm	IC mm
SCMT 09T3..	9.52	3.97	4.4	9.52
SCMT 1204..	12.70	4.76	5.5	12.70



SCMT

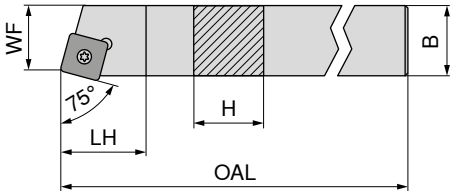
	-SM CTCP125	-SM CTIC1135
	DRAGONSKIN	DRAGONSKIN
		
	M	M
	SCMT	SCMT
	76 268 ...	76 268 ...
ISO / RE mm		
09T308EN 0.8	906012	406002
120408EN 0.8		418002
120412EN 1.2	918012	
P	●	●
M		○
K	○	
N		
S		
H		
O		

SCMT

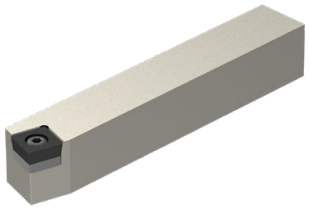
	-SM CTCK110
	DRAGONSKIN
	
	M
	SCMT
	70 268 ...
ISO / RE mm	
09T308EN 0.8	906002
120408EN 0.8	918002
P	○
M	
K	●
N	
S	
H	
O	

MaxiLock-S – SSBC 75° – Toolholder with screw clamping

Scope of supply:
Tool holder with blind plug and Torx key



Illustrations show right-hand versions



	NEW Left-hand	NEW Right-hand
	70 650 ...	**70 650 ...**

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert		
SSBC L 2020 K09	20	20	125	20	17	3.2	SC.. 09T3..	**020002**	
SSBC R/L 2525 M12	25	25	150	25	17	5	SC.. 1204..	**025002**	**025012**


Key D

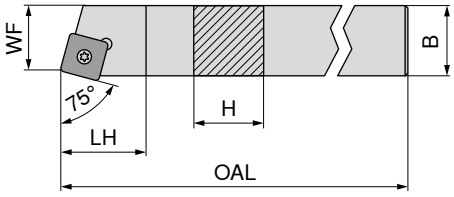

Clamping screw


Solid Carbide support S


Threaded sleeve

	80 950 ...	**70 950 ...**	**70 950 ...**	**70 950 ...**
Spare parts for Article no.				
70 650 020002	**120**	**87900**	**167**	**171**
70 650 025012 / 70 650 025002	**120**	**820**	**168**	**170**

MaxiLock-S – SSBC 75° – Toolholder with screw clamping



Illustrations show right-hand versions

	Right-hand
	70 664 ...

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert	
SSBC R 2020 K09	20	20	125	20	17	3,2	SC.. 09T3..	**020002**


Key D


Combination Key


Clamping screw

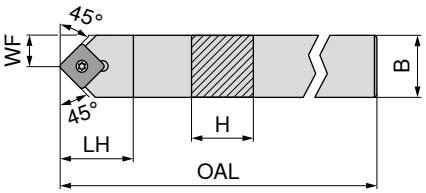

Solid Carbide support S

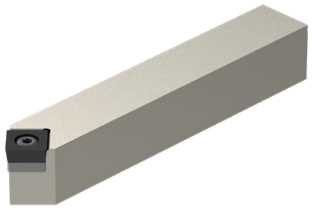

Threaded sleeve

	80 950 ...	**70 950 ...**	**70 950 ...**	**70 950 ...**	**70 950 ...**
Spare parts for Article no.					
70 664 020002	**113**	**398**	**113**	**167**	**171**

MaxiLock-S – SSDC 45° – Toolholder with screw clamping

Scope of supply:
Tool holder with Torx key





NEW

Neutral

70 651 ...

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert	
SSDC N 2020 K09	20	20	125	20	10.0	3,2	SC.. 09T3..	**020002**
SSDC N 2525 M12	25	25	150	25	12.5	5	SC.. 1204..	**125002**


Key D


Clamping screw

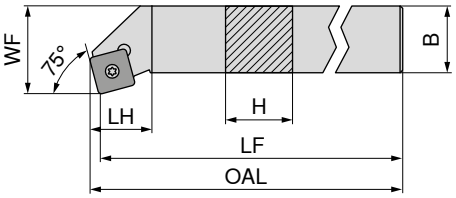

Solid Carbide support S


Threaded sleeve

Spare parts for Article no.	80 950 ...	70 950 ...	70 950 ...	70 950 ...
70 651 020002	**120**	**87900**	**167**	**171**
70 651 125002	**120**	**820**	**168**	**170**

MaxiLock-S – SSKC 75° – Toolholder with screw clamping

Scope of supply:
Tool holder with blind plug and Torx key



Illustrations show right-hand versions

Left-hand **70 669 ...**

Right-hand **70 668 ...**

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert		
SSKC R/L 2020 K09	20	20	125	23	25	3,2	SC.. 09T3..	**020002**	**020002**
SSKC R/L 2525 M12	25	25	150	23	32	5	SC.. 1204..	**025002**	**125002**


Key D


Combination Key


Clamping screw

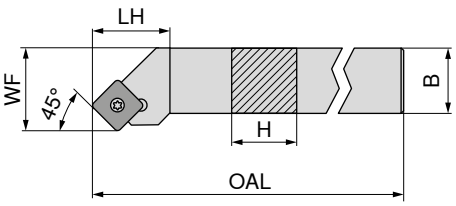

Solid Carbide support S


Threaded sleeve

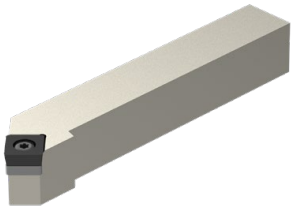
Spare parts for Article no.	80 950 ...	70 950 ...	70 950 ...	70 950 ...	70 950 ...
70 668 020002 / 70 669 020002	**113**	**398**	**113**	**167**	**171**
70 668 125002 / 70 669 025002	**113**	**398**	**114**	**168**	**170**

MaxiLock-S – SSSC 45° – Toolholder with screw clamping

Scope of supply:
Tool holder with Torx key



Illustrations show right-hand versions



NEW Left-hand **70 654 ...**

NEW Right-hand **70 654 ...**

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert		
SSSC R/L 2020 K09	20	20	125	20	25	3,2	SC.. 09T3..	**020002**	**020012**
SSSC R/L 2525 M12	25	25	150	25	32	5	SC.. 1204..	**025002**	**025012**


Key D **80 950 ...**


Clamping screw **70 950 ...**

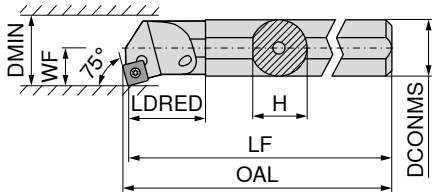

Solid Carbide support S **70 950 ...**


Threaded sleeve **70 950 ...**

Spare parts for Article no.				
70 654 020002	**120**	**87900**	**167**	**171**
70 654 025012 / 70 654 025002	**120**	**820**	**168**	**170**

MaxiLock-S – SSKC 75° – Boring bar with screw clamping

Scope of supply:
Tool holder with Torx key



Illustrations show right-hand versions

	Left-hand	Right-hand
	70 725 ...	70 724 ...

ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert		
S16M SSKC R/L 09	16	15.0	152.4	29	11	20	3,2	SC.. 09T3..	016002	016002
S20Q SSKC R/L 09	20	18.5	182.4	32	13	25	3,2	SC.. 09T3..	020002	020002
S25R SSKC R/L 09	25	23.0	202.4	36	17	32	3,2	SC.. 09T3..	025002	025002
S32S SSKC R/L 12	32	30.0	250.0	50	22	40	5	SC.. 1204..	032002	032002


Key D
80 950 ...


Combination Key
70 950 ...


Clamping screw
70 950 ...


Carbide type C
70 950 ...

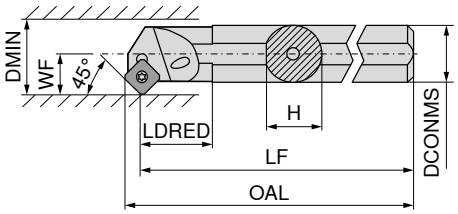

Threaded sleeve
70 950 ...

Spare parts for Article no.										
70 724 016002 / 70 725 016002	113				110					
70 724 020002 / 70 725 020002	113				304					
70 724 025002 / 70 725 025002	113				304					
70 724 032002 / 70 725 032002			398		114		166		170	

MaxiLock-S – SSSC 45° – Boring bar with screw clamping

▲ A... = with thro' coolant
▲ S... = without thro' coolant

Scope of supply:
Tool holder with Torx key



Illustrations show right-hand versions

	Left-hand	Right-hand
	70 721 ...	70 720 ...

ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert		
S16M SSSC R/L 09	16	15.25	156.0	29	11	20	3,2	SC.. 09T3..	016002	016002
S20Q SSSC R/L 09	20	19.00	186.0	32	13	25	3,2	SC.. 09T3..	020002	020002
S25R SSSC R/L 09	25	24.50	206.0	36	17	32	3,2	SC.. 09T3..	025002	025002
S32S SSSC R/L 12	32	31.00	258.3	50	22	40	5	SC.. 1204..	032002	032002


Key D
80 950 ...


Combination Key
70 950 ...


Clamping screw
70 950 ...

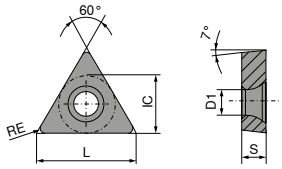

Carbide type C
70 950 ...


Threaded sleeve
70 950 ...

Spare parts for Article no.										
70 720 016002 / 70 721 016002	113				110					
70 720 020002 / 70 721 020002	113				304					
70 720 025002 / 70 721 025002	113				304					
70 720 032002 / 70 721 032002			398		114		166		170	

TCMT

Designation	L mm	S mm	D1 mm	IC mm
TCMT 1102..	11.0	2.38	2.8	6.35
TCMT 16T3..	16.5	3.97	4.4	9.52



TCMT

	-SM CTCP125	-SMF CTCP125	-SM CTIC1135	-SMF CTIC1135
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
				
	M TCMT	F TCMT	M TCMT	F TCMT
	76 274 ...	76 284 ...	76 274 ...	76 284 ...
ISO / RE mm				
110204EN 0.4	916012		416002	
110208EN 0.8		918012		418002
16T304EN 0.4	928012		428002	
16T308EN 0.8	930012		430002	
P	●	●	●	●
M			○	○
K	○	○		
N				
S				
H				
O				

TCMT

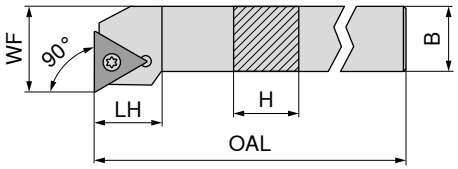
	-SM CTCK110	-SM CTCK120
	DRAGONSKIN	DRAGONSKIN
		
	M TCMT	M TCMT
	70 274 ...	70 274 ...
ISO / RE mm		
110204EN 0.4	916002	016012
16T304EN 0.4	928002	028012
16T308EN 0.8	930002	030012
P	○	○
M		
K	●	●
N		
S		
H		
O		

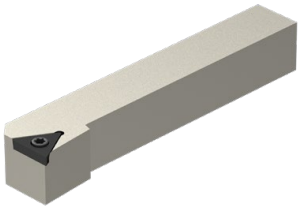
TCMT

			NEW		NEW		NEW
		-M25 CTCM120	-F43 CTCM120	-M25 CTPM125	-F43 CTPM125	-M25 CTCM130	-F43 CTCM130
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
		F	F	F	F	F	F
		TCMT	TCMT	TCMT	TCMT	TCMT	TCMT
		75 217 ...	75 033 ...	75 217 ...	75 033 ...	75 217 ...	75 033 ...
ISO	RE mm						
110204EN	0.4	116002	116002	216002	216002	316002	316002
16T308EN	0.8	130002		230002		330002	
P		○	○	○	○	○	○
M		●	●	●	●	●	●
K							
N							
S						○	○
H							
O							

MaxiLock-S – STFC 90° – Toolholder with screw clamping

Scope of supply:
Tool holder with Torx key





Illustrations show right-hand versions

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert	NEW Left-hand 70 658 ...	NEW Right-hand 70 658 ...
STFC R/L 2020 K11	20	20	125	20	25	1.2	TC.. 1102	**020002**	**020012**
STFC R/L 2525 M16	25	25	150	20	32	3.2	TC.. 16T3	**025002**	**025012**


Key D
80 950 ...


Clamping screw
70 950 ...

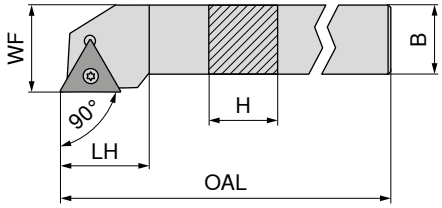

Solid Carbide Seat T
70 950 ...

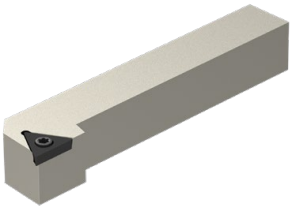

Threaded sleeve
70 950 ...

Spare parts for Article no.				
70 658 020012 / 70 658 020002	**039**	**857**		
70 658 025012 / 70 658 025002	**120**	**87900**	**169**	**171**

MaxiLock-S – STGC 90° – Toolholder with screw clamping

Scope of supply:
Tool holder with Torx key





Illustrations show right-hand versions

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert	NEW Left-hand 70 659 ...	NEW Right-hand 70 659 ...
STGC R/L 2020 K11	20	20	125	20	25	1.2	TC.. 1102	**020002**	**020012**
STGC R/L 2525 M16	25	25	150	22	32	3.2	TC.. 16T3	**025002**	**025012**


Key D
80 950 ...


Clamping screw
70 950 ...


Solid Carbide Seat T
70 950 ...

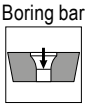

Threaded sleeve
70 950 ...

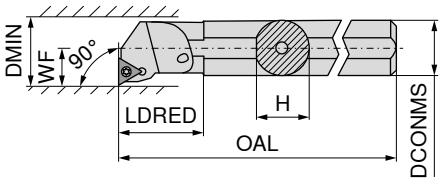
Spare parts for Article no.				
70 659 020012 / 70 659 020002	**039**	**857**		
70 659 025012 / 70 659 025002	**120**	**87900**	**169**	**171**

MaxiLock-S – STFC 90° – Boring bar with screw clamping

▲ A... = with thro' coolant
▲ S... = without thro' coolant

Scope of supply:
Boring bar with Torx key





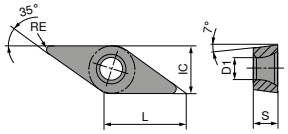
Illustrations show right-hand versions

ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert	Left-hand 70 729 ...	Right-hand 70 728 ...
S12M STFC R/L 11	12	11.5	125	22	9	16	1,2	TC.. 1102	**012002**	**012002**
S16R STFC R/L 11	16	15.0	150	29	11	20	1,2	TC.. 1102	**016002**	**016002**
S20S STFC R/L 11	20	18.5	180	32	13	25	1,2	TC.. 1102	**020002**	**020002**
S25R STFC R/L 16	25	24.0	200	36	17	32	3,2	TC.. 16T3	**025002**	**025002**
S32S STFC R/L 16	32	31.0	250	50	22	40	3,2	TC.. 16T3	**032002**	**032002**

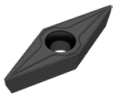
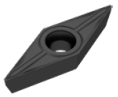
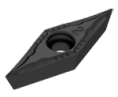
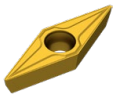
Spare parts for Article no.	 Key D 80 950 ...	 Combination Key 70 950 ...	 Clamping screw 70 950 ...	 Solid Carbide Seat T 70 950 ...	 Threaded sleeve 70 950 ...
70 728 012002 / 70 729 012002	**110**		**13800**		
70 728 016002 / 70 729 016002	**110**		**13800**		
70 728 020002 / 70 729 020002	**110**		**13800**		
70 728 025002 / 70 729 025002		**398**	**113**	**169**	**171**
70 728 032002 / 70 729 032002		**398**	**113**	**169**	**171**

VCMT

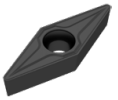
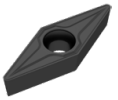
Designation	L mm	S mm	D1 mm	IC mm
VCMT 1604..	16.6	4.76	4.4	9.52



VCMT

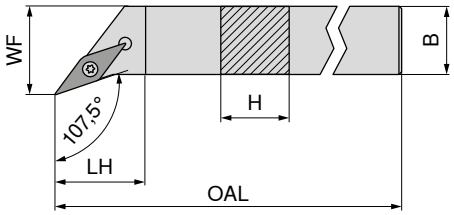
		-SM CTCP125	-SMF CTCP125	-SF CTCP125	-SM CTIC1135	-SMF CTIC1135	-SF CTIC1135
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
		M	F	F	M	F	F
		VCMT	VCMT	VCMT	VCMT	VCMT	VCMT
		76 278 ...	76 288 ...	76 312 ...	76 278 ...	76 288 ...	76 312 ...
ISO	RE mm						
160404EN	0.4	928012	928012		428002	428002	
160408EN	0.8	930012		930012	430002		430002
P		●	●	●	●	●	●
M					○	○	○
K		○	○	○			
N							
S							
H							
O							

VCMT

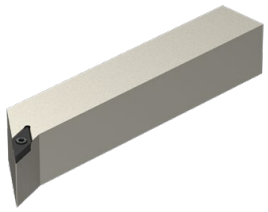
		-SM CTCK110	-SM CTCK120
		DRAGONSKIN	DRAGONSKIN
			
		M	M
		VCMT	VCMT
		70 278 ...	70 278 ...
ISO	RE mm		
160404EN	0.4	928002	028012
160408EN	0.8	930002	030012
P		○	○
M			
K		●	●
N			
S			
H			
O			

MaxiLock-S – SVHC 107.5° – Toolholder with screw clamping

Scope of supply:
Tool holder with Torx key



Illustrations show right-hand versions



								NEW Left-hand	NEW Right-hand
ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert	**70 662 ...**	**70 662 ...**
SVHC R/L 2020 K16	20	20	125	13.7	25	3,2	VC.. 1604	**120002**	**120012**
SVHC R/L 2525 M16	25	25	150	20.0	32	3,2	VC.. 1604	**125002**	**125012**


Key D

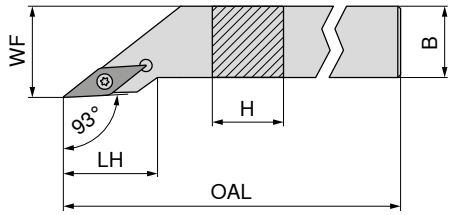

Clamping screw


Solid Carbide Seat V

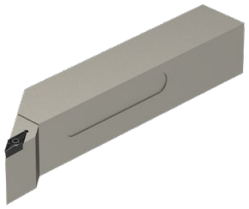

Threaded sleeve

Spare parts for Article no.	**80 950 ...**	**70 950 ...**	**70 950 ...**	**70 950 ...**
70 662 120012 / 70 662 120002	**120**	**87900**	**107**	**171**
70 662 125012 / 70 662 125002	**120**	**87900**	**107**	**171**

MaxiLock-S – SVJC 93° – Toolholder with screw clamping



Illustrations show right-hand versions



								Left-hand	Right-hand
ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert	**70 663 ...**	**70 663 ...**
SVJC R/L 2020 K16	20	20	125	29.5	25	3.2	VC.. 1604	**020002**[1)]	**020012**[1)]
SVJC R/L 2525 M16	25	25	150	32.5	32	3.2	VC.. 1604	**025002**[1)]	**025012**[1)]

1) with shim seat


Combination Key


Clamping screw

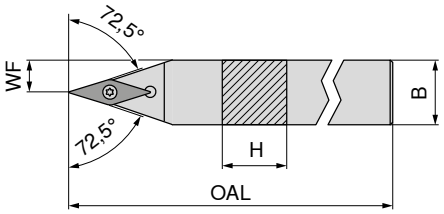

Solid Carbide Seat V

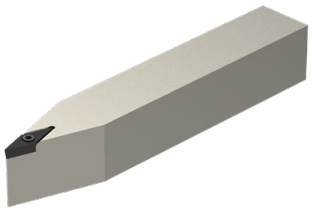

Threaded sleeve

Spare parts for Article no.	**70 950 ...**	**70 950 ...**	**70 950 ...**	**70 950 ...**
70 663 020012 / 70 663 020002	**398**	**113**	**107**	**171**
70 663 025012 / 70 663 025002	**398**	**113**	**107**	**171**

MaxiLock-S – SVVC 72.5° – Toolholder with screw clamping

Scope of supply:
Tool holder with Torx key





NEW
Neutral
70 666 ...

ISO designation	H mm	B mm	OAL mm	WF mm	torque moment Nm	Insert	
SVVC N 2020 K16	20	20	125	10.0	3,2	VC.. 1604	**120002**
SVVC N 2525 M16	25	25	150	12.5	3.2	VC.. 1604	**125002**


Key D
80 950 ...


Combination Key
70 950 ...


Clamping screw
70 950 ...

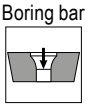

Solid Carbide Seat V
70 950 ...

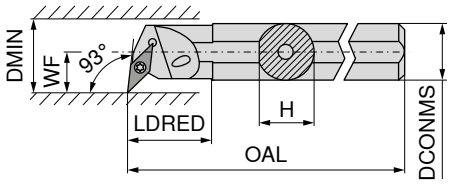

Threaded sleeve
70 950 ...

Spare parts for Article no.					
70 666 120002	**120**	**398**	**87900**	**107**	**171**
70 666 125002	**120**	**398**	**87900**	**107**	**171**

MaxiLock-S – SVUC 93° – Boring bar with screw clamping

Scope of supply:
Boring bar with Torx key





Illustrations show right-hand versions

ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert	Left-hand 70 745 ...	Right-hand 70 744 ...
S32S SVUC R/L 16	32	31	250	50	22	40	3,2	VC.. 1604	032002	032002

Combination Key **70 950 ... 398**

Clamping screw **70 950 ... 113**

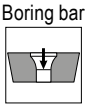
Solid Carbide Seat V **70 950 ... 107**

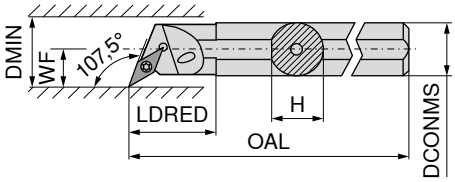
Threaded sleeve **70 950 ... 171**

Spare parts for Article no.
70 744 032002 / 70 745 032002

MaxiLock-S – SVQC 107.5° – Boring bar with screw clamping

Scope of supply:
Boring bar with Torx key





Illustrations show right-hand versions

ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert	Left-hand 70 749 ...	Right-hand 70 748 ...
S32S SVQC R/L 16	32	30	250	50	22	40	3,2	VC.. 1604	032002	032002

Combination Key **70 950 ... 398**

Clamping screw **70 950 ... 113**

Solid Carbide Seat V **70 950 ... 107**

Threaded sleeve **70 950 ... 171**

Spare parts for Article no.
70 748 032002 / 70 749 032002

Material examples for cutting data tables

	Material sub-group	Index	Composition / Structure / Heat treatment		Tensile strength N/mm²* / HB / HRC	Material number	Material designation	Material number	Material designation
P	Unalloyed steel	P.1.1	< 0,15 % C	Annealed	420 N/mm² / 125 HB	1.0401	C15	1.1141	Ck15
		P.1.2	< 0,45 % C	Annealed	640 N/mm² / 190 HB	1.1191	C45E	1.0718	9SMnPb28
		P.1.3		Tempered	840 N/mm² / 250 HB	1.1191	C45E	1.0535	C55
		P.1.4	< 0,75 % C	Annealed	910 N/mm² / 270 HB	1.1223	C60R	1.0535	C55
		P.1.5		Tempered	1010 N/mm² / 300 HB	1.1223	C60R	1.0727	45S20
	Low-alloy steel	P.2.1		Annealed	610 N/mm² / 180 HB	1.7131	16MnCr5	1.6587	17CrNiMo6
		P.2.2		Tempered	930 N/mm² / 275 HB	1.7131	16MnCr5	1.6587	17CrNiMo6
		P.2.3		Tempered	1010 N/mm² / 300 HB	1.7225	42CrMo4	1.3505	100Cr6
		P.2.4		Tempered	1200 N/mm² / 375 HB	1.7225	42CrMo4	1.3505	100Cr6
	High-alloy steel and high-alloy tool steel	P.3.1		Annealed	680 N/mm² / 200 HB	1.4021	X20Cr13	1.4034	X46Cr13
		P.3.2		Hardened and tempered	1100 N/mm² / 300 HB	1.2343	X38CrMoV5-1	1.4034	X46Cr13
		P.3.3		Hardened and tempered	1300 N/mm² / 400 HB	1.2343	X38CrMoV5-1	1.4034	X46Cr13
	Stainless steel	P.4.1	Ferritic / martensitic	Annealed	680 N/mm² / 200 HB	1.4016	X6Cr17	1.2316	X36CrMo16
		P.4.2	Martensitic	Tempered	1010 N/mm² / 300 HB	1.4112	X90CrMoV18	1.2316	X36CrMo16
M	Stainless steel	M.1.1	Austenitic / austenitic-ferritic	Quenched	610 N/mm² / 180 HB	1.4301	X5CrNi18-10	1.4571	X6CrNiMoTi17-12-2
		M.2.1	Austenitic	Tempered	300 HB	1.4841	X15CrNiSi25-21	1.4539	X1NiCrMoCu25-20-5
		M.3.1	Austenitic / ferritic (Duplex)		780 N/mm² / 230 HB	1.4462	X2CrNiMoN22-5-3	1.4501	X2CrNiMoCuWN25-7-4
K	Grey cast iron	K.1.1	Pearlitic / ferritic		350 N/mm² / 180 HB	0.6010	GG-10	0.6025	GG-25
		K.1.2	Pearlitic (martensitic)		500 N/mm² / 260 HB	0.6030	GG-30	0.6045	GG-45
	Spherulitic graphite cast iron	K.2.1	Ferritic		540 N/mm² / 160 HB	0.7040	GGG-40	0.7060	GGG-60
		K.2.2	Pearlitic		845 N/mm² / 250 HB	0.7070	GGG-70	0.7080	GGG-80
	Malleable iron	K.3.1	Ferritic		440 N/mm² / 130 HB	0.8035	GTW-35-04	0.8045	GTW-45
		K.3.2	Pearlitic		780 N/mm² / 230 HB	0.8165	GTS-65-02	0.8170	GTS-70-02
N	Aluminium wrought alloy	N.1.1	Non-hardenable		60 HB	3.0255	Al99,5	3.3315	AlMg1
		N.1.2	Hardenable	Age-hardened	340 N/mm² / 100 HB	3.1355	AlCuMg2	3.2315	AlMgSi1
	Cast aluminium alloy	N.2.1	≤ 12 % Si, non-hardenable		250 N/mm² / 75 HB	3.2581	G-AlSi12	3.2163	G-AlSi9Cu3
		N.2.2	≤ 12 % Si, hardenable	Age-hardened	300 N/mm² / 90 HB	3.2134	G-AlSi5Cu1Mg	3.2373	G-AlSi9Mg
		N.2.3	> 12 % Si, non-hardenable		440 N/mm² / 130 HB		G-AlSi17Cu4Mg		G-AlSi18CuNiMg
	Copper and copper alloys (bronze/brass)	N.3.1	Free-machining alloys, PB > 1 %		375 N/mm² / 110 HB	2.0380	CuZn39Pb2 (Ms58)	2.0410	CuZn44Pb2
		N.3.2	CuZn, CuSnZn		300 N/mm² / 90 HB	2.0331	CuZn15	2.4070	CuZn28Sn1As
		N.3.3	CuSn, lead-free copper and electrolytic copper		340 N/mm² / 100 HB	2.0060	E-Cu57	2.0590	CuZn40Fe
	Magnesium alloys	N.4.1	Magnesium and magnesium alloys		70 HB	3.5612	MgAl6Zn	3.5312	MgAl3Zn
S	Heat-resistant alloys	S.1.1	Fe - basis	Annealed	680 N/mm² / 200 HB	1.4864	X12NiCrSi 36-16	1.4865	G-X40NiCrSi38-18
		S.1.2		Age-hardened	950 N/mm² / 280 HB	1.4980	X6NiCrTiMoVB25-15-2	1.4876	X10NiCrAlTi32-20
		S.2.1	Ni or Co basis	Annealed	840 N/mm² / 250 HB	2.4631	NiCr20TiAl (Nimonic80A)	3.4856	NiCr22Mo9Nb
		S.2.2		Age-hardened	1180 N/mm² / 350 HB	2.4668	NiCr19Nb5Mo3 (Inconel 718)	2.4955	NiFe25Cr20NbTi
		S.2.3		Cast	1080 N/mm² / 320 HB	2.4765	CoCr20W15Ni	1.3401	G-X120Mn12
	Titanium alloys	S.3.1	Pure titanium		400 N/mm²	3.7025	Ti99,8	3.7034	Ti99,7
		S.3.2	Alpha + beta alloys	Age-hardened	1050 N/mm² / 320 HB	3.7165	TiAl6V4	Ti-6246	Ti-6Al-2Sn-4Zr-6Mo
		S.3.3	Beta alloys		1400 N/mm² / 410 HB	Ti555.3	Ti-5Al-5V-5Mo-3Cr	R56410	Ti-10V-2Fe-3Al
H	Hardened steel	H.1.1		Hardened and tempered	46–55 HRC				
		H.1.2		Hardened and tempered	56–60 HRC				
		H.1.3		Hardened and tempered	61–65 HRC				
		H.1.4		Hardened and tempered	66–70 HRC				
	Chilled iron	H.2.1		Cast	400 HB				
	Hardened cast iron	H.3.1		Hardened and tempered	55 HRC				
O	Non-metal materials	O.1.1	Plastics, duroplastic		≤ 150 N/mm²				
		O.1.2	Plastics, thermoplastic		≤ 100 N/mm²				
		O.2.1	Aramid fibre-reinforced		≤ 1000 N/mm²				
		O.2.2	Glass/carbon-fibre reinforced		≤ 1000 N/mm²				
		O.3.1	Graphite						

* Tensile strength

Cutting data standard values

Index	DRAGONSKIN						
	CTCK110	CTCK120	CTCM120	CTCM130	CTCP125	CTPM125	CTIC1135
	v_c in m/min						
P.1.1	395	330	230	185	**295**	200	**210**
P.1.2	345	280	200	150	**250**	170	**175**
P.1.3	300	240	175	125	**210**	140	**145**
P.1.4	280	220	165	115	**200**	130	**135**
P.1.5	260	200	150	100	**180**	120	**120**
P.2.1	350	290	200	160	**260**	175	**180**
P.2.2	280	220	160	110	**195**	130	**130**
P.2.3	260	200	150	100	**180**	120	**120**
P.2.4	200	150	115	60	**130**	80	**85**
P.3.1	270	220	160	125	**170**	140	**150**
P.3.2	225	175	115	80	**105**	100	**95**
P.3.3	180	130	75	40	**40**	50	**35**
P.4.1			160	125	**170**	140	**155**
P.4.2			140	100	**135**	120	**125**
M.1.1			**160**	**125**		**140**	155
M.2.1			**115**	**80**		**100**	95
M.3.1			**150**	**110**		**130**	135
K.1.1	**400**	**275**			170		
K.1.2	**310**	**265**			160		
K.2.1	**320**	**290**			180		
K.2.2	**275**	**230**			160		
K.3.1	**310**	**275**			200		
K.3.2	**265**	**230**			160		
N.1.1							
N.1.2							
N.2.1							
N.2.2							
N.2.3							
N.3.1							
N.3.2							
N.3.3							
N.4.1							
S.1.1				35			
S.1.2				25			
S.2.1				20			
S.2.2				20			
S.2.3				20			
S.3.1				110			
S.3.2				65			
S.3.3				45			
H.1.1							
H.1.2							
H.1.3							
H.1.4							
H.2.1							
H.3.1							
O.1.1							
O.1.2							
O.2.1							
O.2.2							
O.3.1							

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine. The specified values represent guideline cutting data that can be adjusted by approx. **±20%** according to the usage conditions.

Cutting data standard values for negative inserts

	Designation	-F50						-TMF					
		f			a_p			f			a_p		
		min.	Recommended	max.	min.	Recommended	max.	min.	Recommended	max.	min.	Recommended	max.
		mm/rev.			mm			mm/rev.			mm		
	CN.. 090304	0,06	**0,15**	0,25	0,2	**0,5**	1,5						
	CN.. 090308	0,10	**0,20**	0,30	0,4	**1,0**	2,0						
	CN.. 120404	0,06	**0,15**	0,25	0,2	**0,6**	1,5	0,10	**0,20**	0,30	0,4	**2,0**	5,0
	CN.. 120408	0,10	**0,20**	0,30	0,4	**1,0**	2,0	0,15	**0,25**	0,40	0,6	**2,0**	5,0
	CN.. 120412	0,14	**0,25**	0,35	0,6	**1,4**	2,6	0,20	**0,30**	0,50	1,0	**2,0**	5,0
	CN.. 120416							0,25	**0,40**	0,60	1,4	**2,0**	5,0
	CN.. 160608							0,15	**0,25**	0,40	0,6	**3,0**	8,0
	CN.. 160612							0,20	**0,30**	0,50	1,0	**3,0**	8,0
	CN.. 160616							0,25	**0,40**	0,60	1,4	**3,0**	8,0
	CN.. 160624												
	CN.. 190608												
	CN.. 190612												
	CN.. 190616												
	CN.. 190624												
	CN.. 250924												
	DN.. 110402	0,04	**0,10**	0,20	0,1	**0,4**	2,3						
	DN.. 110404	0,06	**0,15**	0,25	0,2	**0,6**	1,5	0,10	**0,20**	0,30	0,4	**1,5**	4,0
	DN.. 110408	0,10	**0,20**	0,30	0,4	**1,0**	2,0	0,15	**0,25**	0,40	0,6	**1,5**	4,0
	DN.. 110412	0,14	**0,25**	0,35	0,6	**1,4**	2,6	0,20	**0,30**	0,50	1,0	**1,5**	4,0
	DN.. 150404	0,06	**0,15**	0,25	0,2	**0,6**	1,5	0,10	**0,20**	0,30	0,4	**2,0**	5,0
	DN.. 150408	0,10	**0,20**	0,30	0,4	**1,0**	2,0	0,15	**0,25**	0,40	0,6	**2,0**	5,0
	DN.. 150412	0,14	**0,25**	0,35	0,6	**1,4**	2,6	0,20	**0,30**	0,50	1,0	**2,0**	5,0
	DN.. 150416							0,25	**0,40**	0,60	1,4	**2,0**	5,0
	DN.. 150604	0,06	**0,15**	0,25	0,2	**0,6**	1,5	0,10	**0,20**	0,30	0,4	**2,0**	5,0
	DN.. 150608	0,10	**0,20**	0,30	0,4	**1,0**	2,0	0,15	**0,25**	0,40	0,6	**2,0**	5,0
	DN.. 150612	0,14	**0,25**	0,35	0,6	**1,4**	2,6	0,20	**0,30**	0,50	1,0	**2,0**	5,0
	DN.. 150616							0,25	**0,40**	0,60	1,4	**2,0**	5,0
	SN.. 090308	0,10	**0,20**	0,30	0,4	**1,0**	2,0						
	SN.. 120404	0,06	**0,15**	0,25	0,2	**0,6**	1,5						
	SN.. 120408	0,10	**0,20**	0,30	0,4	**1,0**	2,0	0,15	**0,25**	0,40	0,6	**2,0**	5,0
	SN.. 120412	0,14	**0,25**	0,35	0,6	**1,4**	2,6	0,20	**0,30**	0,50	1,0	**2,0**	5,0
	SN.. 120416							0,25	**0,40**	0,60	1,4	**2,0**	5,0
	SN.. 150608							0,15	**0,25**	0,40	0,6	**3,0**	8,0
	SN.. 150612							0,20	**0,30**	0,50	1,0	**3,0**	8,0
	SN.. 150616							0,25	**0,40**	0,60	1,4	**3,0**	8,0
	SN.. 190612												
	SN.. 190616												
	SN.. 190624												
	SN.. 250724												
	SN.. 250924												
	TN.. 110304	0,06	**0,15**	0,25	0,2	**0,6**	1,5						
	TN.. 110308	0,10	**0,20**	0,30	0,4	**1,0**	2,0						
	TN.. 160404	0,06	**0,15**	0,25	0,2	**0,6**	1,5	0,10	**0,20**	0,30	0,4	**2,0**	5,0
	TN.. 160408	0,10	**0,20**	0,30	0,4	**1,0**	2,0	0,15	**0,25**	0,40	0,6	**2,0**	5,0
	TN.. 160412	0,14	**0,25**	0,35	0,6	**1,4**	2,6	0,20	**0,30**	0,50	1,0	**2,0**	5,0
	TN.. 220404												
	TN.. 220408							0,15	**0,25**	0,40	0,6	**3,0**	8,0
	TN.. 220412							0,20	**0,30**	0,50	1,0	**3,0**	8,0
	TN.. 220416												
	VN.. 160404	0,06	**0,15**	0,25	0,2	**0,6**	1,5	0,10	**0,20**	0,30	0,4	**1,0**	4,0
	VN.. 160408	0,10	**0,20**	0,30	0,4	**1,0**	2,0	0,15	**0,25**	0,40	0,6	**1,0**	4,0
	VN.. 160412							0,20	**0,30**	0,50	1,0	**1,0**	4,0
	WN.. 060404	0,06	**0,15**	0,25	0,2	**0,6**	1,5	0,10	**0,20**	0,30	0,4	**1,0**	3,0
	WN.. 060408	0,10	**0,20**	0,30	0,4	**1,0**	2,0	0,15	**0,25**	0,40	0,6	**1,0**	3,0
	WN.. 060412							0,20	**0,30**	0,50	1,0	**1,0**	3,0
	WN.. 080404	0,06	**0,15**	0,25	0,2	**0,6**	1,5	0,10	**0,20**	0,30	0,4	**1,5**	4,0
	WN.. 080408	0,10	**0,20**	0,30	0,4	**1,0**	2,0	0,15	**0,25**	0,40	0,6	**1,5**	4,0
	WN.. 080412	0,14	**0,25**	0,35	0,6	**1,4**	2,6	0,20	**0,30**	0,50	1,0	**1,5**	4,0
	WN.. 080416							0,25	**0,40**	0,60	1,4	**1,5**	4,0

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The data shows reference values. An adjustment to the actual conditions may be required.

Designation	-XU						-M50						-TMR					
	f			a_p			f			a_p			f			a_p		
	min.	Recommended	max.	min.	Recommended	max.	min.	Recommended	max.	min.	Recommended	max.	min.	Recommended	max.	min.	Recommended	max.
	mm/rev.			mm			mm/rev.			mm			mm/rev.			mm		
CN.. 090304																		
CN.. 090308																		
CN.. 120404	0,08	**0,15**	0,25	0,3	**1,5**	2,5	0,10	**0,20**	0,30	0,4	**2,0**	5,0						
CN.. 120408	0,13	**0,25**	0,35	0,6	**2,0**	3,0	0,15	**0,25**	0,40	0,6	**2,0**	5,0	0,20	**0,30**	0,45	0,8	**3,0**	6,0
CN.. 120412	0,15	**0,30**	0,45	0,9	**2,0**	3,5	0,20	**0,30**	0,50	1,0	**2,0**	5,0	0,25	**0,40**	0,60	1,2	**3,0**	6,0
CN.. 120416							0,25	**0,40**	0,60	1,4	**2,0**	5,0	0,30	**0,45**	0,70	1,6	**3,0**	6,0
CN.. 160608							0,15	**0,25**	0,40	0,6	**3,0**	8,0	0,20	**0,30**	0,45	0,8	**4,0**	8,0
CN.. 160612							0,20	**0,30**	0,50	1,0	**3,0**	8,0	0,25	**0,40**	0,60	1,2	**4,0**	8,0
CN.. 160616							0,25	**0,40**	0,60	1,4	**3,0**	8,0	0,30	**0,45**	0,70	1,6	**4,0**	8,0
CN.. 160624													0,40	**0,70**	1,20	2,4	**4,0**	8,0
CN.. 190608													0,20	**0,30**	0,45	0,8	**4,5**	9,0
CN.. 190612													0,25	**0,40**	0,60	1,2	**4,5**	9,0
CN.. 190616													0,30	**0,45**	0,70	1,6	**4,5**	9,0
CN.. 190624													0,40	**0,70**	1,20	2,4	**4,5**	9,0
CN.. 250924													0,40	**0,70**	1,20	2,4	**6,0**	13,0
DN.. 110402																		
DN.. 110404							0,10	**0,20**	0,30	0,4	**1,5**	4,0						
DN.. 110408							0,15	**0,25**	0,40	0,6	**1,5**	4,0	0,20	**0,25**	0,45	0,8	**2,0**	5,0
DN.. 110412							0,20	**0,30**	0,50	1,0	**1,5**	4,0	0,25	**0,35**	0,60	1,2	**2,0**	5,0
DN.. 150404							0,10	**0,20**	0,30	0,4	**2,0**	5,0						
DN.. 150408							0,15	**0,25**	0,40	0,6	**2,0**	5,0	0,20	**0,25**	0,45	0,8	**2,5**	6,0
DN.. 150412							0,20	**0,30**	0,50	1,0	**2,0**	5,0	0,25	**0,35**	0,60	1,2	**2,5**	6,0
DN.. 150416							0,25	**0,40**	0,60	1,4	**2,0**	5,0	0,30	**0,40**	0,70	1,6	**2,5**	6,0
DN.. 150604	0,08	**0,15**	0,25	0,3	**1,5**	2,5	0,10	**0,20**	0,30	0,4	**2,0**	5,0						
DN.. 150608	0,13	**0,25**	0,35	0,6	**2,0**	3,0	0,15	**0,25**	0,40	0,6	**2,0**	5,0	0,20	**0,25**	0,45	0,8	**2,5**	6,0
DN.. 150612	0,15	**0,25**	0,40	0,9	**2,0**	3,5	0,20	**0,30**	0,50	1,0	**2,0**	5,0	0,25	**0,35**	0,60	1,2	**2,5**	6,0
DN.. 150616							0,25	**0,40**	0,60	1,4	**2,0**	5,0	0,30	**0,40**	0,70	1,6	**2,5**	6,0
SN.. 090308																		
SN.. 120404																		
SN.. 120408							0,15	**0,25**	0,40	0,6	**2,0**	5,0	0,20	**0,30**	0,50	0,8	**3,0**	6,0
SN.. 120412							0,20	**0,30**	0,50	1,0	**2,0**	5,0	0,25	**0,40**	0,65	1,2	**3,0**	6,0
SN.. 120416							0,25	**0,40**	0,60	1,4	**2,0**	5,0	0,30	**0,45**	0,70	1,6	**3,0**	6,0
SN.. 150608							0,15	**0,25**	0,40	0,6	**3,0**	8,0						
SN.. 150612							0,20	**0,30**	0,50	1,0	**3,0**	8,0	0,25	**0,40**	0,65	1,2	**4,0**	8,0
SN.. 150616							0,25	**0,40**	0,60	1,4	**3,0**	8,0	0,30	**0,45**	0,75	1,6	**4,0**	8,0
SN.. 190612													0,25	**0,40**	0,65	1,2	**4,5**	9,0
SN.. 190616													0,30	**0,45**	0,75	1,6	**4,5**	9,0
SN.. 190624													0,40	**0,70**	1,20	2,4	**4,5**	9,0
SN.. 250724																		
SN.. 250924													0,40	**0,70**	1,20	2,4	**6,0**	13,0
TN.. 110304																		
TN.. 110308																		
TN.. 160404							0,10	**0,20**	0,30	0,4	**2,0**	5,0						
TN.. 160408							0,15	**0,25**	0,40	0,6	**2,0**	5,0	0,20	**0,25**	0,45	0,8	**2,5**	6,0
TN.. 160412							0,20	**0,30**	0,50	1,0	**2,0**	5,0	0,25	**0,35**	0,60	1,2	**2,5**	6,0
TN.. 220404													0,15	**0,20**	0,30	0,4	**3,0**	7,0
TN.. 220408							0,15	**0,25**	0,40	0,6	**3,0**	8,0	0,20	**0,25**	0,45	0,8	**3,0**	7,0
TN.. 220412							0,20	**0,30**	0,50	1,0	**3,0**	8,0	0,25	**0,35**	0,60	1,2	**3,0**	7,0
TN.. 220416													0,30	**0,40**	0,70	1,6	**3,0**	7,0
VN.. 160404	0,08	**0,15**	0,20	0,3	**1,0**	1,8	0,10	**0,20**	0,30	0,4	**1,0**	4,0						
VN.. 160408	0,13	**0,20**	0,30	0,6	**1,5**	2,5	0,15	**0,25**	0,40	0,6	**1,0**	4,0						
VN.. 160412							0,20	**0,30**	0,50	1,0	**1,0**	4,0						
WN.. 060404							0,10	**0,20**	0,30	0,4	**1,0**	3,0						
WN.. 060408							0,15	**0,25**	0,40	0,6	**1,0**	3,0	0,20	**0,30**	0,45	0,8	**2,0**	4,0
WN.. 060412							0,20	**0,30**	0,50	1,0	**1,0**	3,0	0,25	**0,40**	0,60	1,2	**2,0**	4,0
WN.. 080404	0,08	**0,15**	0,25	0,3	**1,5**	2,5	0,10	**0,20**	0,30	0,4	**1,5**	4,0						
WN.. 080408	0,13	**0,22**	0,35	0,6	**2,0**	3,0	0,15	**0,25**	0,40	0,6	**1,5**	4,0	0,20	**0,30**	0,45	0,8	**2,5**	5,0
WN.. 080412	0,15	**0,25**	0,45	0,9	**2,0**	3,5	0,20	**0,30**	0,50	1,0	**1,5**	4,0	0,25	**0,40**	0,60	1,2	**2,5**	5,0
WN.. 080416							0,25	**0,40**	0,60	1,4	**1,5**	4,0	0,30	**0,45**	0,70	1,6	**2,5**	5,0

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Information on the cutting data of chip breakers not included in this overview, can be found on → **Page 82–86**

Cutting data standard values for negative inserts

	Designation	-M70						-R28					
		f			a_p			f			a_p		
		min.	Recommended	max.	min.	Recommended	max.	min.	Recommended	max.	min.	Recommended	max.
		mm/rev.			mm			mm/rev.			mm		
	CN.. 090304												
	CN.. 090308												
	CN.. 120404												
	CN.. 120408	0,20	**0,30**	0,45	0,8	**3,0**	6,0	0,25	**0,35**	0,55	0,8	**3,0**	7,0
	CN.. 120412	0,25	**0,40**	0,60	1,2	**3,0**	6,0	0,30	**0,45**	0,70	1,0	**3,0**	7,0
	CN.. 120416	0,30	**0,45**	0,70	1,6	**3,0**	6,0	0,30	**0,60**	0,90	1,5	**3,0**	7,0
	CN.. 160608	0,20	**0,30**	0,45	0,8	**4,0**	8,0						
	CN.. 160612	0,25	**0,40**	0,60	1,2	**4,0**	8,0	0,30	**0,45**	0,70	1,0	**4,0**	9,0
	CN.. 160616	0,30	**0,45**	0,70	1,6	**4,0**	8,0	0,35	**0,60**	0,90	1,5	**4,0**	9,0
	CN.. 160624	0,40	**0,70**	1,20	2,4	**4,0**	8,0						
	CN.. 190608	0,20	**0,30**	0,45	0,8	**4,5**	9,0						
	CN.. 190612	0,25	**0,40**	0,60	1,2	**4,5**	9,0	0,30	**0,45**	0,70	1,0	**5,5**	12,0
	CN.. 190616	0,30	**0,45**	0,70	1,6	**4,5**	9,0	0,35	**0,60**	0,90	1,5	**5,5**	12,0
	CN.. 190624	0,40	**0,70**	1,20	2,4	**4,5**	9,0	0,35	**0,65**	1,00	2,0	**5,5**	12,0
	CN.. 250924	0,40	**0,70**	1,20	2,4	**6,0**	13,0	0,35	**0,7**	1,0	2,0	**7,0**	16,0
	DN.. 110402												
	DN.. 110404												
	DN.. 110408	0,20	**0,25**	0,45	0,8	**2,0**	5,0						
	DN.. 110412	0,25	**0,35**	0,60	1,2	**2,0**	5,0						
	DN.. 150404												
	DN.. 150408	0,20	**0,25**	0,45	0,8	**2,5**	6,0						
	DN.. 150412	0,25	**0,35**	0,60	1,2	**2,5**	6,0						
	DN.. 150416	0,30	**0,40**	0,70	1,6	**2,5**	6,0						
	DN.. 150604												
	DN.. 150608	0,20	**0,25**	0,45	0,8	**2,5**	6,0						
	DN.. 150612	0,25	**0,35**	0,60	1,2	**2,5**	6,0	0,25	**0,45**	0,70	1,0	**2,5**	6,0
	DN.. 150616	0,30	**0,40**	0,70	1,6	**2,5**	6,0	0,30	**0,60**	0,85	1,5	**2,5**	6,0
	SN.. 090308												
	SN.. 120404												
	SN.. 120408	0,20	**0,30**	0,50	0,8	**3,0**	6,0						
	SN.. 120412	0,25	**0,40**	0,65	1,2	**3,0**	6,0						
	SN.. 120416	0,30	**0,45**	0,70	1,6	**3,0**	6,0						
	SN.. 150608												
	SN.. 150612	0,25	**0,40**	0,65	1,2	**4,0**	8,0	0,30	**0,35**	0,70	1,0	**4,0**	9,0
	SN.. 150616	0,30	**0,45**	0,75	1,6	**4,0**	8,0	0,35	**0,60**	0,90	1,5	**4,0**	9,0
	SN.. 190612	0,25	**0,40**	0,65	1,2	**4,5**	9,0						
	SN.. 190616	0,30	**0,45**	0,75	1,6	**4,5**	9,0	0,35	**0,60**	0,90	1,5	**5,5**	12,0
	SN.. 190624	0,40	**0,70**	1,20	2,4	**4,5**	9,0						
	SN.. 250724							0,35	**0,65**	1,00	2,0	**7,0**	16,0
	SN.. 250924	0,40	**0,70**	1,20	2,4	**6,0**	13,0	0,35	**0,65**	1,00	2,0	**7,0**	16,0
	TN.. 110304												
	TN.. 110308												
	TN.. 160404												
	TN.. 160408	0,20	**0,25**	0,45	0,8	**2,5**	6,0						
	TN.. 160412	0,25	**0,35**	0,60	1,2	**2,5**	6,0						
	TN.. 220404	0,15	**0,20**	0,30	0,4	**3,0**	7,0						
	TN.. 220408	0,20	**0,25**	0,45	0,8	**3,0**	7,0						
	TN.. 220412	0,25	**0,35**	0,60	1,2	**3,0**	7,0						
	TN.. 220416	0,30	**0,40**	0,70	1,6	**3,0**	7,0	0,30	**0,55**	0,85	1,5	**3,0**	7,0
	VN.. 160404												
	VN.. 160408												
	VN.. 160412												
	WN.. 060404												
	WN.. 060408	0,20	**0,30**	0,45	0,8	**2,0**	4,0						
	WN.. 060412	0,25	**0,40**	0,60	1,2	**2,0**	4,0						
	WN.. 080404												
	WN.. 080408	0,20	**0,30**	0,45	0,8	**2,5**	5,0						
	WN.. 080412	0,25	**0,40**	0,60	1,2	**2,5**	5,0						
	WN.. 080416	0,30	**0,45**	0,70	1,6	**2,5**	5,0						

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The data shows reference values. An adjustment to the actual conditions may be required.

Designation	-R58						-R88						-F30					
	f			a_p			f			a_p			f			a_p		
	min.	Recommended	max.	min.	Recommended	max.	min.	Recommended	max.	min.	Recommended	max.	min.	Recommended	max.	min.	Recommended	max.
	mm/rev.			mm			mm/rev.			mm			mm/rev.			mm		
CN.. 090304																		
CN.. 090308																		
CN.. 120404													0,05	**0,15**	0,25	0,4	**1,0**	2,0
CN.. 120408	0,25	**0,45**	0,70	1,0	**3,0**	7,0							0,10	**0,22**	0,35	0,8	**1,5**	2,5
CN.. 120412	0,30	**0,55**	0,85	1,5	**3,0**	7,0												
CN.. 120416	0,35	**0,65**	1,00	2,0	**3,0**	7,0												
CN.. 160608																		
CN.. 160612	0,30	**0,55**	0,85	1,5	**4,0**	9,0												
CN.. 160616	0,35	**0,65**	1,00	2,0	**4,0**	9,0												
CN.. 160624	0,40	**0,75**	1,20	2,5	**4,0**	9,0	0,40	**0,70**	1,20	2,0	**5,0**	9,0						
CN.. 190608																		
CN.. 190612	0,35	**0,55**	0,85	1,5	**5,5**	12,0												
CN.. 190616	0,40	**0,65**	1,00	2,0	**5,5**	12,0	0,40	**0,70**	1,00	2,0	**5,0**	12,0						
CN.. 190624	0,40	**0,75**	1,20	2,5	**5,5**	12,0	0,40	**0,70**	1,20	2,0	**5,0**	12,0						
CN.. 250924	0,45	**0,80**	1,30	2,5	**8,0**	16,0	0,60	**1,00**	1,50	3,5	**10,0**	18,0						
DN.. 110402																		
DN.. 110404													0,05	**0,15**	0,25	0,4	**1,0**	2,0
DN.. 110408													0,10	**0,20**	0,35	0,8	**1,5**	2,5
DN.. 110412																		
DN.. 150404													0,05	**0,15**	0,25	0,4	**1,0**	2,0
DN.. 150408													0,1	**0,2**	0,35	0,8	**1,5**	2,5
DN.. 150412																		
DN.. 150416																		
DN.. 150604													0,05	**0,15**	0,25	0,4	**1,0**	2,0
DN.. 150608													0,10	**0,20**	0,35	0,8	**1,5**	2,5
DN.. 150612	0,30	**0,50**	0,80	1,5	**2,5**	6,0												
DN.. 150616	0,35	**0,60**	0,90	2,0	**2,5**	6,0												
SN.. 090308																		
SN.. 120404													0,10	**0,15**	0,30	0,4	**1,0**	2,0
SN.. 120408	0,25	**0,45**	0,70	1,0	**3,0**	7,0							0,15	**0,20**	0,40	0,8	**1,5**	2,5
SN.. 120412	0,30	**0,55**	0,85	1,5	**3,0**	7,0							0,15	**0,20**	0,40	1,2	**1,8**	2,5
SN.. 120416																		
SN.. 150608																		
SN.. 150612	0,30	**0,55**	0,85	1,5	**4,0**	9,0												
SN.. 150616	0,35	**0,65**	1,00	2,0	**4,0**	9,0												
SN.. 190612	0,35	**0,55**	0,85	1,5	**5,5**	12,0												
SN.. 190616	0,40	**0,65**	1,00	2,0	**5,5**	12,0	0,40	**0,70**	1,00	2,0	**5,0**	12,0						
SN.. 190624	0,40	**0,75**	1,20	2,0	**5,5**	12,0	0,40	**0,70**	1,20	2,0	**5,0**	12,0						
SN.. 250724	0,45	**0,80**	1,30	2,5	**8,0**	16,0	0,60	**1,00**	1,50	3,5	**10,0**	18,0						
SN.. 250924	0,45	**0,80**	1,30	2,5	**8,0**	16,0	0,60	**1,00**	1,50	3,5	**10,0**	18,0						
TN.. 110304																		
TN.. 110308																		
TN.. 160404													0,05	**0,15**	0,25	0,4	**1,0**	2,0
TN.. 160408													0,10	**0,15**	0,35	0,8	**1,5**	2,5
TN.. 160412																		
TN.. 220404																		
TN.. 220408																		
TN.. 220412	0,30	**0,50**	0,80	1,5	**3,0**	7,0												
TN.. 220416																		
VN.. 160404													0,08	**0,10**	0,20	0,4	**1,0**	2,0
VN.. 160408													0,10	**0,15**	0,30	0,8	**1,5**	2,5
VN.. 160412																		
WN.. 060404													0,05	**0,15**	0,25	0,4	**1,0**	2,0
WN.. 060408													0,10	**0,20**	0,30	0,8	**1,5**	2,5
WN.. 060412																		
WN.. 080404													0,05	**0,15**	0,25	0,4	**1,0**	2,0
WN.. 080408													0,10	**0,20**	0,35	0,8	**1,5**	2,5
WN.. 080412																		
WN.. 080416																		

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Information on the cutting data of chip breakers not included in this overview, can be found on → **Page 82–86**

Cutting data standard values for negative inserts

	Designation	-M30						-M60					
		f			a_p			f			a_p		
		min.	Recommended	max.	min.	Recommended	max.	min.	Recommended	max.	min.	Recommended	max.
		mm/rev.			mm			mm/rev.			mm		
	CN.. 090304												
	CN.. 090308												
	CN.. 120404												
	CN.. 120408	0,15	**0,25**	0,40	1,0	**2,0**	4,5	0,25	**0,30**	0,50	1,5	**2,5**	6,0
	CN.. 120412	0,20	**0,30**	0,50	1,2	**2,5**	5,0	0,30	**0,35**	0,55	2,0	**3,0**	6,0
	CN.. 120416	0,25	**0,35**	0,55	1,6	**2,5**	5,0	0,30	**0,40**	0,60	2,0	**3,0**	6,0
	CN.. 160608												
	CN.. 160612							0,30	**0,35**	0,55	2,0	**3,0**	8,0
	CN.. 160616												
	CN.. 160624												
	CN.. 190608												
	CN.. 190612												
	CN.. 190616												
	CN.. 190624												
	CN.. 250924												
	DN.. 110402												
	DN.. 110404												
	DN.. 110408	0,15	**0,25**	0,40	1,0	**2,0**	4,5						
	DN.. 110412	0,20	**0,30**	0,50	1,2	**2,0**	4,5						
	DN.. 150404												
	DN.. 150408	0,15	**0,25**	0,35	1,0	**2,5**	4,0	0,25	**0,3**	0,45	1,5	**2,5**	6,0
	DN.. 150412	0,2	**0,3**	0,5	1,0	**2,5**	4,0	0,3	**0,4**	0,55	1,5	**2,5**	6,0
	DN.. 150416												
	DN.. 150604												
	DN.. 150608	0,15	**0,25**	0,40	1,0	**2,0**	5,5	0,25	**0,30**	0,45	1,5	**2,5**	6,0
	DN.. 150612	0,20	**0,30**	0,50	1,2	**2,0**	5,5	0,30	**0,40**	0,55	1,5	**2,5**	6,0
	DN.. 150616												
	SN.. 090308												
	SN.. 120404												
	SN.. 120408	0,20	**0,25**	0,45	1,0	**2,0**	4,5	0,30	**0,35**	0,50	1,5	**2,0**	6,0
	SN.. 120412	0,25	**0,30**	0,50	1,2	**2,0**	5,0	0,30	**0,40**	0,55	2,0	**2,5**	6,0
	SN.. 120416							0,30	**0,40**	0,60	2,0	**2,5**	6,0
	SN.. 150608												
	SN.. 150612												
	SN.. 150616												
	SN.. 190612												
	SN.. 190616												
	SN.. 190624												
	SN.. 250724												
	SN.. 250924												
	TN.. 110304												
	TN.. 110308												
	TN.. 160404												
	TN.. 160408	0,15	**0,25**	0,40	1,0	**2,0**	4,5	0,25	**0,25**	0,45	1,5	**2,5**	5,0
	TN.. 160412	0,20	**0,30**	0,50	1,2	**2,0**	4,5	0,30	**0,30**	0,55	2,0	**2,5**	5,5
	TN.. 220404												
	TN.. 220408												
	TN.. 220412												
	TN.. 220416												
	VN.. 160404												
	VN.. 160408	0,15	**0,25**	0,40	1,0	**1,5**	4,0						
	VN.. 160412												
	WN.. 060404												
	WN.. 060408	0,15	**0,25**	0,40	1,0	**1,5**	3,5	0,25	**0,30**	0,45	1,5	**2,0**	4,0
	WN.. 060412	0,20	**0,30**	0,45	1,2	**1,5**	4,0	0,30	**0,35**	0,50	2,0	**2,5**	4,5
	WN.. 080404												
	WN.. 080408	0,15	**0,25**	0,40	1,0	**2,0**	4,5	0,25	**0,30**	0,50	1,5	**2,0**	5,0
	WN.. 080412	0,20	**0,30**	0,50	1,2	**2,0**	5,0	0,30	**0,35**	0,55	2,0	**2,5**	5,5
	WN.. 080416												

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The data shows reference values. An adjustment to the actual conditions may be required.

Designation	-M34						-M42					
	f			a_p			f			a_p		
	min.	Recommended	max.	min.	Recommended	max.	min.	Recommended	max.	min.	Recommended	max.
	mm/rev.			mm			mm/rev.			mm		
CN.. 090304												
CN.. 090308												
CN.. 120404	0,08	**0,12**	0,18	1,0	**1,5**	3,0	0,1	**0,2**	0,25	0,8	**1,5**	4,0
CN.. 120408	0,10	**0,15**	0,35	1,0	**1,8**	3,5	0,2	**0,3**	0,44	1,0	**2,5**	4,0
CN.. 120412	0,13	**0,20**	0,40	1,5	**2,0**	4,0	0,28	**0,35**	0,55	1,2	**3**,0	4,2
CN.. 120416	0,15	**0,25**	0,45	2,0	**3,0**	4,5						
CN.. 160608												
CN.. 160612												
CN.. 160616												
CN.. 160624												
CN.. 190608												
CN.. 190612												
CN.. 190616												
CN.. 190624												
CN.. 250924												
DN.. 110402												
DN.. 110404							0,15	**0,25**	0,3	1,0	**2**,0	3,5
DN.. 110408							0,2	**0,3**	0,4	1,2	**2,5**	4,0
DN.. 110412												
DN.. 150404	0,08	**0,12**	0,18	0,8	**1,2**	2,5	0,15	**0,25**	0,35	1,0	**2**,0	4,0
DN.. 150408	0,10	**0,15**	0,30	1,0	**1,8**	3,5	0,2	**0,3**	0,4	1,2	**2,5**	5,0
DN.. 150412	0,13	**0,20**	0,38	1,5	**2,0**	4,0						
DN.. 150416												
DN.. 150604							0,15	**0,25**	0,35	1,0	**2**,0	4,0
DN.. 150608	0,10	**0,15**	0,30	1,0	**1,8**	3,5	0,2	**0,3**	0,44	1,2	**2,5**	5,0
DN.. 150612	0,13	**0,20**	0,38	1,5	**2,0**	4,0						
DN.. 150616												
SN.. 090308												
SN.. 120404												
SN.. 120408	0,15	**0,25**	0,40	1,0	**2,0**	4,0	0,15	**0,25**	0,4	1,0	**2,0**	4,5
SN.. 120412	0,15	**0,25**	0,45	1,5	**2,5**	4,5	0,2	**0,25**	0,45	1,0	**2,0**	5,0
SN.. 120416												
SN.. 150608												
SN.. 150612												
SN.. 150616												
SN.. 190612												
SN.. 190616												
SN.. 190624												
SN.. 250724												
SN.. 250924												
TN.. 110304												
TN.. 110308												
TN.. 160404							0,1	**0,2**	0,3	0,8	**2**,0	5,0
TN.. 160408	0,10	**0,15**	0,35	1,0	**2,0**	4,0	0,12	**0,2**	0,35	0,8	**2**,0	5,0
TN.. 160412												
TN.. 220404	0,10	**0,15**	0,35	1,0	**2,0**	4,0						
TN.. 220408	0,13	**0,20**	0,40	1,5	**2,5**	4,0						
TN.. 220412												
TN.. 220416	0,15	**0,25**	0,45	2,0	**2,5**	4,5						
VN.. 160404	0,07	**0,10**	0,18	0,8	**1,2**	2,0						
VN.. 160408	0,10	**0,15**	0,20	1,0	**1,5**	2,5						
VN.. 160412	0,13	**0,18**	0,25	1,5	**1,8**	3,0						
WN.. 060404							0,1	**0,22**	0,35	0,5	**1**,0	3,0
WN.. 060408							0,1	**0,22**	0,35	0,5	**1**,0	3,0
WN.. 060412												
WN.. 080404							0,1	**0,2**	0,35	0,4	**1,5**	4,0
WN.. 080408	0,10	**0,15**	0,35	1,0	**2,0**	4,0	0,15	**0,25**	0,4	0,8	**1,5**	4,0
WN.. 080412	0,13	**0,20**	0,40	1,5	**2,0**	4,0	0,2	**0,3**	0,45	1,0	**2**,0	4,0
WN.. 080416												

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Information on the cutting data of chip breakers not included in this overview, can be found on → **Page 82–86**

Cutting data values for positive inserts

	Designation	-SF						-SMF					
		f			a_p			f			a_p		
		min.	Recommended	max.	min.	Recommended	max.	min.	Recommended	max.	min.	Recommended	max.
		mm/rev.			mm			mm/rev.			mm		
	CC.. 060200	0,02	**0,035**	0,05	0,1	**0,4**	1,5						
	CC.. 060201	0,02	**0,035**	0,05	0,2	**0,4**	1,5						
	CC.. 060202	0,03	**0,1**	0,15	0,2	**0,4**	1,5						
	CC.. 060204	0,05	**0,1**	0,2	0,2	**0,6**	1,5	0,07	**0,15**	0,25	0,3	**0,7**	2
	CC.. 060208	0,05	**0,125**	0,2	0,2	**1**	1,5	0,1	**0,17**	0,27	0,6	**1**	2
	CC.. 09T300	0,02	**0,035**	0,05	0,2	**0,75**	2						
	CC.. 09T301	0,02	**0,035**	0,05	0,2	**0,75**	2						
	CC.. 09T302	0,05	**0,075**	0,1	0,2	**0,75**	2						
	CC.. 09T304	0,05	**0,12**	0,2	0,2	**0,75**	2	0,07	**0,15**	0,25	0,3	**0,8**	2,5
	CC.. 09T308	0,05	**0,125**	0,25	0,4	**1**	2	0,1	**0,17**	0,27	0,6	**1**	2,5
	CC.. 09T312												
	CC.. 120402	0,05	**0,075**	0,1	0,2	**0,8**	2,5						
	CC.. 120404	0,05	**0,12**	0,2	0,2	**1**	2,5	0,07	**0,15**	0,25	0,3	**1**	3
	CC.. 120408	0,08	**0,15**	0,25	0,4	**1**	2,5	0,1	**0,17**	0,27	0,6	**1,2**	3
	CC.. 120412	0,08	**0,15**	0,25	0,4	**1,5**	2,5						
	DC.. 0702005												
	DC.. 070201												
	DC.. 0702015												
	DC.. 070202	0,03	**0,1**	0,15	0,1	**0,4**	1,5						
	DC.. 070204	0,05	**0,12**	0,2	0,2	**0,6**	1,5	0,07	**0,15**	0,25	0,3	**0,7**	2
	DC.. 070208							0,1	**0,17**	0,27	0,6	**1**	2
	DC.. 11T3005												
	DC.. 11T301												
	DC.. 11T3015												
	DC.. 11T302												
	DC.. 11T304	0,05	**0,12**	0,2	0,2	**0,7**	2	0,07	**0,15**	0,25	0,3	**0,8**	2,5
	DC.. 11T308	0,08	**0,15**	0,25	0,4	**1**	2	0,1	**0,17**	0,27	0,6	**1,2**	2,5
	DC.. 11T312												
	RC.. 0602MO												
	RC.. 0803MO												
	RC.. 1003MO												
	RC.. 1204MO												
	RC.. 1606MO							0,15	**0,3**	0,6	0,25	**2**	3,5
	RC.. 2006MO												
	RC.. 2507MO												
	SC.. 09T304	0,05	**0,12**	0,2	0,2	**0,7**	2	0,07	**0,15**	0,25	0,3	**0,8**	2,5
	SC.. 09T308	0,08	**0,15**	0,25	0,4	**1**	2	0,1	**0,17**	0,27	0,6	**1**	2,5
	SC.. 120408	0,08	**0,15**	0,25	0,4	**1**	2,5	0,1	**0,17**	0,27	0,6	**1,2**	3
	SC.. 120412												
	TC.. 090204												
	TC.. 110202												
	TC.. 110204	0,05	**0,12**	0,2	0,2	**0,7**	2						
	TC.. 110208	0,08	**0,15**	0,25	0,4	**1**	2	0,1	**0,17**	0,27	0,6	**1**	2,5
	TC.. 16T302												
	TC.. 16T304	0,05	**0,12**	0,2	0,2	**0,8**	2,5	0,07	**0,15**	0,25	0,3	**1**	3
	TC.. 16T308	0,08	**0,15**	0,25	0,4	**1**	2,5	0,1	**0,17**	0,27	0,6	**1,2**	3
	TC.. 16T312												
	TC.. 220408												
	VC.. 1103005												
	VC.. 110301												
	VC.. 1103015												
	VC.. 110302	0,02	**0,08**	0,15	0,1	**0,4**	1,5	0,05	**0,1**	0,18	0,2	**0,5**	2
	VC.. 110304	0,05	**0,1**	0,2	0,2	**0,6**	1,5	0,07	**0,15**	0,23	0,3	**0,7**	2
	VC.. 110308	0,08	**0,12**	0,22	0,4	**1**	1,5						
	VC.. 160402												
	VC.. 160404	0,05	**0,1**	0,2	0,2	**0,7**	2	0,07	**0,15**	0,23	0,3	**0,8**	2,5
	VC.. 160408	0,08	**0,12**	0,22	0,4	**1**	2	0,1	**0,17**	0,27	0,6	**1**	2,5
	VC.. 160412												
	VC.. 220530												
	WC.. 020102	0,02	**0,075**	0,1	0,1	**0,4**	1						
	WC.. 020104	0,02	**0,1**	0,2	0,1	**0,6**	1,5						

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The data shows reference values. An adjustment to the actual conditions may be required.

Designation	-SM						-M25						-M55					
	f			a_p			f			a_p			f			a_p		
	min.	Recommended	max.	min.	Recommended	max.	min.	Recommended	max.	min.	Recommended	max.	min.	Recommended	max.	min.	Recommended	max.
	mm/rev.			mm			mm/rev.			mm			mm/rev.			mm		
CC.. 060200																		
CC.. 060201																		
CC.. 060202	0,04	**0,12**	0,2	0,2	**0,6**	2,5												
CC.. 060204	0,08	**0,17**	0,3	0,4	**0,8**	2,5	0,06	**0,13**	0,20	0,2	**1,1**	2,0	0,06	**0,13**	0,20	0,4	**1,5**	2,6
CC.. 060208	0,12	**0,2**	0,35	0,8	**1**	2,5												
CC.. 09T300																		
CC.. 09T301																		
CC.. 09T302																		
CC.. 09T304	0,08	**0,17**	0,3	0,4	**1**	3	0,06	**0,14**	0,22	0,2	**1,2**	2,2	0,08	**0,16**	0,24	0,4	**1,7**	3,0
CC.. 09T308	0,12	**0,2**	0,35	0,8	**1,2**	3	0,10	**0,20**	0,30	0,4	**1,8**	3,2	0,12	**0,24**	0,35	0,8	**2,4**	4,0
CC.. 09T312	0,15	**0,22**	0,4	1,2	**1,5**	3												
CC.. 120402																		
CC.. 120404	0,08	**0,17**	0,3	0,4	**1,2**	3,5							0,08	**0,18**	0,28	0,4	**2,2**	4,0
CC.. 120408	0,12	**0,2**	0,35	0,8	**1,5**	3,5							0,12	**0,26**	0,40	0,8	**2,8**	4,8
CC.. 120412	0,15	**0,22**	0,4	1,2	**2**	3,5												
DC.. 0702005																		
DC.. 070201																		
DC.. 0702015																		
DC.. 070202	0,04	**0,12**	0,2	0,2	**0,6**	2,5	0,04	**0,09**	0,13	0,1	**0,9**	1,6						
DC.. 070204	0,08	**0,17**	0,3	0,4	**0,8**	2,5	0,06	**0,12**	0,18	0,2	**1,1**	2,0	0,06	**0,14**	0,22	0,4	**1,3**	2,2
DC.. 070208	0,12	**0,2**	0,3	0,8	**1**	2,5							0,08	**0,16**	0,24	0,8	**1,6**	2,4
DC.. 11T3005																		
DC.. 11T301																		
DC.. 11T3015																		
DC.. 11T302							0,04	**0,10**	0,16	0,1	**1,1**	2,0						
DC.. 11T304	0,8	**0,17**	0,3	0,4	**1**	3	0,06	**0,14**	0,22	0,2	**1,2**	2,2	0,08	**0,16**	0,24	0,4	**1,7**	3,0
DC.. 11T308	0,12	**0,2**	0,35	0,8	**1,2**	3	0,10	**0,20**	0,30	0,4	**1,8**	3,2	0,12	**0,24**	0,35	0,8	**2,4**	4,0
DC.. 11T312	0,15	**0,22**	0,4	1,2	**1,7**	3												
RC.. 0602MO	0,2	**0,3**	0,5	0,2	**0,5**	1,5												
RC.. 0803MO	0,2	**0,3**	0,6	0,2	**0,6**	2												
RC.. 1003MO	0,25	**0,4**	0,7	0,2	**0,7**	2,5												
RC.. 1204MO	0,3	**0,5**	0,8	0,2	**0,8**	3												
RC.. 1606MO	0,4	**0,6**	1	0,3	**1**	3,5												
RC.. 2006MO	0,5	**0,8**	1,2	0,4	**1,2**	4												
RC.. 2507MO	0,6	**0,9**	1,4	0,6	**2**	5												
SC.. 09T304	0,08	**0,17**	0,3	0,4	**1**	3							0,12	**0,24**	0,35	0,8	**2,4**	4,0
SC.. 09T308	0,12	**0,2**	0,35	0,8	**1,2**	3							0,12	**0,26**	0,40	0,8	**2,8**	4,8
SC.. 120408	0,12	**0,2**	0,35	0,8	**1,5**	3,5												
SC.. 120412	0,15	**0,22**	0,4	1,2	**2**	3,5												
TC.. 090204	0,08	**0,12**	0,2	0,4	**0,8**	2							0,06	**0,12**	0,18	0,4	**1,3**	2,2
TC.. 110202	0,08	**0,1**	0,2	0,4	**0,6**	3												
TC.. 110204	0,12	**0,2**	0,35	0,8	**1,2**	3	0,06	**0,13**	0,20	0,2	**1,2**	2,2	0,06	**0,14**	0,22	0,4	**1,4**	2,4
TC.. 110208	0,12	**0,2**	0,35	0,8	**1,2**	3												
TC.. 16T302																		
TC.. 16T304	0,08	**0,17**	0,3	0,4	**1,2**	3,5	0,06	**0,14**	0,22	0,2	**1,6**	3,0						
TC.. 16T308	0,12	**0,2**	0,35	0,8	**1,5**	3,5	0,10	**0,20**	0,30	0,4	**1,9**	3,4	0,12	**0,24**	0,35	0,8	**2,6**	4,4
TC.. 16T312	0,15	**0,22**	0,4	1,2	**1,7**	3,5												
TC.. 220408	0,12	**0,2**	0,35	0,8	**2,5**	6												
VC.. 1103005																		
VC.. 110301																		
VC.. 1103015																		
VC.. 110302																		
VC.. 110304																		
VC.. 110308																		
VC.. 160402																		
VC.. 160404	0,08	**0,17**	0,25	0,4	**1**	3	0,06	**0,13**	0,20	0,2	**1,2**	2,2	0,08	**0,14**	0,20	0,4	**1,7**	3,0
VC.. 160408	0,12	**0,2**	0,3	0,8	**1,2**	3	0,10	**0,15**	0,25	0,4	**1,4**	3,0	0,12	**0,21**	0,30	0,8	**2,1**	3,4
VC.. 160412	0,15	**0,22**	0,32	1,2	**1,5**	3												
VC.. 220530																		
WC.. 020102																		
WC.. 020104																		

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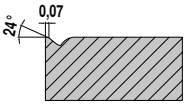
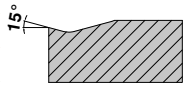
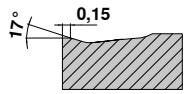
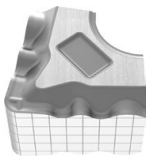
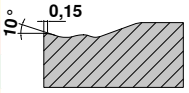
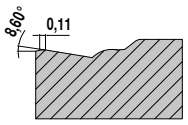
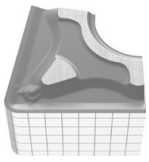
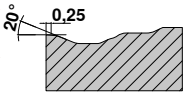
Information on the cutting data of chip breakers not included in this overview, can be found on → **Page 82–86**

Standard chip breakers / application notes

Negative

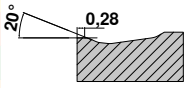
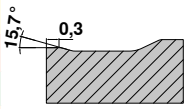
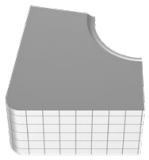
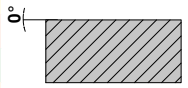
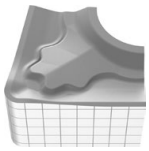
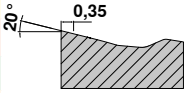
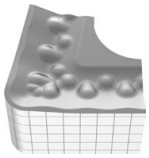
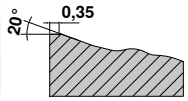
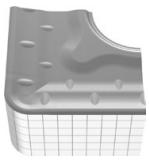
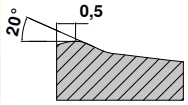
Main application steel and cast iron, secondary application stainless steels

Model	Smooth cut ○	Irregular cutting depth ◔	Interrupted cut ◌	Sectional illustration a_p mm	Sectional illustration f mm	Geometry
-F40 ▲ Fine turning chip breaker for machining steels ▲ Good chip control ▲ Ideal for copy turning work	 **F**		**CTCP125 / CTIC1135** CTCP125 / CTIC1135		 0,50–2,00	0,10–0,30	VN..
-F50 ▲ Fine turning chip breaker for fine machining ▲ Steel and stainless steels ▲ Excellent chip control ▲ High surface quality	 **F**		**CTCP125** CTCP125	**CTIC1135** CTIC1135	 0,10–2,60	0,06–0,35	CN.. DN.. TN.. VN.. WN..
-TMF ▲ Wiper geometry ▲ Finishing to medium machining ▲ Very high feeds ▲ High surface quality	 **F**		**CTCP125 / CTIC1135** CTIC1135 CTCP125		 0,50–5,00	0,12–0,40	VN..
-XU ▲ Finishing to light roughing ▲ Universal chip breaker ▲ Copy turning ▲ Excellent chip formation ▲ Low cutting forces	 **M**		**CTCP125 / CTIC1135** CTIC1135 CTCP125		 0,40–4,50	0,12–0,40	DN..
-M40 ▲ Stable geometry ▲ Medium feed rates ▲ Can be used for any application ▲ Good chip control	 **M**				 0,50–3,00	0,10–0,35	
-M50 ▲ Medium machining ▲ First choice for steel machining ▲ Universal application ▲ Wide range of applications	 **M**	CTCK110 **CTCK110**	**CTCP125** / CTCK120 CTCP125 / **CTCK120**	**CTIC1135** / CTCK110 / CTCK120 CTIC1135 **CTCK110 / CTCK120**	 0,50–5,00	0,12–0,40	CN.. DN.. TN.. WN..

Standard chip breakers / application notes

Negative

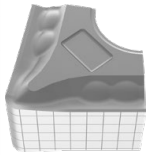
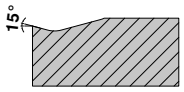
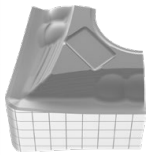
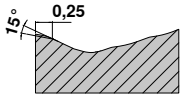
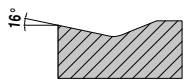
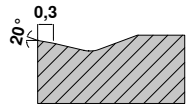
Main application steel and cast iron, secondary application stainless steels

Model	Smooth cut ○	Irregular cutting depth ◔	Interrupted cut ◌	Sectional illustration a_p mm	Sectional illustration f mm	Geometry
-TMR ▲ Wiper geometry ▲ Light to medium rough machining ▲ Very high feeds ▲ High surface quality		CTCK110 / CTCK120 **CTCK110 / CTCK120**	**CTCP125 / CTIC1135 / CTCK120** CTIC1135 CTCP125 / **CTCK120**			CN.. SN.. TN..
M				1,50–4,50	0,20–0,80	
-M70 ▲ Light to medium rough machining ▲ Cast crust and forging skin ▲ Stable cutting edge ▲ Interrupted cut ▲ Raw materials and forgings		CTCK110 **CTCK110**	**CTCP125** / CTCK120 CTCP125 / **CTCK120**	**CTIC1135** CTIC1135			CN.. DN.. SN.. TN.. WN..
M **R**				1,50–4,50	0,20–0,80	
-NMA ▲ Rough machining ▲ Stable cutting edge ▲ For short-chipping materials ▲ First choice for grey cast iron		CTCK110 **CTCK110**	CTCK110 / CTCK120 **CTCK110 / CTCK120**			CN.. SN.. TN.. WN..
R				1,50–4,50	0,20–0,80	
-R28 ▲ Single sided roughing geometry ▲ Longitudinal, face and copy turning ▲ Varying depths of cut ▲ Steels with low tensile strength (800 N / mm²) ▲ Good chip control						
R				1,00–12,00	0,25–0,80	
-R58 ▲ Stable geometry ▲ Medium feed rates ▲ Can be used for any application ▲ Good chip control			**CTCP125** CTCP125	**CTIC1135** CTIC1135			CN..
R				1,50–12,00	0,30–1,20	
-R88 ▲ Medium machining ▲ First choice for steel machining ▲ Universal application ▲ Wide range of applications						
R				3,50–16,00	0,50–1,50	

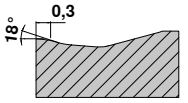
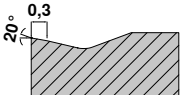
Standard chip breakers / application notes

Negative

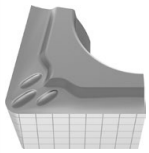
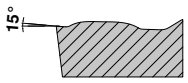
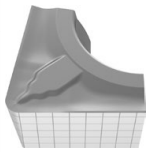
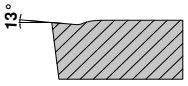
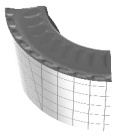
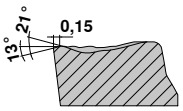
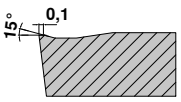
Main application stainless steels, secondary application steel and super alloys

	Model	Smooth cut	Irregular cutting depth	Interrupted cut	Sectional illustration a_p mm	Sectional illustration f mm	Geometry
-F30 ▲ Finishing of stainless steels ▲ Continous cut ▲ High surface quality ▲ Good swarf control	 F	CTCM120 **CTCM120**	CTPM125 **CTPM125**	CTCM130 **CTCM130** CTCM130	 0,08–2,5	0,10–0,35	CN.. TN.. VN..
-M30 ▲ Option for stainless steel machining ▲ Good swarf control ▲ Little edg build up ▲ Low cutting forces ▲ Little built-up edge ▲ Applicable on unstable machines	 F M	CTCM120 **CTCM120**	CTPM125 **CTPM125**	CTCM130 **CTCM130** CTCM130	 1,00-4,50	0,15-0,40	CN.. DN.. TN.. WN..
-42 ▲ Extremely soft-cutting chip breaker ▲ For small and medium widths of cut ▲ Suitable for thin-walled parts	 M				 0,50–4,50	0,05–0,35	
-M42 ▲ For medium machining on stainless steels ▲ As a secondary application for general steels and super alloys	 M	CTCM120 **CTCM120**	CTPM125 **CTPM125**	CTCM130 **CTCM130** CTCM130	 1,00–3,50	0,15–0,40	CN.. TN.. WN..

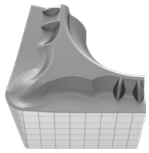
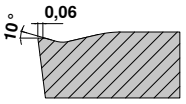
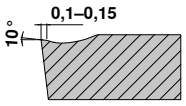
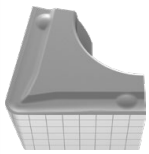
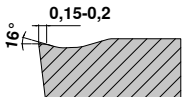
Main application super alloys, secondary application stainless steels

	Model	Smooth cut	Irregular cutting depth	Interrupted cut	Sectional illustration a_p mm	Sectional illustration f mm	Geometry
-M60 ▲ Light to medium roughing ▲ Stable cutting edge ▲ Interrupted cut ▲ Forged skin and cast crust	 M R	CTCM120 **CTCM120**	CTPM125 **CTPM125**	CTCM130 **CTCM130** CTCM130	 1,50–6,00	0,25–0,50	CN.. DN.. TN.. WN..
-M42 ▲ For medium machining on stainless steels ▲ As a secondary application for general steels and super alloys	 M	CTCM120 **CTCM120**	CTPM125 **CTPM125**	CTCM130 **CTCM130** CTCM130	 1,0–3,50	0,15–0,40	CN..

Standard chip breakers / application notes

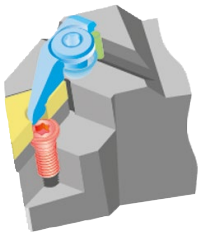
Positive	Model	Smooth cut	Irregular cutting depth	Interrupted cut	Sectional illustration a_p mm	Sectional illustration f mm	Geometry
Main application steel and cast iron, secondary application stainless steels and super alloys							
-SF ▲ Finishing to medium machining ▲ very good chip control ▲ universal chip breaker ▲ low cutting forces	 **F**		**CTCP125 / CTIC1135**	**CTIC1135**	 0,05–2,50	0,05–0,25	CC.. DC.. VC..
			CTIC1135	CTIC1135			
			CTCP125				
-SMF ▲ Finishing to medium machining ▲ Low cutting forces ▲ Good swarf control ▲ High surface quality	 **F** **M**	**CTCP125**	**CTCP125**	**CTIC1135**	 0,20–1,30	0,06–0,25	CC.. DC.. TC.. VC..
				CTIC1135			
		CTCP125	CTCP125				
-M23 ▲ Soft cutting geometry with outstanding chip breaking behaviour at low cutting depths in finish machining	 **M** **R**				 0,30–4,0	1,0–0,45	
-SM ▲ Medium machining ▲ Universal application ▲ Stable cutting edge ▲ Varying depths of cut ▲ Wide range of applications	 **M**	CTCK110 / CTCK120	**CTCP125** / CTCK120	**CTIC1135**	 0,05–5,00	0,15–0,45	CC.. DC.. RC.. SC.. TC.. VC..
				CTIC1135			
		CTCK110 / CTCK120	CTCP125 / **CTCK120**				

Standard chip breakers / application notes

Main application stainless steels	Positive	Model	Smooth cut	Irregular cutting depth	Interrupted cut	Sectional illustration a_p mm	Sectional illustration f mm	Geometry
	-F43 ▲ For the light to medium machining of all stainless steels, general steels and superalloys	 F	CTCM120 **CTCM120**	CTPM125 **CTPM125**	CTCM130 **CTCM130** CTCM130	0,50–2,50	0,05–0,25	 CC.. DC.. TC..
	-M25 ▲ First choice for medium machining of stainless steels ▲ High surface quality ▲ Little built-up edge	 F M	CTCM120 **CTCM120**	CTPM125 **CTPM125**	CTCM130 **CTCM130** CTCM130	0,40–3,20	0,10–0,30	 CC.. DC.. TC..
	-M55 ▲ First choice for medium machining to roughing of stainless steels ▲ Smooth to lightly interrupted cut ▲ Good swarf control ▲ Stable cutting edge	 M				0,40–4,80	0,06–0,35	

Clamping systems

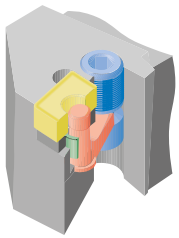
MaxiLock D



- Clamping element
- Inserts
- Insert seat
- Pin
- Screw

The first-choice tool for machining with negative centre-hole inserts. Secure and precise positioning of the indexable insert thanks to the double clamping effect of the clamping element.

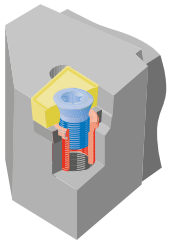
MaxiLock N



- Clamping element
- Inserts
- Insert seat
- Shim
- Lever

This clamping system is suitable for all centre-hole inserts with a negative basic shape. The clamping screw is easy to access from the top and bottom of the holder. When the clamping system is released, there are no loose spare parts.

MaxiLock S



- Clamping element
- Inserts
- Insert seat
- Threaded sleeve

The positive screw clamping guarantees a secure connection between the indexable insert and the tool holder. The chip flow is not disrupted by protruding clamping elements. Thanks to the neutral insert position, the effective available rake angle is identical to the rake angle of the indexable insert.

ISO designation system for inserts

Indexable inserts – metric

C	N	M	G	12	04	08	E	N	-	M50
1	2	3	4	5	6	7	8	9		13

Indexable inserts – inch

C	N	M	G	4	3	2	E	N	-	M50
1	2	3	4	5	6	7	8	9		13

Indexable inserts, CBN, ceramic – metric

C	N	G	A	12	04	08	S	N	-	020D	_	B	3	-	Q
1	2	3	4	5	6	7	8	9		10		11	12		13

Indexable inserts, CBN, ceramic – inch

C	N	G	A	4	3	2	S	N	-	020D	_	B	3	-	Q
1	2	3	4	5	6	7	8	9		10		11	12		13

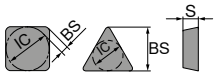
1 Insert shape

V	35°	Included angle
D	55°	
E	75°	
C	80°	
M	86°	
K	55°	Included angle
B	82°	
A	85°	
L	90°	Other shapes
P	108°	
H	120°	
O	135°	
R	-	
S	90°	
T	60°	
W	80°	

2 Clearance angle

	α		α
A	3°	F	25°
B	5°	G	30°
C	7°	N	0°
D	15°	P	11°
E	20°		
O	Clearance angles not included within the standard for which particular information is necessary.		

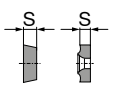
3 Tolerances



	IC±		BS		S	
	mm	inch	mm	inch	mm	inch
A	0,025	.0010	0,005	.0002	0,025	.001
F	0,013	.0005	0,005	.0002	0,025	.001
C	0,025	.0010	0,013	.0005	0,025	.001
H	0,013	.0005	0,013	.0005	0,025	.001
E	0,025	.0010	0,025	.0010	0,025	.001
G	0,025	.0010	0,025	.0010	0,13	.005
J	0,05-0,15*	.002-.006*	0,005	.0002	0,025	.001
K	0,05-0,15*	.002-.006*	0,013	.0005	0,025	.001
L	0,05-0,15*	.002-.006*	0,025	.0010	0,025	.001
M	0,05-0,15*	.002-.006*	0,05-0,20*	.003-.008*	0,13	.005
N	0,05-0,15*	.002-.006*	0,05-0,20*	.003-.008*	0,025	.001
U	0,08-0,25*	.003-.010*	0,13-0,38*	.005-.015*	0,13	.005

* Depends on insert size

6 Insert thickness



Code			
mm	inch	mm	inch
1,59	1/16	01	1
2,38	3/32	02	1.5
3,18	1/8	03	2
3,97	5/32	T3	2.5
4,76	3/16	04	3
5,56	7/32	05	3.5
6,35	1/4	06	4
7,94	5/16	07	5
9,52	3/8	09	6

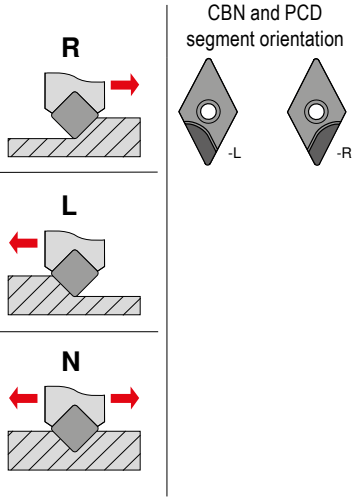
7 Corner radius

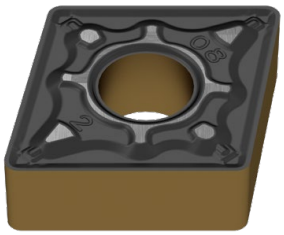
Code				RN 00 RC MO
mm	inch	mm	inch	
≤ 0,05	.0015	00	X0	
0,1	.004	01	0	
0,2	.008	02	.5	
0,4	1/64	04	1	
0,8	1/32	08	2	
1,2	3/64	12	3	
1,6	1/16	16	4	
2,0	5/64	20	5	
2,4	3/32	24	6	
2,8	7/64	28	7	
3,2	1/8	32	8	

8 Cutting edge

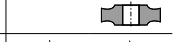
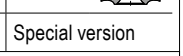
F	Sharp
E	rounded
T	chamfered
S	Chamfered and honed
K	Double-chamfered
P	Double-chamfered and honed
R	Round chamfer

9 Direction of cut





4 Characteristics

N	
R	
F	
A	
M, P	
G, P	
W	
T	
Q	
U	
B	
H	
C	
J	
X	Special version

inch
Change at inscribed circle
IK < 1/4"

IK > 1/4“	IK < 1/4“
N / R / F	E
A / M / G	D
X	X

5 Cutting length

Type	ISO	ANSI	L mm	L inch	IC mm	IC inch
C	06	2	6,4	.250	6,35	.250
	09	3	9,7	.382	9,525	.375
	12	4	12,9	.508	12,70	.500
	16	5	16,1	.634	15,875	.625
	19	6	19,3	.760	19,05	.750
	25	8	25,8	1.016	25,4	1.000
	32	12	35,24	1.269	31,75	1.250
S	06	2	6,35	.250	6,35	.250
	09	3	9,525	.375	9,525	.375
	12	4	12,7	.500	12,7	.500
	15	5	15,875	.625	15,875	.625
	19	6	19,05	.750	19,05	.750
	25	8	25,4	1.000	25,4	1.000
	31	10	31,75	1.250	31,75	1.250
D	07	2	7,7	.303	6,35	.250
	11	3	11,6	.457	9,525	.375
	15	4	15,5	.610	12,70	.500
V	11	2	11,1	.437	6,35	.250
	16	3	16,6	.653	9,525	.375
	22	4	22,10	.870	12,70	.500

Type	ISO	ANSI	L mm	L inch	IC mm	IC inch
T	06	1.2	6,9	.272	3,97	.156
	09	1.8	9,6	.378	5,56	.219
	11	2	11,0	.433	6,35	.250
	16	3	16,5	.650	9,525	.375
	22	4	22,	.079	12,70	.039
	27	5	27,5	1.083	15,875	.625
	33	6	33,0	1.299	19,05	.750
W	06	3	6,5	.256	9,525	.375
	08	4	8,7	.331	12,70	.039
	10	5	10,9	.429	15,875	.625
R	06	2	6,35	.250	6,35	.250
	08	-	8,0	.315	8,0	.315
	09	3	9,52	.375	9,52	.375
	10	-	10,0	.394	10,0	.394
	12*	-	12,0	.472	12,0	.472
	12	4	12,7	.488	12,70	.488
	15	5	15,875	.625	15,875	.625
	16	-	16,0	.630	16,0	.630
	19	6	19,05	.750	19,05	.750
	25	8	25,0	.984	25,0	.984
	25*	-	25,4	1.000	25,4	1.000
	31	10	31,75	1.250	31,75	1.250
	32	-	32,0	1.260	32,0	1.260

* inch version

10 Chamfer type

T / S

K / P 1)

	mm	inch		
015	0,15	.006	A	05°
020	0,20	.008	B	10°
025	0,25	.010	C	15°
050	0,50	.020	D	20°
075	0,75	.030	E	25°
100	1,00	.040	F	30°
			G	35°

1) Two letters are assigned for double-chamfered cutting edges
e.g. BE =
chamfer angle 1 (γ_1) = 10°
chamfer angle 2 (γ_2) = 25°

11 Number of cutting edges

Single sided

A	
B	
C	
D	
G	
H	

Complete insert thickness

T	
U	
V	
W	
X	
Y	

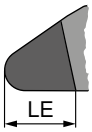
Double sided

K	
L	
M	
N	
P	
Q	

Entire clamping flat

S	
F	
E	

12 Segment length



Approx. specification in mm

13 Chip breaker designation

You can find a comprehensive chip breaker overview on → **page PL–PL**

ISO designation system for tool holders

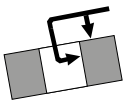
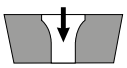
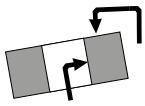
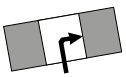
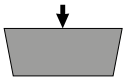
	P	C	L	N	R	20	20	K	12	-	T
	1	2	3	4	5	6	7	8	9		10
UT50	-	P	C	L	N	R			-12		
0		1	2	3	4	5	6	7	8	9	10
HSK-T63	-	D	C	L	N	R			-12		
0		1	2	3	4	5	6	7	8	9	10

0 System/size

UT = UTS
according to ISO 26622
UT40 = UTS 40 mm
UT50 = UTS 50 mm
UT63 = UTS 63 mm

HSK-T
according to ISO 12164
HSK-T63 = 63 mm
HSK-T100 = 100 mm

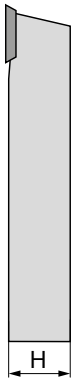
1 Tool holder

D  Retained from above and via bore	**S**  Retained via centre screw
M  Retained from above and via bore	**P**  Retained via the bore
C  Retained from above	**X** Special version

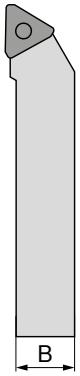
2 Insert shape

V	35°	Included angle
D	55°	
E	75°	
C	80°	
M	86°	
K	55°	Included angle
B	82°	
A	85°	
L	90°	Other shapes
P	108°	
H	120°	
O	135°	
R	-	
S	90°	
T	60°	
W	80°	

6 Shank height

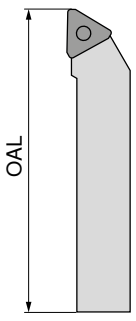


7 Shank width

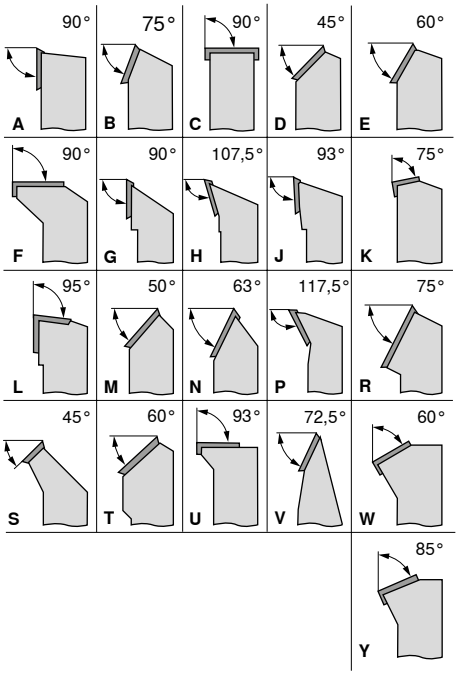


8 Tool length

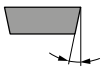
OAL mm	OAL inch		OAL mm	OAL inch	
32	4.000	**A**	160	4.500	**N**
40	4.500	**B**	170	5.500	**P**
50	5.000	**C**	180	–	**Q**
60	6.000	**D**	200	6.000	**R**
70	7.000	**E**	250	7.000	**S**
80	8.000	**F**	300	8.000	**T**
90	5.500	**G**	350	5.500	**U**
100	5.625	**H**	400	3.500	**V**
110	5.300	**J**	450	3.500	**W**
125	14.000	**K**	500	3.750	**Y**
140	6.800	**L**	Special version		**X**
150	4.400	**M**			



3 Style

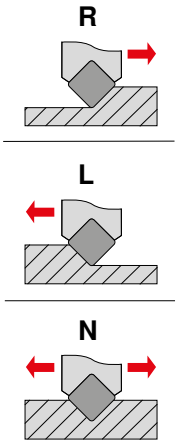


4 Clearance angle

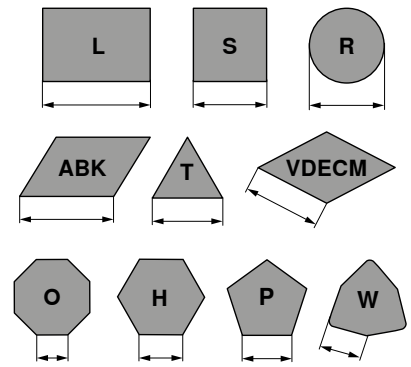


	α		α
A	3°	F	25°
B	5°	G	30°
C	7°	N	0°
D	15°	P	11°
E	20°		
O	Clearance angles not included within the standard for which particular information is necessary.		

5 Direction of cut



9 Cutting length



10 Manufacturer specification

T = Toggle
Special length (mm)
Insert thickness (deviating from standard)
Special version (X..)
Machine manufacturer (specific)
DC = DirectCooling

ISO designation system for boring bars

		A	25	R		P	C	L	N	R	12	
		1	2	3		4	5	6	7	8	9	10
UT40	-		25	G	-	P	C	L	N	R	- 12	
0		1	2	3		4	5	6	7	8	9	10
HSK-T63	-		50	Q	-	D	C	L	N	R	- 12	
0		1	2	3		4	5	6	7	8	9	10

0 System/size

UT = UTS
according to ISO 26622
UT40 = UTS 40 mm
UT50 = UTS 50 mm
UT63 = UTS 63 mm

HSK-T
according to ISO 12164
HSK-T63 = 63 mm
HSK-T100 = 100 mm

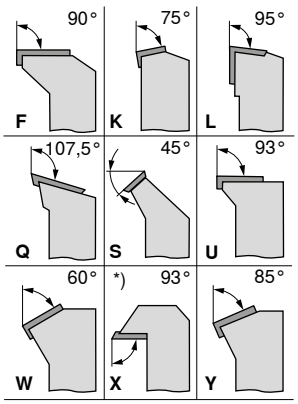
1 Shank type

S	Steel shank	**E**	As C with coolant hole
A	Steel shank with coolant hole	**F**	As C with antivibration system
B	Steel shank with antivibration system	**G**	As C with coolant hole and antivibration system
D	Steel shank with coolant hole and antivibration system	**H**	Heavy metal
C	Carbide shank with steel head	**J**	Heavy metal with coolant hole

5 Insert shape

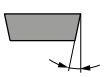
V	35°	Included angle	
D	55°		
E	75°		
C	80°		
M	86°		
K	55°	Included angle	
B	82°		
A	85°		
L	90°		Other shapes
P	108°		
H	120°		
O	135°		
R	-		
S	90°		
T	60°		
W	80°		

6 Style

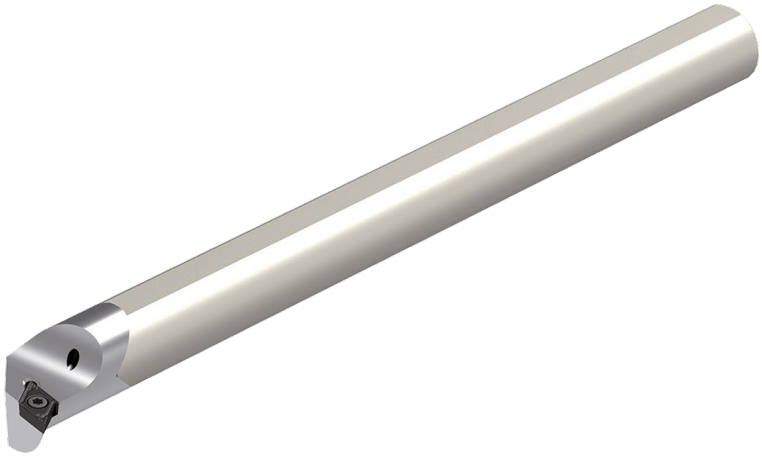


*) CERATIZIT factory standard

7 Clearance angle

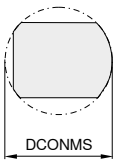


	α		α
A	3°	**F**	25°
B	5°	**G**	30°
C	7°	**N**	0°
D	15°	**P**	11°
E	20°		
O	Clearance angles not included within the standard for which particular information is necessary.		



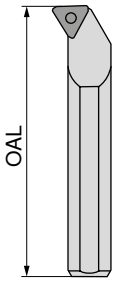
2 Shank type & size

DCONMS mm	DCONMS inch
08	A two-digit figure indicating the boring bar diameter in 1/16 of an inch.
10	
12	
16	
20	
25	
32	
40	
50	
60	

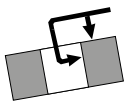
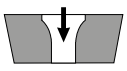
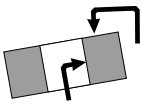
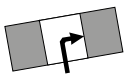
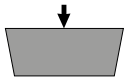


3 Tool length

OAL mm	OAL inch	
80	3	F
100	3,5	H
110	4	J
125	4,5	K
140	5	L
150	5,5	M
160	6	N
170	6,5	P
180	6,75	Q
200	7	R
250	8	S
300	10	T
350	12	U
400	14	V
450	16	W
500	18	Y
	20	
Special version		X

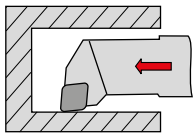


4 Clamping method

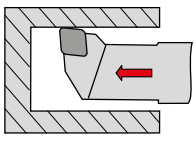
D  Retained from above and via bore	**S**  Retained via centre screw
M  Retained from above and via bore	**P**  Retained via the bore
C  Retained from above	**X** Special version

8 Direction of cut

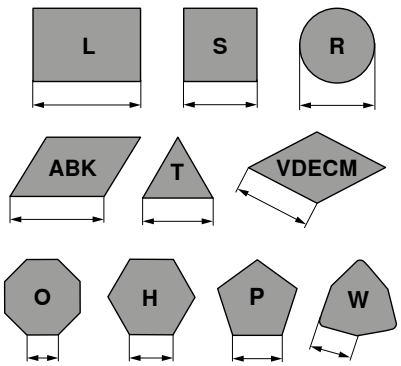
R



L



9 Cutting length



10 Manufacturer specification

T = Toggle
Special length (mm)
Insert thickness (deviating from standard)
Special version (X..)
Machine manufacturer (specific)

Types of wear

Wear on clearance face

Abrasion on flank: normal wear after a certain machining time

Cause
- Too high cutting speed
- Carbide grade with too low wear resistance
- Feed rate not adapted

Remedy
- Reduce cutting speed
- Use grade with higher wear resistance
- Adapt feed rate to cutting speed and cutting depth

Edge chipping

Through excessive mechanical stress at the cutting edge fracture and chipping can occur.

Cause
- Grade with too high wear resistance
- Vibration
- Too high cutting speed and / or feed rate
- Interrupted cut
- Swarf damage

Remedy
- Use tougher grade
- Use negative cutting edge geometry with chip groove
- Improve stability (tool, work piece)

Cratering

The hot chip which is being evacuated causes cratering at the rake face of the cutting edge.

Cause
- Too high cutting speed and / or feed rate
- Rake angle too shallow
- Grade with insufficient wear resistance
- Insufficient coolant supply

Remedy
- Reduce cutting speed and / or feed rate
- Use grade with higher wear resistance
- Increase coolant quantity and / or pressure, optimise coolant supply
- Use grade which is more resistant to cratering

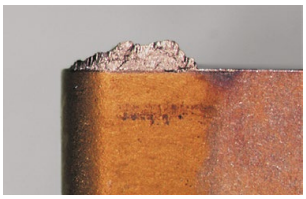
Plastic deformation

High machining temperature and simultaneous mechanical stress can lead to plastic deformation.

Cause
- Too high machining temperature resulting in softening of substrate
- Damage of coating
- Grade with insufficient wear resistance
- Insufficient coolant supply

Remedy
- Reduce cutting speed
- Use grade with higher wear resistance
- Provide cooling

Built-up edge



Built-up material / edges occur when the chip is not evacuated properly due to insufficient cutting temperature.

Cause
- Insufficient cutting speed
- Rake angle too shallow
- Wrong cutting material
- Lack of cooling / lubrication

Remedy
- Increase cutting speed
- Increase rake angle
- Apply TiN coating
- Use emulsion with higher concentration

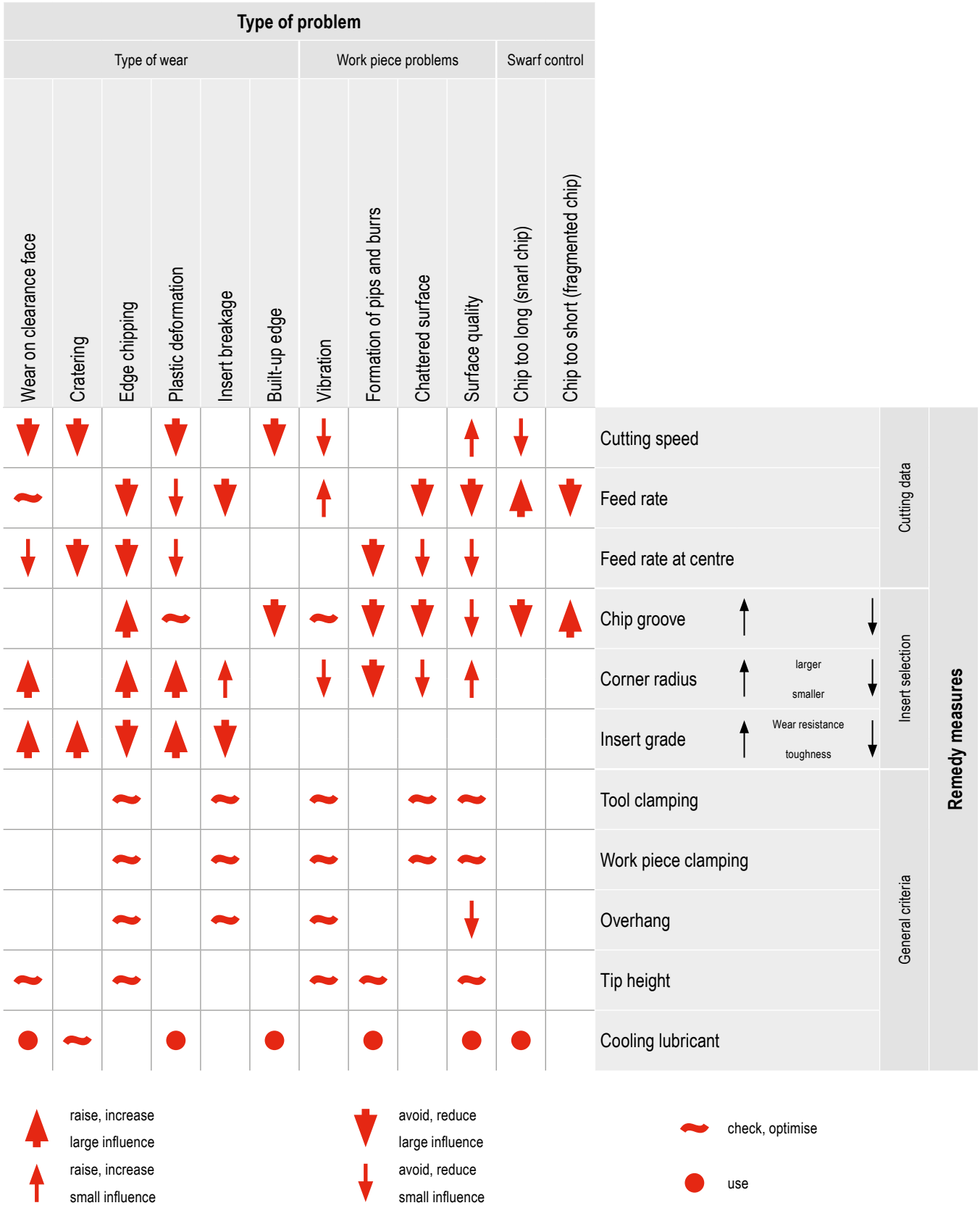
Insert breakage

Excessive stress of the insert causes breakage.

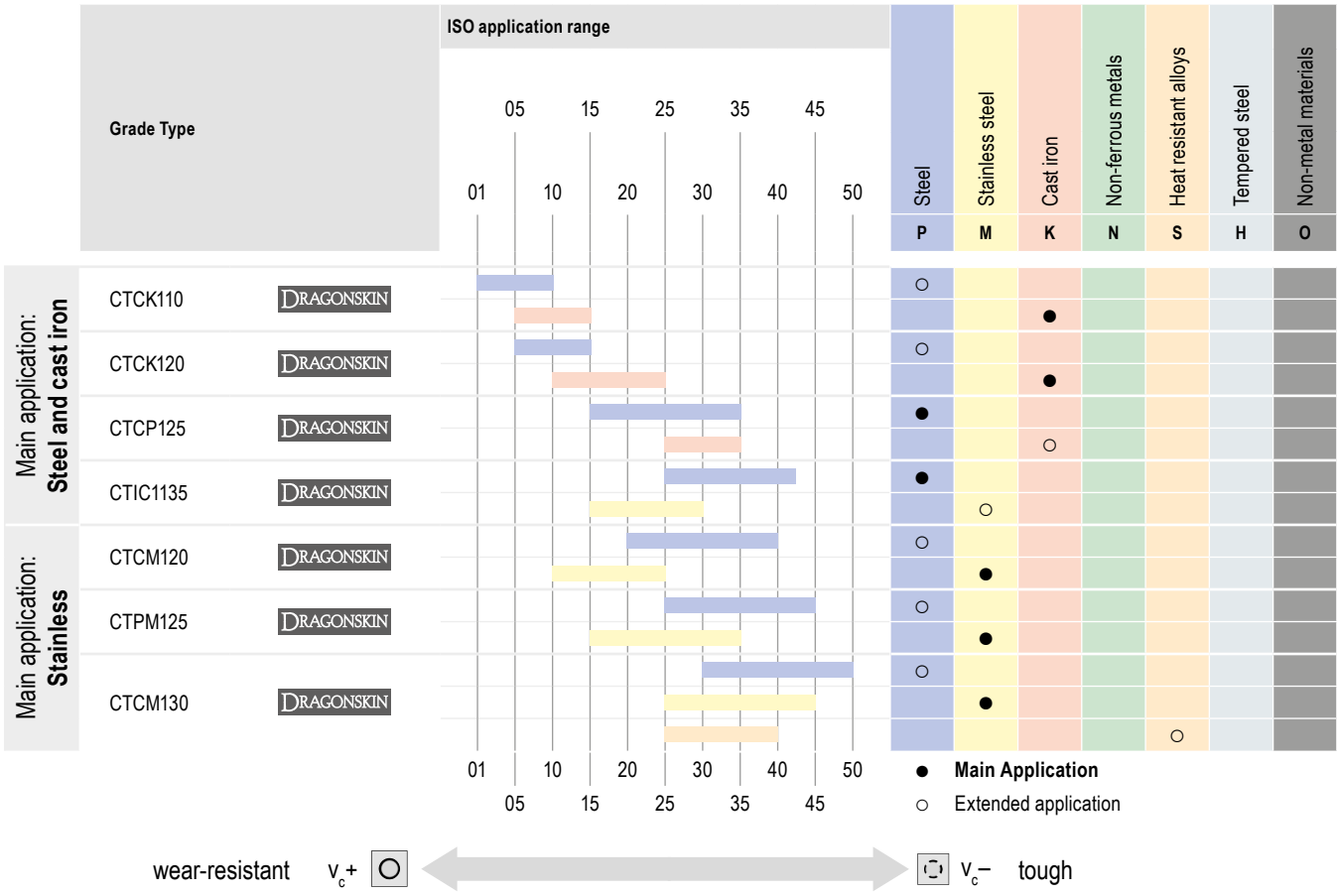
Cause
- Excessive stress of cutting material
- Lack of stability
- Clearance angle too small

Remedy
- Use tougher grade
- Use protective edge chamfer
- Increase edge hone
- Use geometry with higher stability

Recommendation for Optimum Results

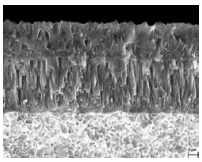


Grades Overview



Grade description

CTCK110

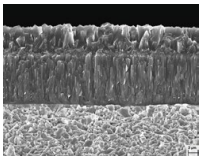


ISO | P10 | **K10**

Specification:
Composition: Co 5.0%, mixed carbides 2.0%, WC balance | Grain size: 1-2 µm | Hardness: HV30 1730 | Layer system: CVD TiCN-Al2O3

Usage recommendation:
The wear-resistant grade for machining cast iron materials and steels at high cutting speeds with a continuous cut.

CTCK120

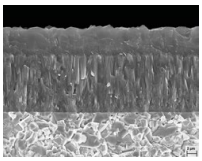


ISO | P20 | **K20**

Specification:
Composition: Co 6.0%, mixed carbides 2.0%, WC balance | Grain size: 1 µm | Hardness: HV_{30} 1630 | Layer system: CVD TiCN-Al_2O_3

Usage recommendation:
The grade for cast iron machining with high toughness reserves for difficult conditions and interrupted cuts.

CTCP125

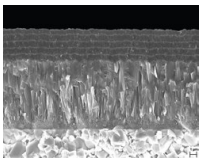


ISO | **P25** | K30

Specification:
Composition: Co 7.0%; mixed carbides 8.0%; WC balance | Grain size: 1 - 2 µm | Hardness: HV_{30} 1450 | Coating specification: CVD TiCN-Al_2O_3

Recommended application:
The first choice for the universal machining of steel

CTIC1135

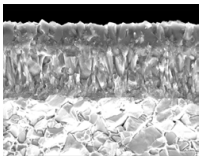


ISO | **P35** | M25

Specification:
Composition: Co 9.6%; mixed carbides 6.7%; WC balance | Grain size: 1 - 2 µm | Hardness: HV_{30} 1460 | Coating specification: CVD TiCN-Al_2O3 multi-layer

Recommended application:
The tough alternative for heavily interrupted cutting action

CTCM120

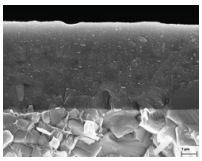


ISO | P15 | **M20**

Specification:
Composition: Co 7%, mixed carbides 6%, WC balance | Grain size: 1-2 µm | Hardness: HV_{30} 1500 | Layer system: CVD TiCN-Al_2O_3

Usage recommendation:
Wear-resistant carbide grade for austenitic, stainless steel with the best levels of performance with a smooth cut.

CTPM125

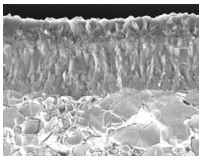


ISO | P35 | **M25**

Specification:
Composition: Co 9.6%; mixed carbides 7.8%; others 0.4%; WC balance | Grain size: 1 - 2 µm | Hardness: HV_{30} 1460 | Coating specification: PVD TiAlTaN

Recommended application:
The first choice for the machining of austenitic steels

CTCM130

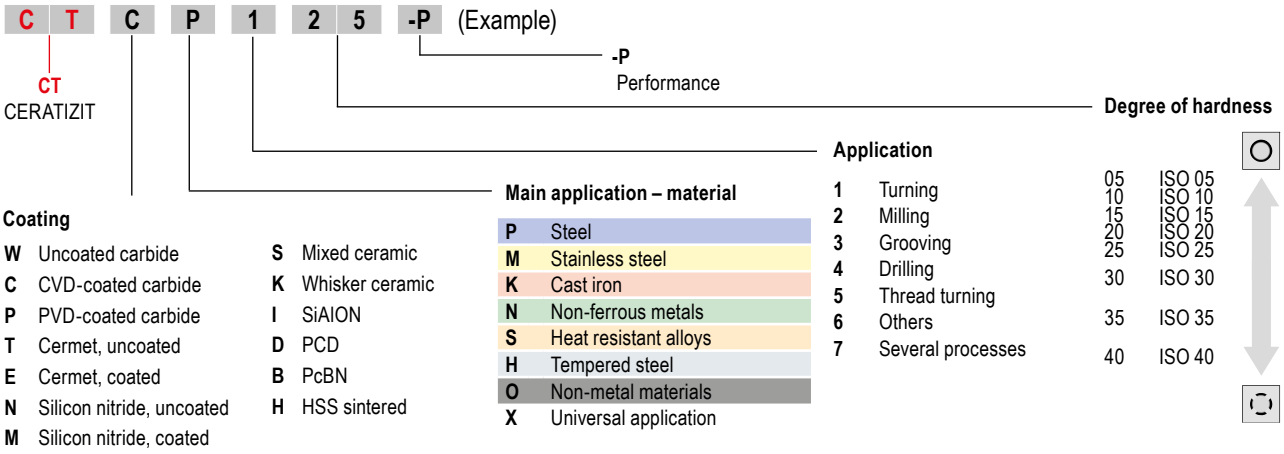


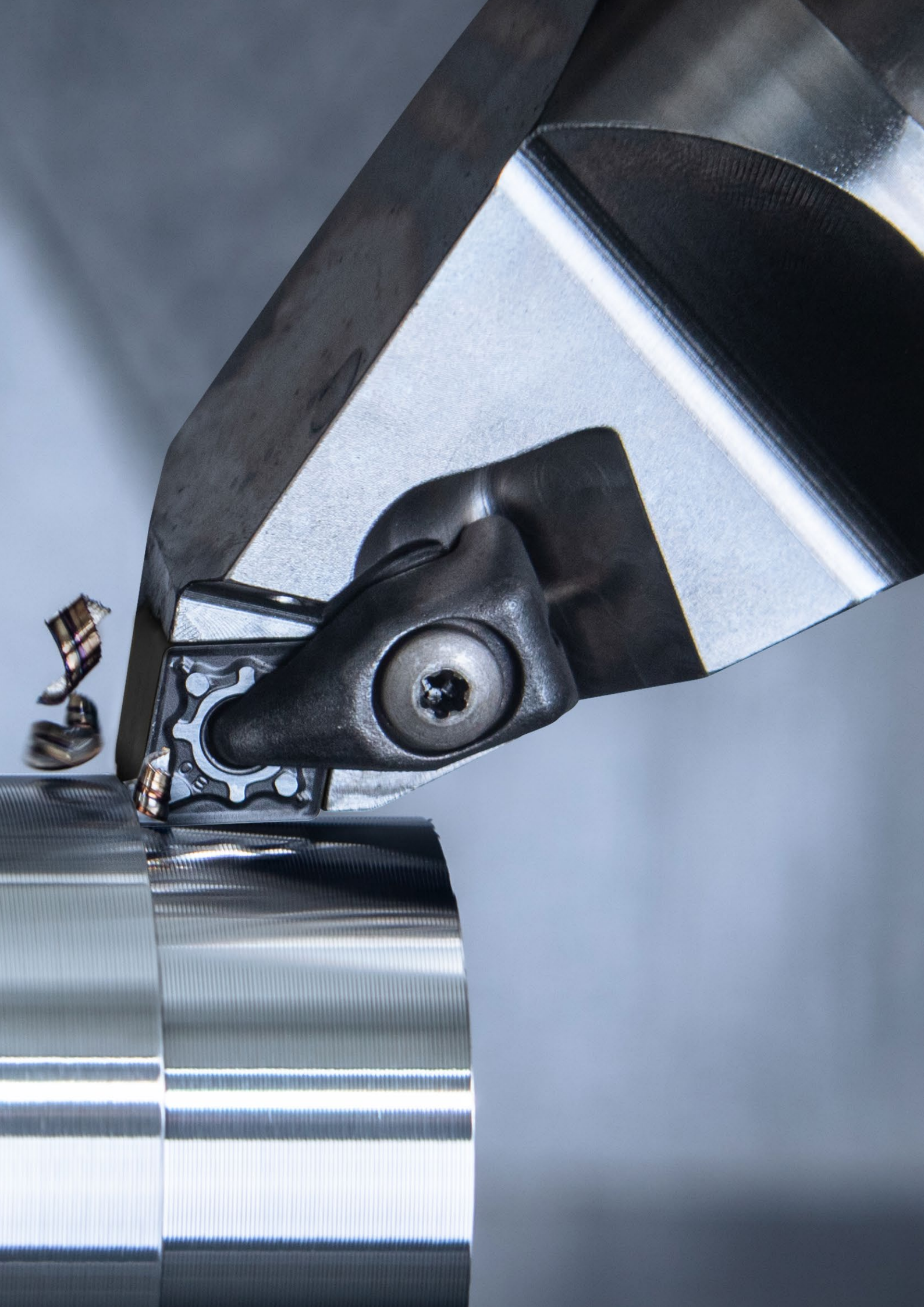
ISO | P25 | **M30** | S30

Specification:
Composition: Co 9.6%, mixed carbides 7.8%, WC balance | Grain size: 1-2 µm | Hardness: HV_{30} 1460 | Layer system: CVD TiCN-Al_2O_3

Usage recommendation:
Robust turning grade for austenitic stainless steel with interrupted cuts.

Grade description





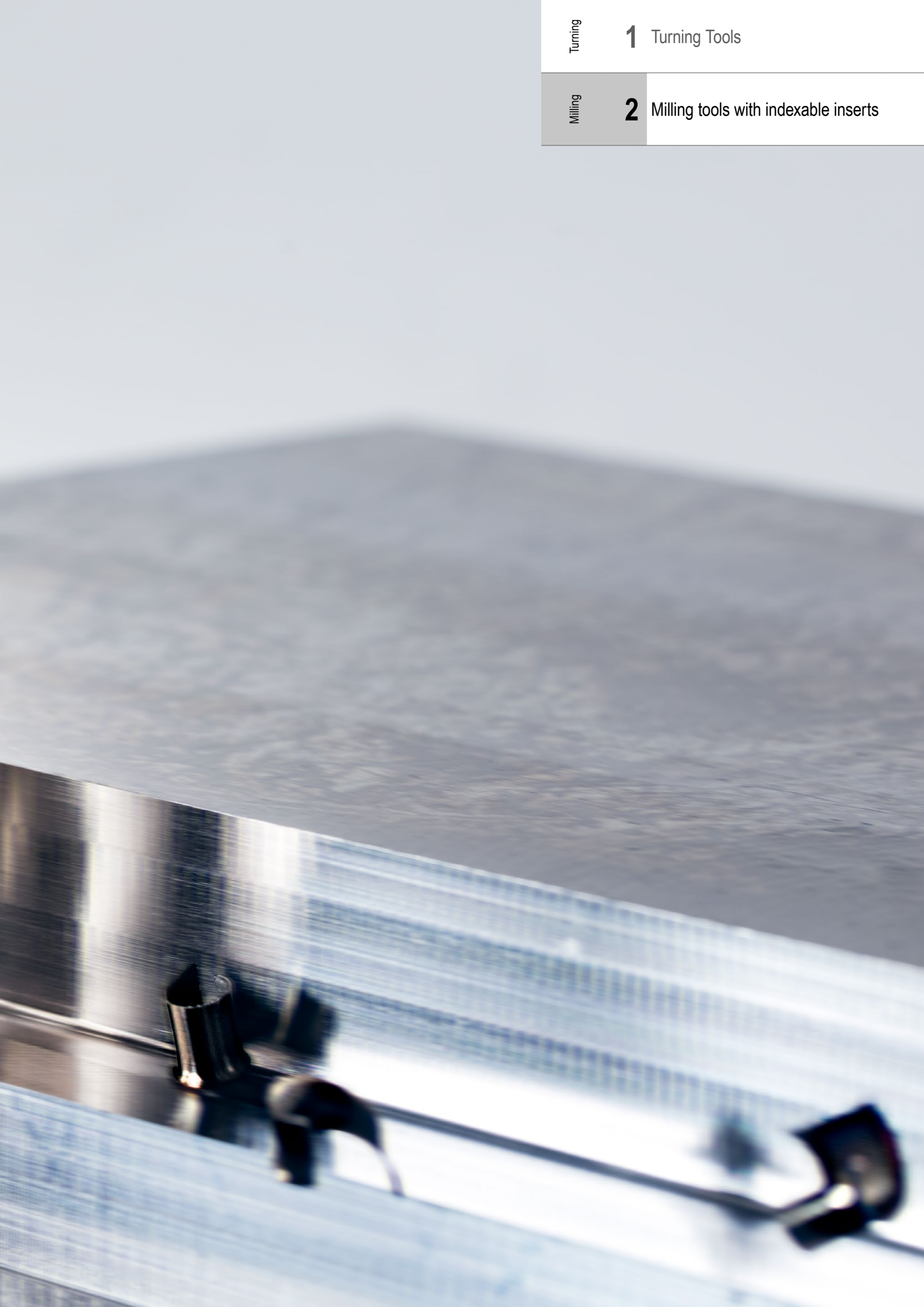


Table of contents

CERATIZIT \ Performance

Premium quality tools for high performance.

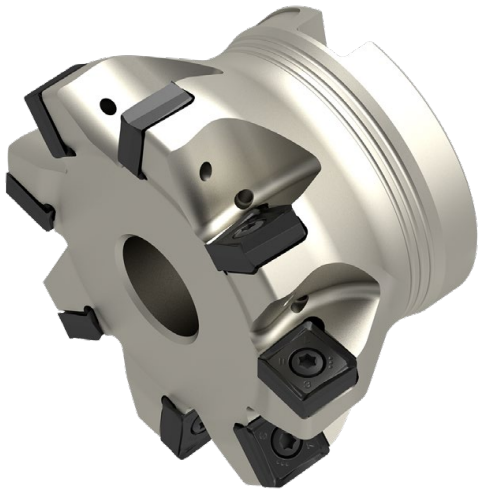
The premium quality tools from the **CERATIZIT Performance** product line have been designed for specific applications and are distinguished by their outstanding performance. If you make high demands on the performance of your production and want to achieve the very best results, we recommend the Premium tools in this product line.

Symbol explanation


Central internal coolant


Lateral internal coolant

Cutting edge angle



ZNF = Number of flutes

● = **Main Application**

○ = Extended application

Application symbols


Face milling


Angled ramping


Helical plunging


Axial ramping


Plunge milling


Slot milling


Shoulder milling


Slot milling (45°)


Chamfer milling


Free form milling

2

Overview – Face Milling Cutters

System	Inserts	Cutting edges per insert	$a_{p\,max.}$ mm	Ø-range mm		Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat resistant alloys	Tempered steel	Non-metal materials	Page No.
MaxiMill 271	**SAKU** 1706..	8	8.4		 Ø 50–160	●	●	●		●			8
MaxiMill 273	**OAKU** 0806.. | **XAHT** 0806..	16	3.5	 Ø 32	 Ø 50–160	●	●	●		●			9+10
MaxiMill 270	**SD../XD** 1204..	4	6		 Ø 32–125	●	●	●	●	●			11+12
MaxiMill HEC	**LNHX** 1106..	8	4–8		 Ø 50–125	●		●		○			13
MaxiMill HFC	**X.LX** 06.. / 09.. / 12..	4	0.8–2.0	 Ø 16–32	 Ø 40–100	●	●	●		●			23+24
A 845	**SNKX** 1305..	8	6		 Ø 50–160	●		●					28+29
A 875	**SNKX** 1305..	8	7		 Ø 50–160	●		●					30+31

Additional diameters are available upon request.

Indexable inserts for systems that are no longer listed here can be found in our online shop at cuttingtools.ceratizit.com

Overview – Shoulder Milling Cutters

System	Inserts	Cutting edges per insert	$a_{p\,max.}$ mm	Ø-range mm	Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat resistant alloys	Tempered steel	Non-metal materials	Page No.
MaxiMill 491	**SNHU** 1204..	8	8	 Ø 50–80	●	●	●	●	●		○	14
MaxiMill 211	**XD.T** 0703..	2	6	 Ø 10–20  Ø 32	●	●	●	●	●	●	○	15–19
MaxiMill 490	**SD..** 09T3.. / 1205..	4	8–11	 Ø 25–32	●	●	●	●	●		○	20+21
MaxiMill 210	**AP..** 1003..	2	8	 Ø 16–32	●	●	●	●	●	●	○	22
A 890	**SNKX** 1305..	8	8	 Ø 50–160	●		●				●	32+33

Additional diameters are available upon request.

Indexable inserts for systems that are no longer listed here can be found in our online shop at cuttingtools.ceratizit.com

2

Overview – form milling

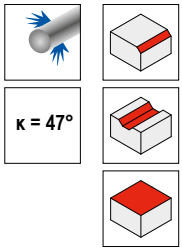
System	Inserts	Cutting edges per insert	$a_{p\,max.}$ mm	Ø-range mm		Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat resistant alloys	Tempered steel	Non-metal materials	Page No.
MaxiMill HFC	**X.LX** 06.. / 09.. / 12..	4	0.8–2.0	 Ø 16–32	 Ø 40–100	●	●	●		●			23+24
MaxiMill 251-RS	**RP.X** 09.. / 12..	8	4–8.0	 Ø 16–32	 Ø 40–80	●	●	●					25–27

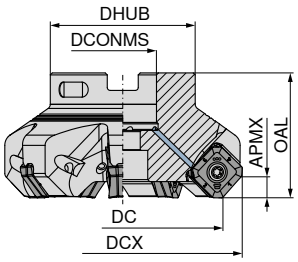
Additional diameters are available upon request.

Indexable inserts for systems that are no longer listed here can be found in our online shop at cuttingtools.ceratizit.com

MaxiMill – 271-17 Face mill

▲ 8 cutting edges per insert





Designation	DC mm	DCX mm	ZNF	APMX mm	DHUB mm	DCONMS mm	torque moment Nm	50 767 ...
A271.50.R.04-17	50	66.1	4	8.4	43	22	5	**050002**
A271.63.R.06-17	63	79.1	6	8.4	48	22	5	**063002**
A271.80.R.07-17	80	96.1	7	8.4	58	27	5	**080002**
A271.100.R.08-17	100	116.1	8	8.4	78	32	5	**100002**
A271.125.R.10-17	125	141.1	10	8.4	88	40	5	**125002**
A271.160.R.12-17	160	176.1	12	8.4	104	40	5	**160002**[1)]

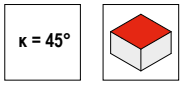
1) With threaded holes M12 on the front face, pitch circle diameter = 66.7 mm / Without Through Coolant

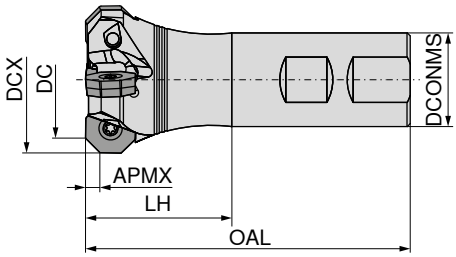
	TORX® blade	Key D	Molykote	Clamping screw	Torque screw-driver
	80 950 ...	**80 950 ...**	**70 950 ...**	**70 950 ...**	**80 950 ...**
Spare parts DC					
50	**037**	**114**	**303**	**302**	**193**
63	**037**	**114**	**303**	**302**	**193**
80	**037**	**114**	**303**	**302**	**193**
100	**037**	**114**	**303**	**302**	**193**
125	**037**	**114**	**303**	**302**	**193**
160	**037**	**114**	**303**	**302**	**193**

Milling guide

MaxiMill – 273 End milling cutter

▲ 16 cutting edges per insert





50 762 ...

Designation	DC mm	DCX mm	ZNF	APMX mm	OAL mm	LH mm	DCONMS $_{h6}$ mm	torque moment Nm	
C273.32.R.03-06-B-40	32	42.1	3	3.5	101	40	32	5	**032002**

TORX® blade

80 950 ...

Spare parts for Article no.

50 762 032002 — **037**

Key D

80 950 ...

114

Molykote

70 950 ...

303

Clamping screw

70 950 ...

302

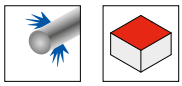
Torque screw-driver

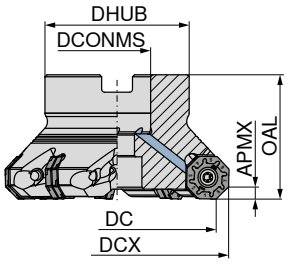
80 950 ...

193

MaxiMill – 273-06 Shell mill

▲ 16 cutting edges per insert





50 572 ...

Designation	DC mm	DCX mm	ZNF	DHUB mm	OAL mm	APMX mm	DCONMS $_{H6}$ mm	torque moment Nm	
A273.50.L.05-06	50	60.2	5	43	40	3.5	22	5	**050002**
A273.63.L.07-06	63	73.2	7	48	40	3.5	22	5	**063002**
A273.125.L.12-06	125	135.2	12	88	63	3.5	40	5	**125002**
A273.160.L.14-06	160	170.2	14	104	63	3.5	40	5	**160002**[1)]

1) With threaded holes M12 on the front face, pitch circle diameter = 66.7 mm / Without Through Coolant

TORX® blade

80 950 ...

Spare parts

DC

50	**037**
63	**037**
125	**037**
160	**037**

Key D

80 950 ...

114
114
114
114

Power Screw

70 950 ...

151

Molykote

70 950 ...

303
303
303
303

Clamping screw

70 950 ...

302
302
302
302

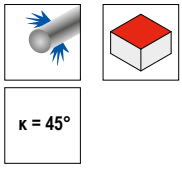
Torque screw-driver

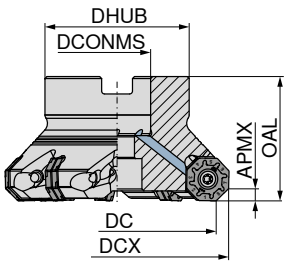
80 950 ...

193
193
193
193

MaxiMill – 273-06 Shell mill

▲ 16 cutting edges per insert





Designation	DC	DCX	ZNF	DHUB	OAL	APMX	DCONMS $_{H6}$	torque moment	50 741 ...
	mm	mm		mm	mm	mm	mm	Nm	
A273.40.R.03-06	40	50.2	3	38	40	3.5	16	5	**040002**
A273.40.R.04-06	40	50.2	4	38	40	3.5	16	5	**140002**[2)]
A273.50.R.05-06	50	60.2	5	43	40	3.5	22	5	**050002**
A273.63.R.07-06	63	73.2	7	48	40	3.5	22	5	**063002**
A273.80.R.08-06	80	90.2	8	58	50	3.5	27	5	**080002**
A273.100.R.10-06	100	110.2	10	78	50	3.5	32	5	**100002**
A273.125.R.12-06	125	135.2	12	88	63	3.5	40	5	**125002**
A273.160.R.14-06	160	170.2	14	104	63	3.5	40	5	**160002**[1)]
A273.200.R.16-06	200	210.0			63	3.5	60	5	**200002**
A273.250.R.31-06	250	260.0			63	3.5	60	5	**250002**

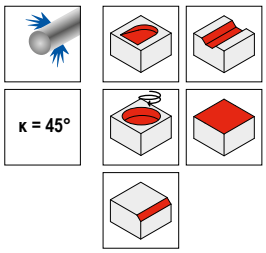
1) With threaded holes M12 on the front face, pitch circle diameter = 66.7 mm / Without Through Coolant
2) Without Through Coolant

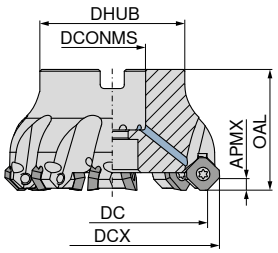
Spare parts DC	TORX® blade	Clamping key – T	Key D	Power Screw	Molykote	Clamping screw	Torque screw-driver
	80 950 ...	**80 397 ...**	**80 950 ...**	**70 950 ...**	**70 950 ...**	**70 950 ...**	**80 950 ...**
40	**037**	**040**	**114**	**151**	**303**	**302**	**193**
50	**037**		**114**	**151**	**303**	**302**	**193**
63	**037**		**114**		**303**	**302**	**193**
80	**037**		**114**		**303**	**302**	**193**
100	**037**		**114**		**303**	**302**	**193**
125	**037**		**114**		**303**	**302**	**193**
160	**037**		**114**		**303**	**302**	**193**
200	**037**		**114**		**303**	**302**	**193**
250	**037**		**114**		**303**	**302**	**193**

Milling guide

MaxiMill – 270-12 Shell mill

▲ 50 705 ... Normal pitch for a broad spectrum of use on aluminum alloys, non-ferrous metals, up to soft steel materials
▲ 50 706 ... Predominantly fine pitch for highest feed rates, use on steel and cast materials





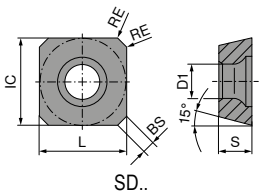
Designation	DC mm	DCX mm	ZNF	DHUB mm	OAL mm	APMX mm	DCONMS $_{H6}$ mm	torque moment Nm	Insert	50 706 ...	50 705 ...
A270.32.R.03-12	32	46	3	32	40	6	16	5	SDHW 1204..		**032002**
A270.40.R.03-12	40	54	3	38	40	6	16	5	SDHW 1204..		**040002**
A270.50.R.04-12	50	64	4	43	40	6	22	5	SDHW 1204..		**050002**
A270.50.R.05-12	50	64	5	43	40	6	22	5	SDHW 1204..	**050002**	
A270.63.R.04-12	63	77	4	48	40	6	22	5	SDHW 1204..		**063002**
A270.63.R.06-12	63	77	6	48	40	6	22	5	SDHW 1204..	**063002**	
A270.80.R.05-12	80	94	5	58	50	6	27	5	SDHW 1204..		**080002**
A270.80.R.08-12	80	94	8	58	50	6	27	5	SDHW 1204..	**080002**	
A270.100.R.06-12	100	114	6	78	50	6	32	5	SDHW 1204..		**100002**
A270.100.R.10-12	100	114	10	78	50	6	32	5	SDHW 1204..	**100002**	
A270.125.R.07-12	125	139	7	88	63	6	40	5	SDHW 1204..		**125002**
A270.125.R.12-12	125	139	12	88	63	6	40	5	SDHW 1204..	**125002**	

Spare parts DC	TORX® blade 80 950 ...	 Clamping key – T 80 397 ...	 Key D 80 950 ...	 Power Screw 70 950 ...	 Molykote 70 950 ...	 Clamping screw 70 950 ...	 Torque screw-driver 80 950 ...
32	**037**	**040**	**114**	**151**	**303**	**01200**	**193**
40	**037**	**040**	**114**	**151**	**303**	**01200**	**193**
50	**037**		**114**		**303**	**01200**	**193**
63	**037**		**114**		**303**	**01200**	**193**
80	**037**		**114**		**303**	**01200**	**193**
100	**037**		**114**		**303**	**01200**	**193**
125	**037**		**114**		**303**	**01200**	**193**

Milling guide

SDHW

Designation	IC	D1	L	BS	S	AN
	mm	mm	mm	mm	mm	°
SDHW 1204..	12.7	5.5	12.7	1.74	4.76	15



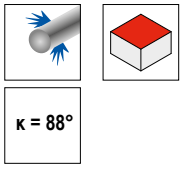
SD..

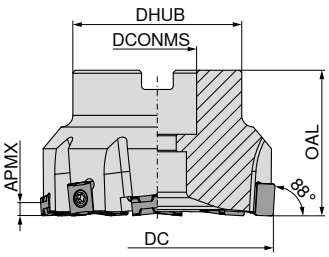
SDHW

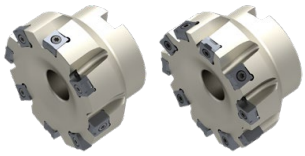
		-R CTIP2240	-R CTIP1225	-R CTICP230	-R CTICP220	-R CTICM235	-R CTICK215
							
		SDHW	SDHW	SDHW	SDHW	SDHW	SDHW
		51 008 ...	51 008 ...	51 008 ...	51 008 ...	51 008 ...	51 008 ...
ISO	RE mm						
1204AESN	1	716022	613022	514022	412022	315022	217022
P		○	●	●	●	●	
M		●				●	
K				○			●
N							
S							
H							
O							

MaxiMill – HEC 11 Shell mill

▲ not adjustable







Designation	DC mm	ZNF	DHUB mm	OAL mm	APMX mm	DCONMS $_{H6}$ mm	torque moment Nm	50 733 ...	50 725 ...
AHEC.50.R.06-11	50	6	48	40	6	22	3,2		**050002**
AHEC.63.R.06B-11	63	6	48	40	6	22	3,2	**563002**	
AHEC.63.R.08-11	63	8	48	40	6	22	3,2		**063002**
AHEC.80.R.08B-11	80	8	58	50	6	27	3,2	**580002**	
AHEC.80.R.10-11	80	10	58	50	6	27	3,2		**080002**
AHEC.100.R.12-11	100	12	78	50	6	32	3,2		**100002**
AHEC.125.R.12-11	125	12	88	63	6	40	3,2		**125002**

TORX® blade


Molykote


Coolant Disc


Clamping screw


Wedge

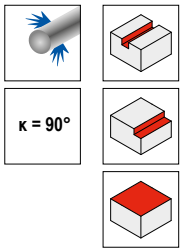

Torque screw-driver

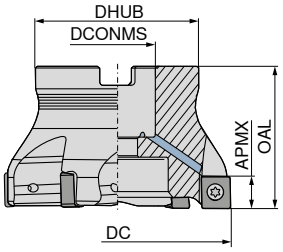
Spare parts DC	80 950 ...	70 950 ...	70 950 ...	70 950 ...	70 950 ...	80 950 ...
50	**036**	**303**	**852**	**113**		**193**
63	**036**	**303**	**852**	**113**		**193**
80	**036**	**303**	**853**	**113**		**193**
80	**036**	**303**	**853**	**113**	**199**	**193**
100	**036**	**303**	**854**	**113**		**193**
125	**036**	**303**	**855**	**113**		**193**

Milling guide

Cutting data standard values	39+40	Technical Information	45–65
Chip groove description and overview	66–68	Grade description and overview	69–71

MaxiMill – 491-12 Shell mill





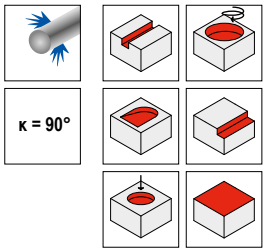
Designation	DC mm	ZNF	DHUB mm	OAL mm	APMX mm	DCONMS $_{H6}$ mm	torque moment Nm	50 776 ...	50 775 ...
A491.50.R.04-12	50	4	43	40	8	22	3,2		**050002**
A491.50.R.05-12	50	5	43	40	8	22	3,2	**050002**	
A491.63.R.05-12	63	5	48	40	8	22	3,2		**063002**
A491.63.R.06-12	63	6	48	40	8	22	3,2	**063002**	
A491.80.R.06-12	80	6	58	50	8	27	3,2		**080002**
A491.80.R.08-12	80	8	58	50	8	27	3,2	**080002**	

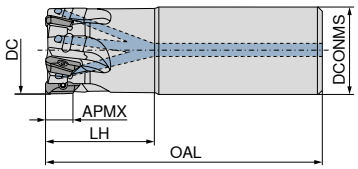
Spare parts DC	TORX® blade 80 950 ...	 Key D 80 950 ...	 Molykote 70 950 ...	 Clamping screw 70 950 ...	 Torque screw-driver 80 950 ...
50	**054**	**128**	**303**	**859**	**193**
63	**054**	**128**	**303**	**859**	**193**
80	**054**	**128**	**303**	**859**	**193**

Milling guide

2

MaxiMill – 211-07 End milling cutter



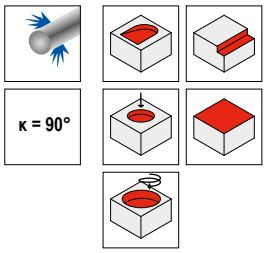


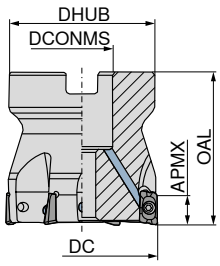
50 752 ...

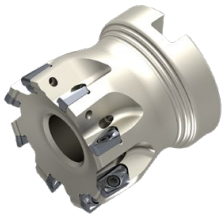
Designation	DC mm	ZNF	APMX mm	OAL mm	LH mm	DCONMS mm	torque moment Nm	
C211.10.R.01-07-A-20	10	1	6	61.0	20	10	1	010002
C211.12.R.02-07-A-20	12	2	6	66.5	20	12	1	012002
C211.16.R.03-07-A-32-165	16	3	6	165.0	32	16	1	116002
C211.16.R.04-07-A/B-25	16	4	6	74.5	25	16	1	016002
C211.20.R.04-07-A-40-200	20	4	6	200.0	40	20	1	120002

Spare parts DC	TORX® blade	 Key D	 Molykote	 Clamping screw	 Torque screw-driver
	80 950 ...	**80 950 ...**	**70 950 ...**	**70 950 ...**	**80 950 ...**
10	051	124	303	137	191
12	051	124	303	137	191
16	051	124	303	137	191
20	051	124	303	137	191

MaxiMill – 211-07 Shell mill







50 753 ...

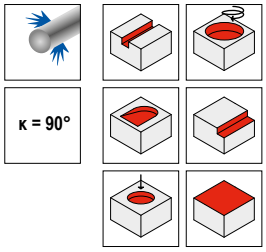
Designation	DC mm	ZNF	APMX mm	DHUB mm	OAL mm	DCONMS H6 mm	torque moment Nm	
A211.32.R.06-07	32	6	6	38	40	16	1	032002

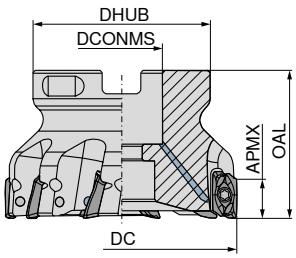
Spare parts DC	TORX® blade	 Clamping key – T	 Key D	 Power Screw	 Molykote	 Clamping screw	 Torque screw-driver
	80 950 ...	**80 397 ...**	**80 950 ...**	**70 950 ...**	**70 950 ...**	**70 950 ...**	**80 950 ...**
32	051	040	124	151	303	137	191

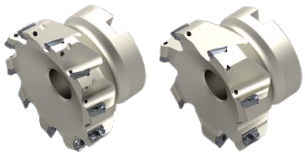
Milling guide

MaxiMill – 211-11 Shell mill

▲ Insert radius >1,6 mm: Modify cutter body





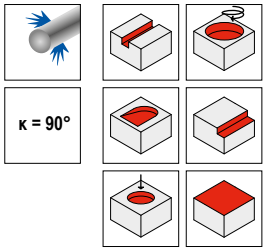


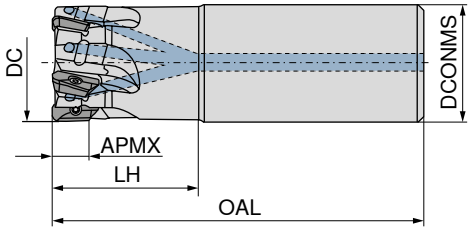
								50 739 ...	50 738 ...
Designation	DC mm	ZNF	APMX mm	DHUB mm	OAL mm	DCONMS $_{H6}$ mm	torque moment Nm		
A211.40.R.04-11	40	4	10	38	40	16	1,6		**040002**
A211.40.R.06-11	40	6	10	38	40	16	1,6	**040002**	
A211.50.R.05-11	50	5	10	43	40	22	1,6		**050002**
A211.50.R.08-11	50	8	10	43	40	22	1,6	**050002**	
A211.63.R.06-11	63	6	10	48	40	22	1,6		**063002**
A211.80.R.07-11	80	7	10	58	50	27	1,6		**080002**

	TORX® blade	 Clamping key – T	 Key D	 Power Screw	 Molykote	 Clamping screw	 Torque screw-driver
	80 950 ...	**80 397 ...**	**80 950 ...**	**70 950 ...**	**70 950 ...**	**70 950 ...**	**80 950 ...**
Spare parts **DC**							
40	**043**	**040**	**125**	**151**	**303**	**131**	**191**
50	**043**		**125**	**151**	**303**	**131**	**191**
63	**043**		**125**		**303**	**131**	**191**
80	**043**		**125**		**303**	**131**	**191**

MaxiMill – 211-11 End milling cutter

▲ Insert radius >1,6 mm: Modify cutter body





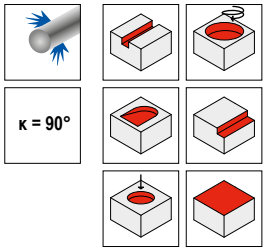
Designation	DC mm	ZNF	APMX mm	LH mm	OAL mm	DCONMS $_{h6}$ mm	torque moment Nm	50 737 ...	50 737 ...
C211.12.R.01-11-B-20	12	1	10	20	75	16	1,6	012002	
C211.16.R.02-11-A/B-25	16	2	10	25	75	16	1,6	016002	116002
C211.16.R.02-11-A15-32-165	16	2	10	32	165	15	1,6		316002
C211.16.R.02-11-A-32-165	16	2	10	32	165	16	1,6		216002
C211.20.R.02-11-A-25	20	2	10	25	77	20	1,6		120022
C211.20.R.02-11-B-25	20	2	10	25	77	20	1,6	020022	
C211.20.R.03-11-A-25	20	3	10	25	77	20	1,6		120002
C211.20.R.03-11-B-25	20	3	10	25	77	20	1,6	020002	
C211.20.R.03-11-A-32-165	20	3	10	32	165	20	1,6		320002
C211.20.R.02-11-A19-40-200	20	2	10	40	200	19	1,6		620002
C211.25.R.03-11-A/B-32	25	3	10	32	90	25	1,6	725002	625002
C211.25.R.04-11-A/B-32	25	4	10	32	90	25	1,6	025002	125002
C211.25.R.04-11-A-40-165	25	4	10	40	165	25	1,6		325002
C211.25.R.02-11-A-50-225	25	2	10	50	225	25	1,6		025022
C211.25.R.03-11-A24-50-225	25	3	10	50	225	24	1,6		825002
C211.25.R.03-11-A-50-225	25	3	10	50	225	25	1,6		425002
C211.32.R.04-11-A-40	32	4	10	40	102	32	1,6		132042
C211.32.R.04-11-B-25	32	4	10	40	102	32	1,6	832002	
C211.32.R.05-11-A/B-40	32	5	10	40	102	32	1,6	032002	
C211.32.R.05-11-A-50-165	32	5	10	50	165	32	1,6		332002
C211.32.R.04-11-A-64-250	32	4	10	64	250	32	1,6		432002
C211.40.R.06-11-B32-50	40	6	10	50	110	32	1,6	040002	
C211.40.R.06-11-B-50	40	6	10	50	122	40	1,6	140002	

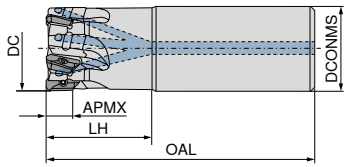
Spare parts DC	TORX® blade 80 950 ...	Key D 80 950 ...	Molykote 70 950 ...	Clamping screw 70 950 ...	Torque screw-driver 80 950 ...
12	043	125	303	92000	191
16	043	125	303	128	191
20	043	125	303	128	191
25	043	125	303	128	191
32	043	125	303	128	191
40	043	125	303	128	191

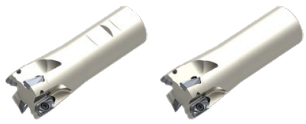
Milling guide

MaxiMill – 211-15 End milling cutter

▲ Insert radius >2,5 mm: Modify cutter body





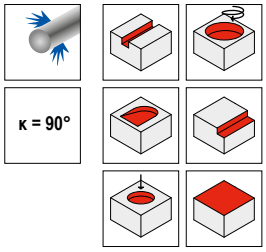


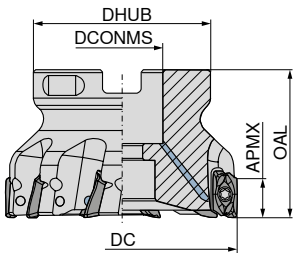
Designation	DC	ZNF	APMX	OAL	LH	DCONMS	torque moment	50 747 ...	50 747 ...
	mm		mm	mm	mm	mm	Nm		
C211.25.R.02-15-A-50-225	25	2	14	225	50	25	3,2		**325002**
C211.25.R.02-15-B/A-32	25	2	14	90	32	25	3,2	**025002**	**225002**
C211.32.R.03-15-A-40	32	3	14	103	40	32	3,2		**232002**
C211.32.R.03-15-A-63-250	32	3	14	250	63	32	3,2		**332002**
C211.40.R.03-15-A-50-275	40	3	14	275	50	32	3,2		**340002**
C211.40.R.04-15-A-50	40	4	14	110	50	32	3,2		**240002**

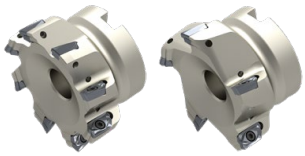
Spare parts DC	TORX® blade	Key D	Molykote	Clamping screw	Torque screw-driver
	80 950 ...	**80 950 ...**	**70 950 ...**	**70 950 ...**	**80 950 ...**
25	**054**	**128**	**303**	**839**	**193**
32	**054**	**128**	**303**	**839**	**193**
40	**054**	**128**	**303**	**839**	**193**

MaxiMill – 211-15 Shell mill

▲ Insert radius >2,5 mm: Modify cutter body





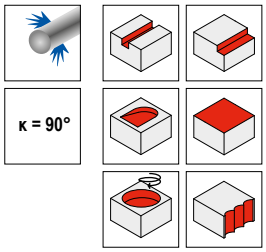


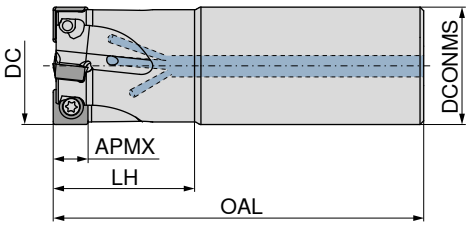
Designation	DC mm	ZNF	APMX mm	DHUB mm	OAL mm	DCONMS $_{H6}$ mm	torque moment Nm	50 749 ...	50 748 ...
A211.40.R.03-15	40	3	14	38	40	16	3,2		**040002**
A211.50.R.05-15	50	5	14	43	40	22	3,2	**050002**	
A211.100.R.10-15	100	10	14	78	50	32	3,2	**100002**	

	TORX® blade	Clamping key – T	Key D	Power Screw	Molykote	Clamping screw	Torque screw-driver
	80 950 ...	**80 397 ...**	**80 950 ...**	**70 950 ...**	**70 950 ...**	**70 950 ...**	**80 950 ...**
Spare parts DC							
40	**054**	**040**	**128**	**151**	**303**	**839**	**193**
50	**054**		**128**	**151**	**303**	**839**	**193**
100	**054**		**128**		**303**	**839**	**193**

Milling guide

MaxiMill – 490-09 End milling cutter

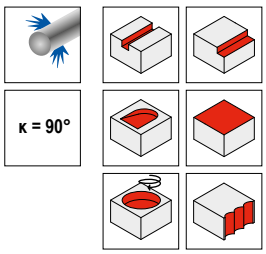


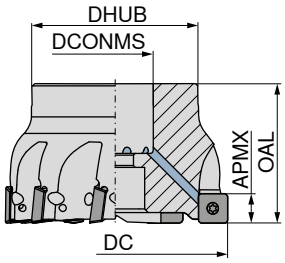


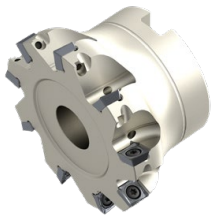
Designation	DC	ZNF	APMX	OAL	LH	DCONMS	torque moment	50 727 ...	50 727 ...
	mm		mm	mm	mm	mm	Nm		
C490.25.R.02-09-A-40-165	25	2	8	165	40	25	3,2		125002
C490.25.R.03-09-B-32	25	3	8	88	32	25	3,2	025002	
C490.32.R.04-09-B-40	32	4	8	100	40	32	3,2	032002	

Spare parts DC	TORX® blade 80 950 ...	Key D 80 950 ...	Molykote 70 950 ...	Clamping screw 70 950 ...	Torque screw-driver 80 950 ...
25	036	113	303	110	192
32	036	113	303	110	192

MaxiMill – 490-09 Shell mill







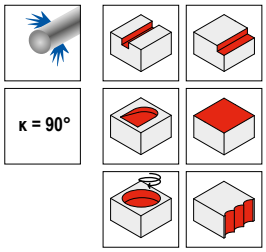
Designation	DC	ZNF	APMX	DHUB	OAL	DCONMS $_{H6}$	torque moment	50 728 ...
	mm		mm	mm	mm	mm	Nm	
A490.40.R.05-09	40	5	8	38	40	16	3,2	040002
A490.50.R.06-09	50	6	8	43	40	22	3,2	050002
A490.63.R.07-09	63	7	8	48	40	22	3,2	063002
A490.80.R.09-09	80	9	8	58	50	27	3,2	080002

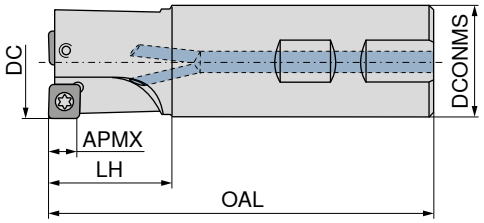
Spare parts DC	TORX® blade 80 950 ...	Clamping key – T 80 397 ...	Key D 80 950 ...	Power Screw 70 950 ...	Molykote 70 950 ...	Clamping screw 70 950 ...	Torque screw-driver 80 950 ...
40	036	040	113	151	303	110	192
50	036		113		303	110	192
63	036		113		303	110	192
80	036		113		303	110	192

Milling guide

2

MaxiMill – 490-12 End milling cutter





Designation	DC mm	ZNF	APMX mm	OAL mm	LH mm	DCONMS mm	torque moment Nm	50 703 ...
C490.32.R.03-12-B-40	32	3	11	101	40	32	5	132002

TORX® blade


Key D

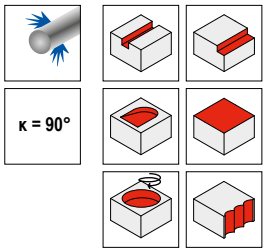

Molykote

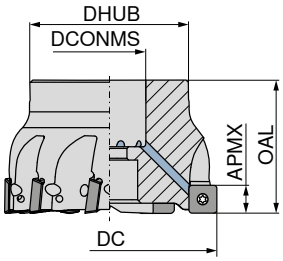

Clamping screw

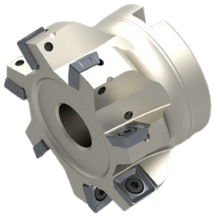

Torque screw-driver

Spare parts DC	TORX® blade 80 950 ...	Key D 80 950 ...	Molykote 70 950 ...	Clamping screw 70 950 ...	Torque screw-driver 80 950 ...
32	037	114	303	01200	193

MaxiMill – 490-12 Shell mill







Designation	DC mm	ZNF	APMX mm	DHUB mm	OAL mm	DCONMS mm	torque moment Nm	50 703 ...
A490.40.R.04-12	40	4	11	38	40	16	5	540002
A490.50.R.05-12	50	5	11	43	40	22	5	550002
A490.63.R.06-12	63	6	11	48	40	22	5	563002
A490.80.R.07-12	80	7	11	58	50	27	5	580002
A490.100.R.08-12	100	8	11	75	50	32	5	600002

TORX® blade


Clamping key – T


Key D


Power Screw


Molykote

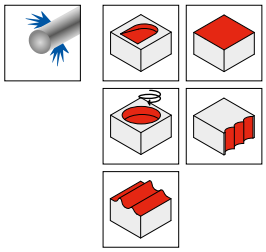

Clamping screw

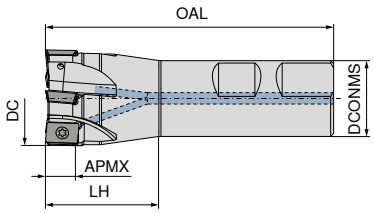

Torque screw-driver

Spare parts DC	TORX® blade 80 950 ...	Clamping key – T 80 397 ...	Key D 80 950 ...	Power Screw 70 950 ...	Molykote 70 950 ...	Clamping screw 70 950 ...	Torque screw-driver 80 950 ...
40	037	040	114	151	303	01200	193
50	037	040	114	151	303	01200	193
63	037		114		303	01200	193
80	037		114		303	01200	193
100	037	040	114		303	01200	193

Milling guide

MaxiMill – 210-10 End milling cutter





50 695 ...

Designation	DC mm	ZNF	APMX mm	LH mm	OAL mm	DCONMS mm	
C210.16.R.02	16	2	8	32	80	16	**016022**
C210.20.R.03	20	3	8	40	90	20	**020032**
C210.25.R.04	25	4	8	44	100	25	**025042**
C210.32.R.05	32	5	8	38	95	25	**032052**

TORX® blade

80 950 ...

Key D

80 950 ...

Molykote

70 950 ...

Clamping screw

70 950 ...

Torque screw-driver

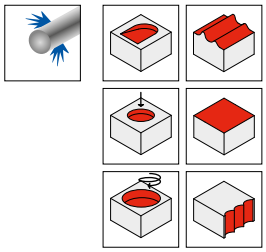
80 950 ...

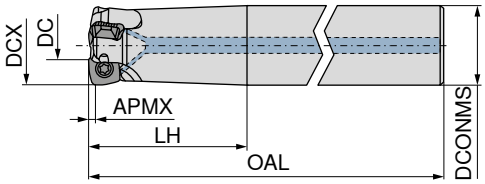
Spare parts DC					
16	**033**	**110**	**303**	**116**	**191**
20	**033**	**110**	**303**	**13800**	**191**
25	**033**	**110**	**303**	**13800**	**191**
32	**033**	**110**	**303**	**13800**	**191**

Milling guide

Cutting data standard values	39+40	Technical Information	61–65
Chip groove description and overview	66–68	Grade description and overview	69–71

MaxiMill – HFC high-feed end mill

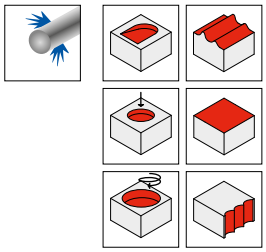


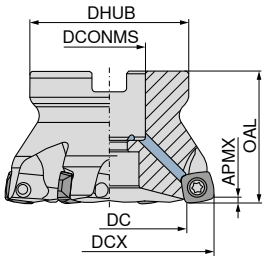


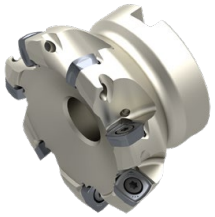
Designation	DC mm	DCX mm	ZNF	APMX mm	OAL mm	LH mm	DCONMS $_{h6}$ mm	torque moment Nm	50 681 ...	50 681 ...
CHFC.16.R.02-06-B-40	7.0	16	2	0.8	89	40	16	1,2	**616002**	
CHFC.16.R.02-06-A-40-200	7.0	16	2	0.8	200	40	16	1,2		**716002**
CHFC.20.R.03-06-B-50	11.0	20	3	0.8	101	50	20	1,2	**620002**	
CHFC.20.R.03-06-A-50-225	11.0	20	3	0.8	225	50	20	1,2		**720002**
CHFC.25.R.04-06-B-50	16.0	25	4	0.8	107	50	25	1,2	**625002**	
CHFC.25.R.04-06-A-50-225	16.0	25	4	0.8	225	50	25	1,2		**725002**
CHFC.32.R.05-06-B-25-60	23.0	32	5	0.8	117	60	25	1,2	**632002**	
CHFC.32.R.05-06-A-25-60-225	23.0	32	5	0.8	225	60	25	1,2		**732002**
CHFC.25.R.02-09-A-50-225	12.3	25	2	1.0	225	50	25	3,2		**025002**
CHFC.25.R.03-09-A-50-225	12.3	25	3	1.0	225	50	25	3,2		**125002**
CHFC.32.R.03-09-A-63-250	19.3	32	3	1.0	250	63	32	3,2		**032002**
CHFC.32.R.02-12-A-63-250	14.8	32	2	2.0	250	63	32	5		**132002**

Spare parts DC	TORX® blade 80 950 ...	 Key D 80 950 ...	 Molykote 70 950 ...	 Clamping screw 70 950 ...	 Torque screw-driver 80 950 ...
7	**033**	**110**	**303**	**116**	**192**
11	**033**	**110**	**303**	**116**	**192**
12.3	**036**	**113**	**303**	**110**	**192**
14.8	**037**	**114**	**303**	**01200**	**193**
16	**033**	**110**	**303**	**116**	**192**
19.3	**036**	**113**	**303**	**304**	**192**
23	**033**	**110**	**303**	**116**	**192**

MaxiMill – HFC high-feed face mill





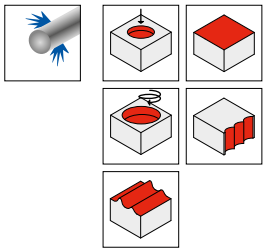


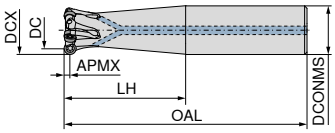
Designation	DC mm	DCX mm	ZNF	APMX mm	DHUB mm	OAL mm	DCONMS $_{H6}$ mm	torque moment Nm	50 683 ...
AHFC.40.R.04-09	27.3	40	4	1	38	40	16	3,2	**140002**
AHFC.50.R.05-09	37.3	50	5	1	43	40	22	3,2	**150002**
AHFC.63.R.06-09	50.3	63	6	1	48	40	22	3,2	**163002**
AHFC.42.R.04-12	24.8	42	4	2	38	40	16	5	**042002**
AHFC.50.R.04-12	32.8	50	4	2	43	40	22	5	**050002**
AHFC.52.R.05-12	34.8	52	5	2	43	40	22	5	**052002**
AHFC.63.R.05-12	45.8	63	5	2	48	40	22	5	**063002**
AHFC.66.R.06-12	48.8	66	6	2	48	40	22	5	**066002**
AHFC.80.R.07-12	62.8	80	7	2	58	50	27	5	**080002**
AHFC.100.R.08-12	82.8	100	8	2	78	50	32	5	**100002**

Spare parts DC	TORX® blade **80 950 ...**	 Clamping key – T **80 397 ...**	 Key D **80 950 ...**	 Power Screw **70 950 ...**	 Molykote **70 950 ...**	 Clamping screw **70 950 ...**	 Torque screw-driver **80 950 ...**
24.8	**037**	**040**	**114**	**151**	**303**	**01200**	**193**
27.3	**036**	**040**	**113**	**151**	**303**	**304**	**192**
32.8	**037**		**114**		**303**	**01200**	**193**
34.8	**037**		**114**		**303**	**01200**	**193**
37.3	**036**		**113**		**303**	**110**	**192**
45.8	**037**		**114**		**303**	**01200**	**193**
48.8	**037**		**114**		**303**	**01200**	**193**
50.3	**036**		**113**		**303**	**110**	**192**
62.8	**037**		**114**		**303**	**01200**	**193**
82.8	**037**		**114**		**303**	**01200**	**193**

Milling guide

MaxiMill – 251 RS End milling cutter

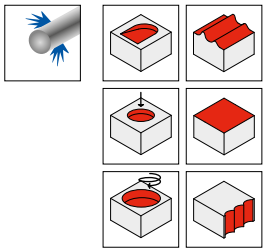


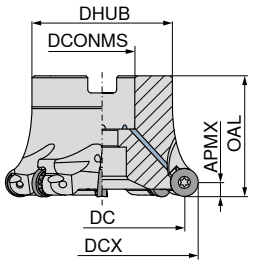


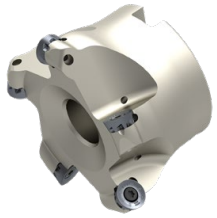
Designation	DC mm	DCX mm	ZNF	APMX mm	LH mm	OAL mm	DCONMS mm	torque moment Nm	50 685 ...	50 685 ...
C251.16.R-02-08-A-40-165-RS	8	16	2	4	40	165	16	1,2		**216002**
C251.20.R-02-10-A-50-RS	10	20	2	5	50	102	20	2		**420002**
C251.25.R.03-10-A-60-RS	15	25	3	5	60	116	25	2		**025002**
C251.25.R-03-10-B-60-RS	15	25	3	5	60	116	25	2	**325002**	
C251.25.R-03-10-A-60-225-RS	15	25	3	5	60	225	25	2		**425002**
C251.32.R.04-10-A-70-RS	22	32	4	5	70	130	32	2		**032002**

Spare parts DC	TORX® blade 80 950 ...	 Key D 80 950 ...	 Molykote 70 950 ...	 Clamping screw 70 950 ...	 Torque screw-driver 80 950 ...
8	**033**	**110**	**303**	**116**	**191**
10	**035**		**303**	**840**	**192**
15	**035**		**303**	**840**	**192**
22	**035**		**303**	**840**	**192**

MaxiMill – 251 RS Shell mill







50 686 ...

Designation	DC mm	DCX mm	ZNF	APMX mm	DHUB mm	OAL mm	DCONMS $_{H6}$ mm	torque moment Nm	Insert	
A251.42.R.06-10-RS	32	42	6	5	38	40	16	2	RP.X 10T3..	**142002**
A251.40.R.04-12-RS	28	40	4	6	38	40	16	3,2	RP.X 1204..	**340002**
A251.50.R.04-12-RS	38	50	4	6	43	40	22	3,2	RP.X 1204..	**250002**
A251.50.R.05-12-RS	38	50	5	6	43	40	22	3,2	RP.X 1204..	**050002**
A251.52.R.05-12-RS	40	52	5	6	43	40	22	3,2	RP.X 1204..	**052002**
A251.80.R.05-12-RS	68	80	5	6	58	50	27	3,2	RP.X 1204..	**180002**
A251.80.R.07-12-RS	68	80	7	6	58	50	27	3,2	RP.X 1204..	**080002**
A251.50.R.04-16-RS	34	50	4	8	48	40	22	5	RP.X 1605..	**450002**
A251.63.R.05-16-RS	47	63	5	8	48	40	22	5	RP.X 1605..	**163002**

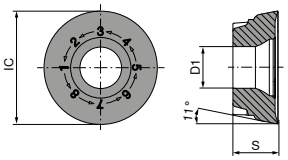
	TORX® blade	 Clamping key – T	 Key D	 Power Screw	 Molykote	 Clamping screw	 Torque screw-driver
	80 950 ...	**80 397 ...**	**80 950 ...**	**70 950 ...**	**70 950 ...**	**70 950 ...**	**80 950 ...**
Spare parts DC							
28	**036**	**040**	**113**	**151**	**303**	**304**	**192**
32	**035**	**040**		**151**	**303**	**840**	**192**
34	**037**		**114**	**151**	**303**	**01200**	**193**
38	**036**	**040**	**113**	**151**	**303**	**304**	**192**
40	**036**	**040**	**113**	**151**	**303**	**304**	**192**
47	**037**		**114**	**151**	**303**	**01200**	**193**
68	**036**	**040**	**113**	**151**	**303**	**304**	**192**

Milling guide

2

RPHX

Designation	IC	D1			S	AN
	mm	mm	mm	mm	mm	°
RPHX 1204..	12	4.4	-	-	4.76	11



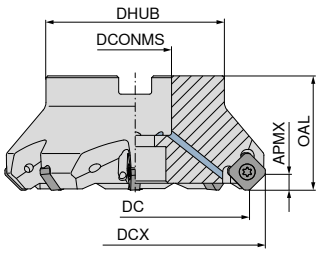
RP.X 10T3.. / RP.X 1204.. / RP.X 1605.. / RPNX 2006..

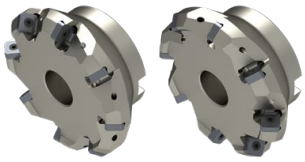
RPHX

	-SN CTIP2240	-SN CTIP1225	-SN CTICP230	-SN CTICP220	-SN CTICM235	-SN CTICK215
						
	RPHX	RPHX	RPHX	RPHX	RPHX	RPHX
	51 166 ...	**51 166 ...**	**51 166 ...**	**51 166 ...**	**51 166 ...**	**51 166 ...**
ISO						
1204M0SN	**716022**	**613022**	**514022**	**412022**	**315022**	**217022**
P	○	●	●	●	●	
M	●				●	
K			○			●
N						
S						
H						
O						

MaxiMill – A845 Shell mill

κ = 45°





Designation	DC mm	DCX mm	ZNF	APMX mm	DHUB mm	OAL mm	DCONMS $_{H6}$ mm	torque moment Nm	Insert	50 697 ...	50 694 ...
A845.50.R.04-13	50	62	4	6	43	40	22	5	SNKX 1305AN..-R		050042
A845.63.R.06-13	63	75	6	6	48	40	22	5	SNKX 1305AN..-R		063062
A845.80.R.07-13	80	92	7	6	58	50	27	5	SNKX 1305AN..-R		080072
A845.100.L.08-13	100	112	8	6	78	50	32	5	SNKX 1305AN..-R	100082	
A845.100.R.08-13	100	112	8	6	78	50	32	5	SNKX 1305AN..-R		100082
A845.125.R.10-13	125	137	10	6	88	63	40	5	SNKX 1305AN..-R		125102
A845.160.R.12-13	160	172	12	6	100	63	40	5	SNKX 1305AN..-R		160122

Spare parts DC	TORX® blade 80 950 ...	 Key D 80 950 ...	 Molykote 70 950 ...	 Clamping screw 70 950 ...	 Torque screw-driver 80 950 ...
50	036	105	303	174	193
63	036	105	303	174	193
80	036	105	303	174	193
100	036	105	303	174	193
125	036	105	303	174	193
160	036	105	303	174	193

Milling guide

Cutting data standard values	39+40	Starting Parameter	61–65
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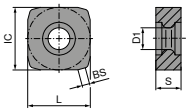
Grade description and overview	59		

SNKX

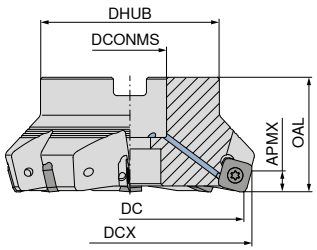
Designation	IC	D1	L	BS	S	AN
	mm	mm	mm	mm	mm	°
SNKX 1305..	12.9	4.5	12.9	1.4	5.2	0

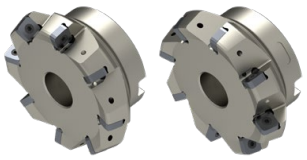


SNKX

	NEW	NEW	NEW	NEW
	-R CTIP1225	-R CTICP230	-R CTICP220	-R CTICK215
				
	SNKX	SNKX	SNKX	SNKX
	51 167 ...	**51 167 ...**	**51 167 ...**	**51 167 ...**
ISO				
1305ANEN				**216022**
1305ANSN	**614022**	**515022**	**413022**	
P	●	●	●	
M				
K		○		●
N				
S				
H				
O				

MaxiMill – A875 Shell mill





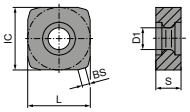
Designation	DC mm	DCX mm	ZNF	APMX mm	DHUB mm	OAL mm	DCONMS $_{H6}$ mm	torque moment Nm	Insert	50 571 ...	50 570 ...
A875.50.L.04-13	50	61	4	7	48	40	22	5	SNKX 1305EZ..-R	**050042**	
A875.50.R.04-13	50	61	4	7	48	40	22	5	SNKX 1305EZ..-R		**050042**
A875.63.L.06-13	63	72	6	7	48	40	22	5	SNKX 1305EZ..-R	**063062**	
A875.63.R.06-13	63	72	6	7	48	40	22	5	SNKX 1305EZ..-R		**063062**
A875.80.L.07-13	80	90	7	7	58	50	27	5	SNKX 1305EZ..-R	**080072**	
A875.80.R.06-13	80	90	6	7	58	50	27	5	SNKX 1305EZ..-R		**080062**
A875.80.R.07-13	80	90	7	7	58	50	27	5	SNKX 1305EZ..-R		**080072**
A875.100.L.08-13	100	110	8	7	78	50	32	5	SNKX 1305EZ..-R	**100082**	
A875.100.R.08-13	100	110	8	7	78	50	32	5	SNKX 1305EZ..-R		**100082**
A875.100.R.12-13	100	110	12	7	78	50	32	5	SNKX 1305EZ..-R		**100122**
A875.125.L.10-13	125	135	10	7	88	63	40	5	SNKX 1305EZ..-R	**125102**	
A875.125.R.10-13	125	135	10	7	88	63	40	5	SNKX 1305EZ..-R		**125102**
A875.160.R.12-13	160	170	12	7	100	63	40	5	SNKX 1305EZ..-R		**160122**

Spare parts DC	TORX® blade 80 950 ...	 Key D 80 950 ...	 Molykote 70 950 ...	 Clamping screw 70 950 ...	 Torque screw-driver 80 950 ...
50	**036**	**105**	**303**	**174**	**193**
63	**036**	**105**	**303**	**174**	**193**
80	**036**	**105**	**303**	**174**	**193**
100	**036**	**105**	**303**	**174**	**193**
125	**036**	**105**	**303**	**174**	**193**
160	**036**	**105**	**303**	**174**	**193**

Milling guide

SNKX

Designation	IC	D1	L	BS	S	AN
	mm	mm	mm	mm	mm	°
SNKX 1305..	12.9	4.5	12.9	-	5.2	0
SNKX 1305..	12.9	4.5	12.9	1.5	5.2	0

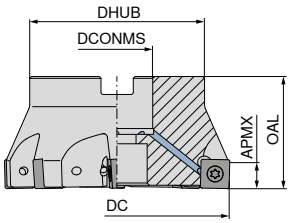


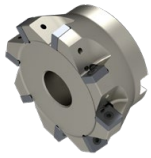
SNKX

	NEW	NEW	NEW	NEW
	-R CTIP1225	-R CTICP230	-R CTICP220	-R CTICK215
				
	SNKX	SNKX	SNKX	SNKX
	51 167 ...	**51 167 ...**	**51 167 ...**	**51 167 ...**
ISO				
1305EZEN				**220022**
1305EZSN	**618022**	**519022**	**417022**	
P	●	●	●	
M				
K		○		●
N				
S				
H				
O				

MaxiMill – A890 Shell mill

κ = 90°





Designation	DC mm	ZNF	APMX mm	DHUB mm	OAL mm	DCONMS $_{H6}$ mm	torque moment Nm	Insert	50 699 ...
A890.40.R.03-13	40	3	8	38	40	16	5	SNHX 1305..	**040032**
A890.50.R.04-13	50	4	8	43	40	22	5	SNHX 1305..	**050042**
A890.63.R.05-13	63	5	8	48	40	22	5	SNHX 1305..	**063052**
A890.63.R.06-13	63	6	8	48	40	22	5	SNHX 1305..	**063062**
A890.80.R.07-13	80	7	8	58	50	27	5	SNHX 1305..	**080072**
A890.80.R.08-13	80	8	8	58	50	27	5	SNHX 1305..	**080082**
A890.100.R.08-13	100	8	8	78	50	32	5	SNHX 1305..	**100082**
A890.125.R.10-13	125	10	8	88	63	40	5	SNHX 1305..	**125102**

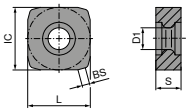
	TORX® blade	Key D	Molykote	Clamping screw	Torque screw-driver
	80 950 ...	**80 950 ...**	**70 950 ...**	**70 950 ...**	**80 950 ...**
Spare parts DC					
40	**036**	**105**	**303**	**174**	**193**
50	**036**	**105**	**303**	**174**	**193**
63	**036**	**105**	**303**	**174**	**193**
80	**036**	**105**	**303**	**174**	**193**
100	**036**	**105**	**303**	**174**	**193**
125	**036**	**105**	**303**	**174**	**193**

Milling guide

Cutting data standard values	39+40	Starting Parameter	61–65
Technical Information	66–68	Chip groove description and overview	69–71
Grade description and overview	60		

SNKX

Designation	IC	D1	L	BS	S	AN
	mm	mm	mm	mm	mm	°
SNKX 1305..	12.9	4.5	12.9	-	5.2	0
SNKX 1305..	12.9	4.5	12.9	1.5	5.2	0

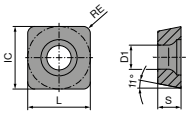


SNKX

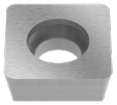
	NEW	NEW	NEW	NEW
	-R CTIP1225	-R CTICP230	-R CTICP220	-R CTICK215
				
	SNKX	SNKX	SNKX	SNKX
	51 167 ...	**51 167 ...**	**51 167 ...**	**51 167 ...**
ISO				
130508EN				**224022**
130508SN	**622022**	**523022**	**421022**	
P	●	●	●	
M				
K		○		●
N				
S				
H				
O				

SPMW

Designation	IC	D1	L		S	AN
	mm	mm	mm	mm	mm	°
SPMW 1204..	12.7	5.5	12.7	-	4.76	11

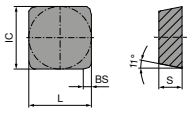


SPMW

	CTIW3215	CTIP2240	CTIP1225	CTICP230	CTICM235
					
	SPMW	SPMW	SPMW	SPMW	SPMW
	51 168 ...	51 168 ...	51 168 ...	51 168 ...	51 168 ...
ISO					
120412EN	812022	712022	612022	512022	312022
P		○	●	●	●
M		●			●
K	○			○	
N	●				
S					
H					
O	○				

SPKN

Designation	IC mm	L mm	BS mm	S mm	AN °
1203EDSR	12.700	12.400	1.4	3.18	11
1203EDER	12.700	12.400	1.4	3.18	11
1203EDEL	12.700	12.400	1.4	3.18	11
1203EDSL	12.700	12.400	1.4	3.18	11
1203EDER	12.700	12.700	1.4	3.18	11
1504EDSR	18.875	15.875	1.4	4.76	11
1504EDER	18.875	15.875	1.4	4.76	11
1504EDEL	18.875	15.875	1.4	4.76	11
1504EDSL	18.875	15.875	1.4	4.76	11

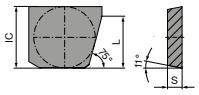


SPKN

	NEW	NEW	NEW	NEW	NEW	NEW	NEW
	CTIW3215	CTIP2240	CTIP1225	CTICP230	CTICP220	CTICM235	CTICK215
							
	SPKN	SPKN	SPKN	SPKN	SPKN	SPKN	SPKN
	51 170 ...	51 170 ...	51 170 ...	51 170 ...	51 170 ...	51 170 ...	51 170 ...
ISO							
1203EDEL	817022			516022			
1203EDER	823022						214022
1203EDSL		713022			415022	312022	
1203EDSR		719022		522022	421022	318022	
1504EDEL	836022						220022
1504EDER	842022						233022
1504EDSL		731022	632022	535022	434022	330022	
1504EDSR		738022	639022	541022	440022	337022	
P		○	●	●	●	●	
M		●				●	
K	○			○			●
N	●						
S							
H							
O	○						

SPEX

Designation	IC mm	L mm	S mm	AN °
SPEX 1203..	12.7	12	3.18	11

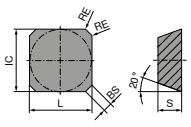


SPEX


ISO	CTIP1225 SPEX 51 169 ...	CTICP230 SPEX 51 169 ...
1203EDSL	**612022**	**513022**
1203EDSR	**614022**	**515022**
P	●	●
M		
K		○
N		
S		
H		
O		

SEKN

Designation	IC mm	L mm	BS mm	S mm
SEKN 1203..	12.70	12.70	2.1	3.18
SEKN 1504..	15.87	15.87	2.1	4.76

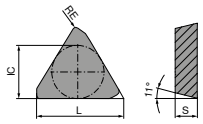


SEKN

	CTIP1225	CTICP230
		
	SEKN	SEKN
	51 062 ...	51 062 ...
ISO		
1203AFSN	612022	513022
1504AFSN	615022	516022
P	●	●
M		
K		○
N		
S		
H		
O		

TPKN

Designation	IC mm	L mm	S mm	AN °
1603PDSL	9.525	15.5	3.18	11
1603PDSR	9.525	15.5	3.18	11
1603PPSN	9.525	15.5	3.18	11
2204PDSL	12.680	22.0	4.76	11
2204PDSR	12.680	22.0	4.76	11
2204PPSN	12.680	22.0	4.76	11



TPKN

NEW

CTIP1225

TPKN

51 068 ...

NEW

CTICP230

TPKN

51 068 ...

ISO		
1603PDSL	612022	
1603PDSR	614022	
1603PPSN		516022
2204PDSL	622022	
2204PDSR	624022	
2204PPSN	626022	
P	●	●
M		
K		○
N		
S		
H		
O		

Material examples for cutting data tables

	Material sub-group	Index	Composition / Structure / Heat treatment		Tensile strength N/mm²* / HB / HRC	Material number	Material designation	Material number	Material designation
P	Unalloyed steel	P.1.1	< 0,15 % C	Annealed	420 N/mm² / 125 HB	1.0401	C15	1.1141	Ck15
		P.1.2	< 0,45 % C	Annealed	640 N/mm² / 190 HB	1.1191	C45E	1.0718	9SMnPb28
		P.1.3		Tempered	840 N/mm² / 250 HB	1.1191	C45E	1.0535	C55
		P.1.4	< 0,75 % C	Annealed	910 N/mm² / 270 HB	1.1223	C60R	1.0535	C55
		P.1.5		Tempered	1010 N/mm² / 300 HB	1.1223	C60R	1.0727	45S20
	Low-alloy steel	P.2.1		Annealed	610 N/mm² / 180 HB	1.7131	16MnCr5	1.6587	17CrNiMo6
		P.2.2		Tempered	930 N/mm² / 275 HB	1.7131	16MnCr5	1.6587	17CrNiMo6
		P.2.3		Tempered	1010 N/mm² / 300 HB	1.7225	42CrMo4	1.3505	100Cr6
		P.2.4		Tempered	1200 N/mm² / 375 HB	1.7225	42CrMo4	1.3505	100Cr6
	High-alloy steel and high-alloy tool steel	P.3.1		Annealed	680 N/mm² / 200 HB	1.4021	X20Cr13	1.4034	X46Cr13
		P.3.2		Hardened and tempered	1100 N/mm² / 300 HB	1.2343	X38CrMoV5-1	1.4034	X46Cr13
		P.3.3		Hardened and tempered	1300 N/mm² / 400 HB	1.2343	X38CrMoV5-1	1.4034	X46Cr13
	Stainless steel	P.4.1	Ferritic / martensitic	Annealed	680 N/mm² / 200 HB	1.4016	X6Cr17	1.2316	X36CrMo16
		P.4.2	Martensitic	Tempered	1010 N/mm² / 300 HB	1.4112	X90CrMoV18	1.2316	X36CrMo16
M	Stainless steel	M.1.1	Austenitic / austenitic-ferritic	Quenched	610 N/mm² / 180 HB	1.4301	X5CrNi18-10	1.4571	X6CrNiMoTi17-12-2
		M.2.1	Austenitic	Tempered	300 HB	1.4841	X15CrNiSi25-21	1.4539	X1NiCrMoCu25-20-5
		M.3.1	Austenitic / ferritic (Duplex)		780 N/mm² / 230 HB	1.4462	X2CrNiMoN22-5-3	1.4501	X2CrNiMoCuWN25-7-4
K	Grey cast iron	K.1.1	Pearlitic / ferritic		350 N/mm² / 180 HB	0.6010	GG-10	0.6025	GG-25
		K.1.2	Pearlitic (martensitic)		500 N/mm² / 260 HB	0.6030	GG-30	0.6045	GG-45
	Spherulitic graphite cast iron	K.2.1	Ferritic		540 N/mm² / 160 HB	0.7040	GGG-40	0.7060	GGG-60
		K.2.2	Pearlitic		845 N/mm² / 250 HB	0.7070	GGG-70	0.7080	GGG-80
	Malleable iron	K.3.1	Ferritic		440 N/mm² / 130 HB	0.8035	GTW-35-04	0.8045	GTW-45
		K.3.2	Pearlitic		780 N/mm² / 230 HB	0.8165	GTS-65-02	0.8170	GTS-70-02
N	Aluminium wrought alloy	N.1.1	Non-hardenable		60 HB	3.0255	Al99,5	3.3315	AlMg1
		N.1.2	Hardenable	Age-hardened	340 N/mm² / 100 HB	3.1355	AlCuMg2	3.2315	AlMgSi1
	Cast aluminium alloy	N.2.1	≤ 12 % Si, non-hardenable		250 N/mm² / 75 HB	3.2581	G-AlSi12	3.2163	G-AlSi9Cu3
		N.2.2	≤ 12 % Si, hardenable	Age-hardened	300 N/mm² / 90 HB	3.2134	G-AlSi5Cu1Mg	3.2373	G-AlSi9Mg
		N.2.3	> 12 % Si, non-hardenable		440 N/mm² / 130 HB		G-AlSi17Cu4Mg		G-AlSi18CuNiMg
	Copper and copper alloys (bronze/brass)	N.3.1	Free-machining alloys, PB > 1 %		375 N/mm² / 110 HB	2.0380	CuZn39Pb2 (Ms58)	2.0410	CuZn44Pb2
		N.3.2	CuZn, CuSnZn		300 N/mm² / 90 HB	2.0331	CuZn15	2.4070	CuZn28Sn1As
		N.3.3	CuSn, lead-free copper and electrolytic copper		340 N/mm² / 100 HB	2.0060	E-Cu57	2.0590	CuZn40Fe
	Magnesium alloys	N.4.1	Magnesium and magnesium alloys		70 HB	3.5612	MgAl6Zn	3.5312	MgAl3Zn
S	Heat-resistant alloys	S.1.1	Fe - basis	Annealed	680 N/mm² / 200 HB	1.4864	X12NiCrSi 36-16	1.4865	G-X40NiCrSi38-18
		S.1.2		Age-hardened	950 N/mm² / 280 HB	1.4980	X6NiCrTiMoVB25-15-2	1.4876	X10NiCrAlTi32-20
		S.2.1	Ni or Co basis	Annealed	840 N/mm² / 250 HB	2.4631	NiCr20TiAl (Nimonic80A)	3.4856	NiCr22Mo9Nb
		S.2.2		Age-hardened	1180 N/mm² / 350 HB	2.4668	NiCr19Nb5Mo3 (Inconel 718)	2.4955	NiFe25Cr20NbTi
		S.2.3		Cast	1080 N/mm² / 320 HB	2.4765	CoCr20W15Ni	1.3401	G-X120Mn12
	Titanium alloys	S.3.1	Pure titanium		400 N/mm²	3.7025	Ti99,8	3.7034	Ti99,7
		S.3.2	Alpha + beta alloys	Age-hardened	1050 N/mm² / 320 HB	3.7165	TiAl6V4	Ti-6246	Ti-6Al-2Sn-4Zr-6Mo
		S.3.3	Beta alloys		1400 N/mm² / 410 HB	Ti555.3	Ti-5Al-5V-5Mo-3Cr	R56410	Ti-10V-2Fe-3Al
H	Hardened steel	H.1.1		Hardened and tempered	46–55 HRC				
		H.1.2		Hardened and tempered	56–60 HRC				
		H.1.3		Hardened and tempered	61–65 HRC				
		H.1.4		Hardened and tempered	66–70 HRC				
	Chilled iron	H.2.1		Cast	400 HB				
	Hardened cast iron	H.3.1		Hardened and tempered	55 HRC				
O	Non-metal materials	O.1.1	Plastics, duroplastic		≤ 150 N/mm²				
		O.1.2	Plastics, thermoplastic		≤ 100 N/mm²				
		O.2.1	Aramid fibre-reinforced		≤ 1000 N/mm²				
		O.2.2	Glass/carbon-fibre reinforced		≤ 1000 N/mm²				
		O.3.1	Graphite						

* Tensile strength

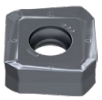
Cutting data standard values

Index	CTIC1135	CTICK215		CTICM235		CTICP220		CTICP230		CTIP1225		CTIP2240		CTIW3215	
																
	v_c (m/min)														
P.1.1	210			251	184	339	170	286	150	263	157	226	141		
P.1.2	175			210	152	308	154	242	133	234	143	188	126		
P.1.3	145			172	123	280	140	202	118	207	129	152	112		
P.1.4	135			160	113	270	135	189	112	198	125	140	107		
P.1.5	120			141	99	256	128	169	105	185	118	123	100		
P.2.1	180			217	157	313	157	249	136	238	145	194	128		
P.2.2	130			157	111	268	134	185	111	196	124	137	106		
P.2.3	120			141	99	256	128	169	105	185	118	123	100		
P.2.4	85			94	62	220	110	118	85	151	102	78	83		
P.3.1	150			136	115	140	70	140	87	130	65	126	105		
P.3.2	95			128	110	95	50	90	55	100	50	112	95		
P.3.3	35			120	105	50	30	40	22	70	35	98	85		
P.4.1	155			136	115	140	70	140	87	130	65	126	105		
P.4.2	125			132	113	118	60	115	71	115	58	119	100		
M.1.1	155			136	115							126	105		
M.2.1	95			128	110							112	95		
M.3.1	135			134	114							121	102		
K.1.1		360	210					310	190					130	130
K.1.2		220	130					160	100					110	110
K.2.1		230	140					200	120					130	130
K.2.2		160	100					130	80					120	120
K.3.1		250	150					190	115					130	130
K.3.2		210	130					160	100					110	120
N.1.1															1500
N.1.2															1000
N.2.1															1100
N.2.2															1000
N.2.3															280
N.3.1															350
N.3.2															350
N.3.3															320
N.4.1															320
S.1.1															
S.1.2															
S.2.1															
S.2.2															
S.2.3															
S.3.1															
S.3.2															
S.3.3															
H.1.1															
H.1.2															
H.1.3															
H.1.4															
H.2.1															
H.3.1															
O.1.1														160	160
O.1.2															
O.2.1														240	240
O.2.2															
O.3.1															

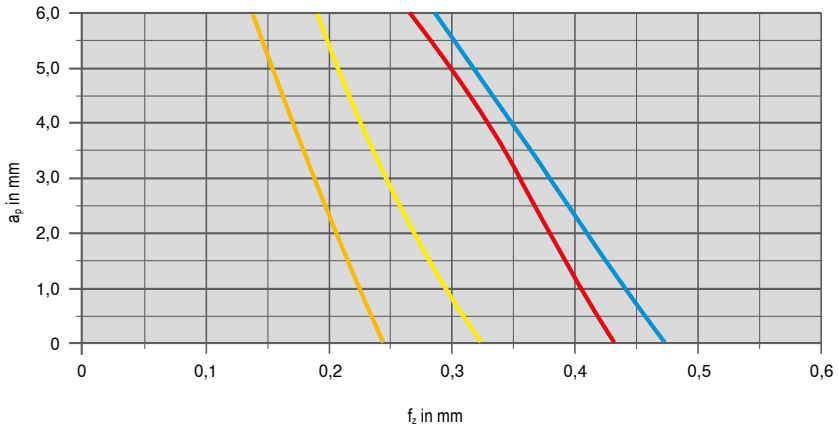
The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine.
The specified values represent guideline cutting data that can be adjusted by approx. **±20%** according to the usage conditions.

System MaxiMill 271-12

Starting Parameter



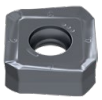
SOHU 12



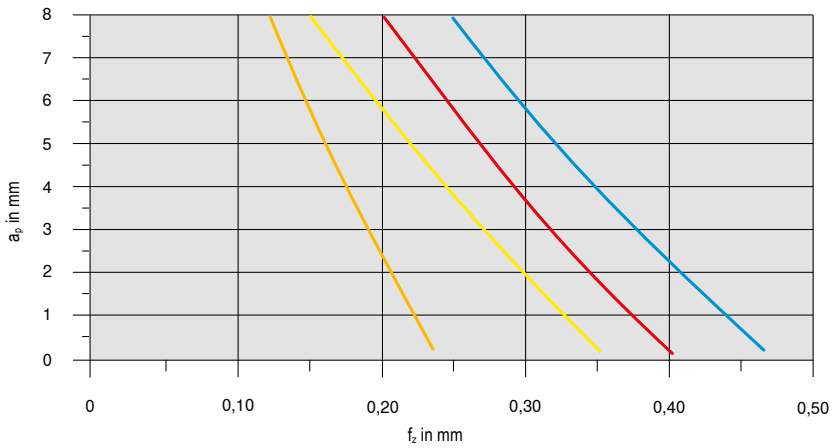
Material			Inserts		v_c in m/min	Cooling
Steel	**P.2.2**	40CrMnMoS 8-6	**SOHU 1204ABSR-M50**	**CTPP230**	200	Dry
Stainless steel	**M.1.1**	X6CrNiMoTi 1712 2	**SOHU 1204ABSR-M50**	**CTPM240**	180	Dry
Cast iron	**K.1.1**	EN-GJL-250 (GG25)	**SOHU 1204ABSR-R50**	**CTCK215**	300	Dry
Heat resistant alloys	**S.2.2**	Inconel 718	**SOHU 1204ABSR-F50**	**CTC5240**	30	Emulsion

System MaxiMill 271-17

Starting Parameter



SAKU 17



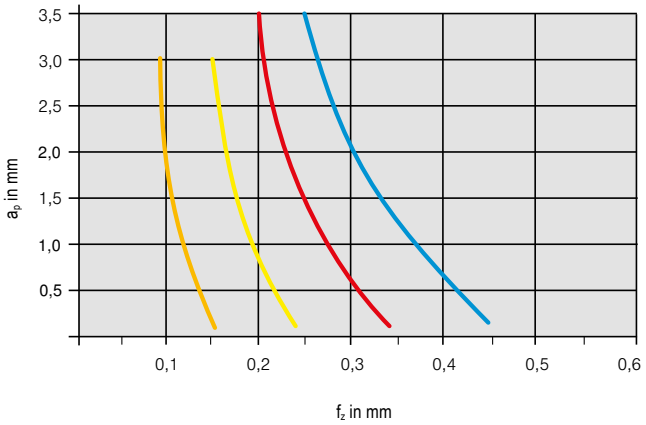
Material			Inserts		v_c in m/min	Cooling
Steel	**P.2.2**	40CrMnMoS 8-6	**SAKU 1706ABSR-M50**	**CTPP235**	200	Dry
Stainless steel	**M.1.1**	X6CrNiMoTi 1712 2	**SAKU 1706ABSR-F50**	**CTPM240**	180	Dry
Cast iron	**K.1.1**	EN-GJL-250 (GG25)	**SAKU 1706ABSR-R50**	**CTCK215**	250	Dry
Heat resistant alloys	**S.2.2**	Inconel 718	**SAKU 1706ABSR-F50**	**CTC5240**	35	Emulsion

Detailed information on cutting speed for each grade can be found on → page 39+40
From v_c > 400 m/min, the tool must be balanced!

System MaxiMill 273

Starting Parameter

OAKU



Material			Inserts		v_c in m/min	Cooling
Steel	**P.4.1**	40CrMnMoS 8-6	**OAKU 060508SR-M50**	**CTPP235**	200	Dry
Stainless steel	**M.1.1**	X6CrNiMoTi 1712 2	**OAKU 060508SR-F50**	**CTPM240**	180	Dry
Cast iron	**K.1.1**	EN-GJL-250 (GG25)	**OAKU 060508SR-R50**	**CTCK215**	250	Dry
Heat resistant alloys	**S.2.2**	Inconel 718	**OAKU 060508ER-F40**	**CTC5240**	35	Emulsion

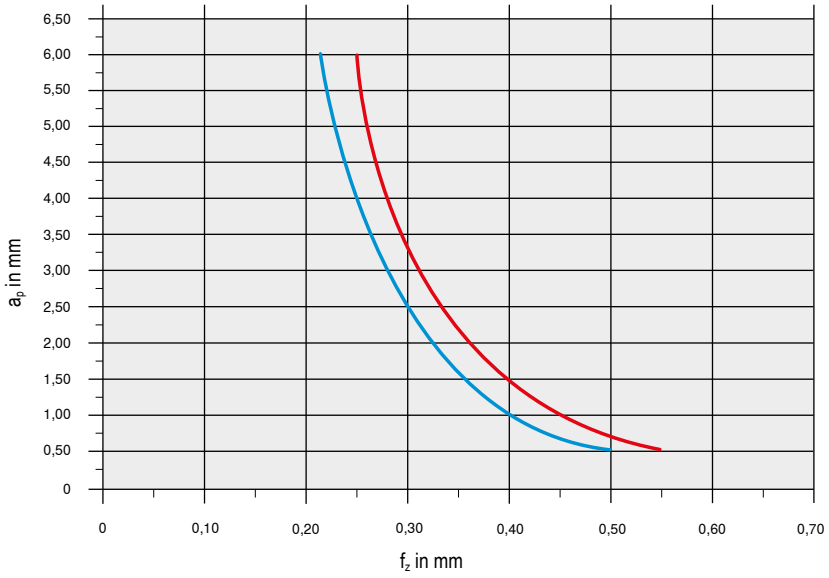
Detailed information on cutting speed for each grade can be found on → page 39+40

From v_c > 400 m/min, the tool must be balanced!

System MaxiMill 273-08

Starting Parameter

ONKU



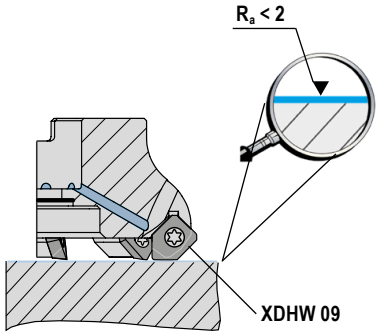
Material			Inserts		v_c in m/min	Cooling
Steel	**P.2.2**	40CrMnMoS 8-6	**ONKU 080608SR-M50**	**CTPP235**	180	Dry
Cast iron	**K.1.1**	EN-GJL-250 (GG25)	**ONKU 080608SR-R50**	**CTCK215**	250	Dry

Detailed information on cutting speed for each grade can be found on → page 39+40

From v_c > 400 m/min, the tool must be balanced!

System MaxiMill 270

Machining strategy

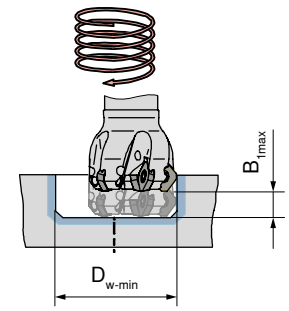


Finish milling with trailing edge inserts

Two Masterfinish inserts are mounted in each 125mm head

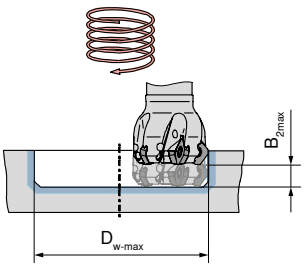
Steel	SDNT	0903AESN-29	CTPP235	+	XDHW	0903AESN CTPP235
	SDNT	0903AESN-29	CTCP230	+	XDHW	0903AESN CTCP230
	SDHT	0903AESN-33	CTCP230	+	XDHW	0903AESN CTCP230
	SDHW	0903AESN	TCM10	+	XDHW	0903AESN TCM10
Cast iron	SDNT	0903AESN-31	CTCK215	+	XDHW	0903AEEN CTCK215
Non-ferrous metals	SDHT	0903AEFN-ALP	-27P H216T	+	XDHW	0903AEFN -27P H216T

Helical plunging (without pilot hole)



C 270-09

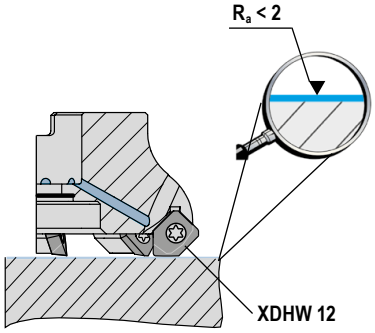
DC mm	D_{w-min} mm	$B_{1\,max}$ mm	D_{w-max} mm	$B_{2\,max}$ mm
6	14,4	1,5	19,0	1,5
12	28,5	1,5	31,0	1,5
16	36,5	1,5	39,0	1,5
20	44,5	1,5	47,0	1,5
25	54,5	1,5	57,0	1,5
32	68,5	1,5	71,0	1,5



A 270-09

DC mm	D_{w-min} mm	$B_{1\,max}$ mm	D_{w-max} mm	$B_{2\,max}$ mm
32	68,5	1,5	71,0	1,5
40	84,5	1,5	87,0	1,5
50	104,5	1,5	107,0	1,5
63	130,5	1,5	133,0	1,5
80	164,5	1,5	167,0	1,5
100	204,5	1,5	207,0	1,5
125	254,5	1,5	257,0	1,5
160	324,5	1,5	327,0	1,5

System MaxiMill 270-12

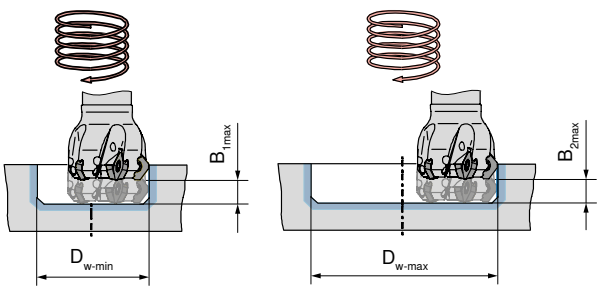


Finish milling with trailing edge inserts

Two Masterfinish inserts are mounted in each 125mm head

Steel	SDMT	1204AESN-29R	CTPP235	+	XDHW	1204AESN CTPP235
	SDMT	1204AESN-29R	CTCP230	+	XDHW	1204AESN CTCP230
	SDHW	1204AESN-R	TCM10	+	XDHW	1204AESN TCM10
Cast iron	SDMT	1204AEEN-31	CTCK215	+	XDHW	1204AEEN CTCK215
	SDHW	1204AESN-R	CTCK215	+	XDHW	1204AEEN CTCK215
Non-ferrous metals	SDHT	1204AEFN-ALP	-27P H216T	+	XDHW	1204AEFN -27P H216T

Helical plunging (without pilot hole)

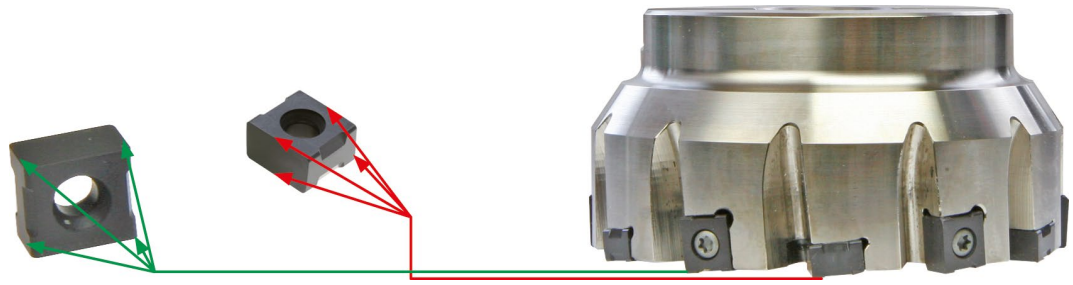


DC mm	D_{w-min} mm	$B_{1\,max}$ mm	D_{w-max} mm	$B_{2\,max}$ mm
32	74,5	1,5	78,0	1,5
40	90,5	1,5	94,0	1,5
50	110,5	1,5	114,0	1,5
63	136,5	1,5	140,0	1,5
80	170,5	1,5	174,0	1,5
100	210,5	1,5	214,0	1,5
125	260,5	1,5	264,0	1,5
160	330,5	1,5	334,0	1,5

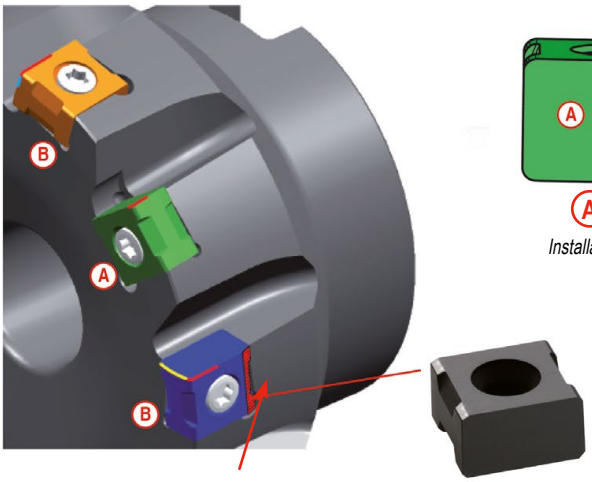
From v_c > 400 m/min, the tool must be balanced!

System MaxiMill HEC 11 / HEC 12

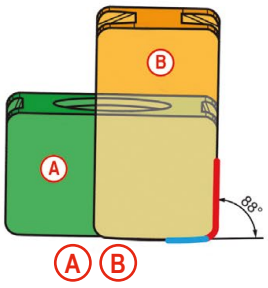
4 cutting edges per installation position



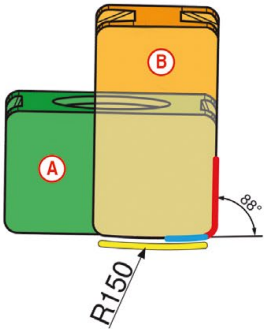
Correct assembly of standard and trailing edge inserts



Marking for the correct assembly



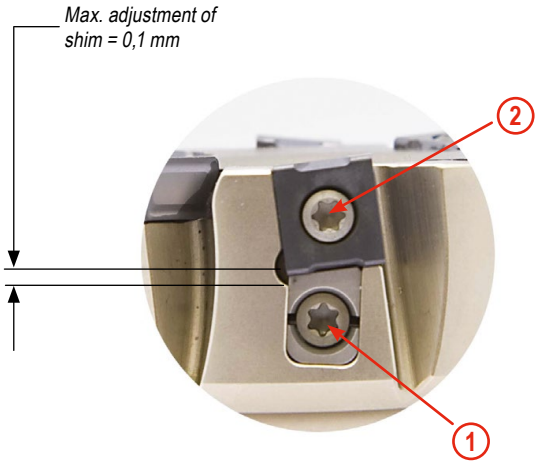
Installation position



Face machining insert — B
Insert main cutting edge — A B
Trailing edge facet — B

Adjust the tools in axial direction

- ▲ Install the wedge into the cutter body and lightly clamp the clamping screw so as not to clamp. — 1
- ▲ Install the inserts as shown and tighten to 1,0 Nm torque. — 2
- ▲ Using pre-setting equipment, mark the highest cutting edge. — 1
- ▲ With small adjustments of the setting screw set all cutting edges to the same height by 0,005 mm or better. — 1
- ▲ Clamp insert with 3,2 Nm torque. — 2



Average chip thickness [h_m] – the approach

Face milling

1 Select appropriate average chip thickness [h_m] for the steel from the table.

Material	Tensile strength N/mm²	h_m mm
for steel	...–800	0,2
for steel	800–1000	0,18
for steel	1000–1200	0,16
for steel	1200–...	0,14
for stainless steel	... –750	0,21
for stainless steel	750–900	0,19
for stainless steel	900–1150	0,17
for stainless steel	1150– ...	0,15

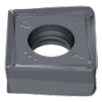
2 Select the corrected feed rate value from the table based on the appropriate chip thickness [h_m] and depth of cut [a_e].

h_m mm	Corrected feed value f_z for h_m			
0,20	0,40 **	0,40 **	0,33	0,28
0,18	0,40 **	0,40 **	0,29	0,25
0,16	0,40 **	0,36	0,26	0,23
0,14	0,36	0,31	0,23	0,20
0,21	0,40 **	0,40 **	0,34	0,30
0,19	0,40 **	0,40 **	0,31	0,27
0,17	0,40 **	0,38	0,28	0,24
0,15	0,39	0,34	0,24	0,21
a_e =	**0,3 x DC**	**0,4 x DC**	**0,75 x DC**	**1 x DC**

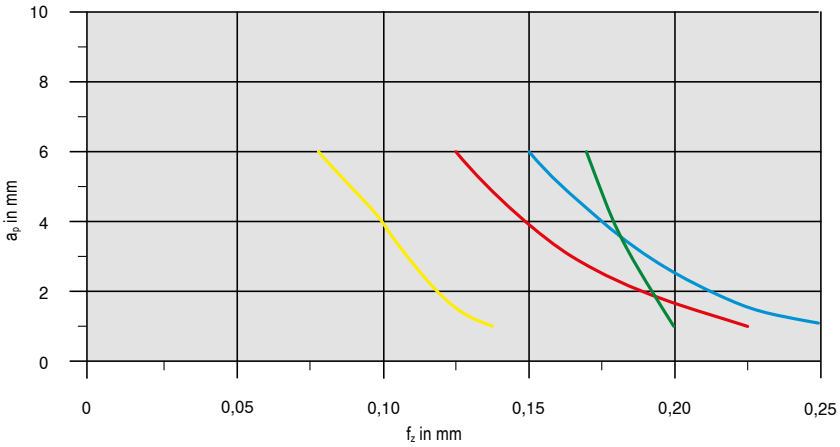
** f_z > 0,4 mm: Danger of an open space contact

System MaxiMill 491-09

Starting Parameter



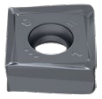
SNHU 09



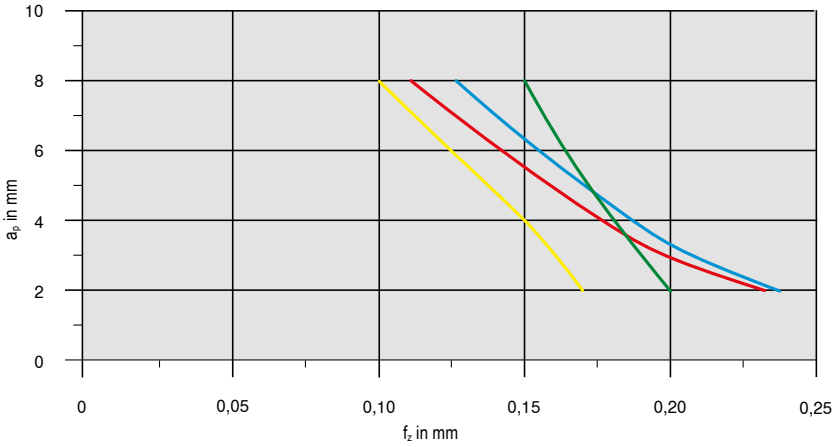
Material			Inserts		v_c in m/min	Cooling
Steel	**P.2.2**	40CrMnMoS 8-6	**SNHU09T308SR-M50**	**CTPP235**	200	Dry
Stainless steel	**M.1.1**	X6CrNiMoTi 1712 2	**SNHU09T308SR-F50**	**CTPM240**	180	Emulsion
Cast iron	**K.1.1**	EN-GJL-250 (GG25)	**SNHU09T308SR-R50**	**CTCK215**	250	Dry
Non-ferrous metals	**N.1.2**	AlMgSi1	**SNHU09T308FR-F10**	**CTWN215**	500	Emulsion

System MaxiMill 491-12

Starting Parameter



SNHU 12



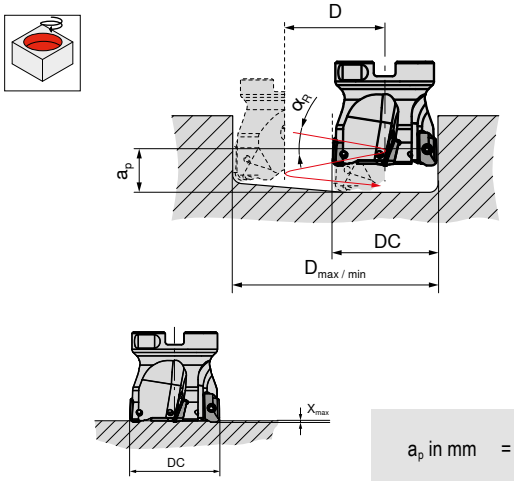
Material			Inserts		v_c in m/min	Cooling
Steel	**P.2.2**	40CrMnMoS 8-6	**SNHU120408SR-M50**	**CTPP235**	200	Dry
Stainless steel	**M.1.1**	X6CrNiMoTi 1712 2	**SNHU120408SR-F50**	**CTPM240**	180	Emulsion
Cast iron	**K.1.1**	EN-GJL-250 (GG25)	**SNHU120408SR-R50**	**CTCK215**	250	Dry
Non-ferrous metals	**N.1.2**	AlMgSi1	**SNHU120408FR-F10**	**CTC5240**	500	Emulsion

Detailed information on cutting speed for each grade can be found on → page 39+40
From v_c > 400 m/min, the tool must be balanced!

System MaxiMill 211-07

Machining strategy

Helical plunging

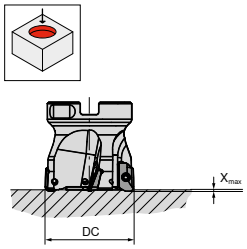


DC mm	D_{max} / RE 0,4 mm	D_{min} mm	$\alpha_{R\,max}$ °
10	19	13	5,5
12	23	17	6,0
16	31	25	3,0
20	39	33	2,0
25	49	43	1,5
32	63	57	1,2
40	79	73	0,8
50	99	93	0,7

DC mm	D mm	$\alpha_{R\,max\,360°}$ °
10	13	5,5
12	17	6,0
16	25	3,0
20	33	2,0
25	43	1,5
32	57	1,2
40	73	0,8
50	93	0,7

a_p in mm $= D * \pi * \tan \alpha_R$

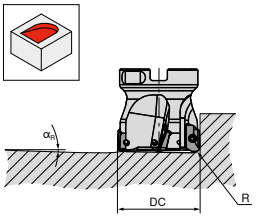
Axial ramping



DC mm	X_{max} mm
10	0,8
12	0,8
16	0,8
20	0,8
25	0,8
32	0,8
40	0,8
50	0,8

$D_{max.}$ in mm = largest diameter for flat bottom hole
$D_{min.}$ in mm = smallest hole diameter for flat bottom surface

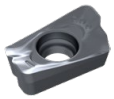
Angled ramping



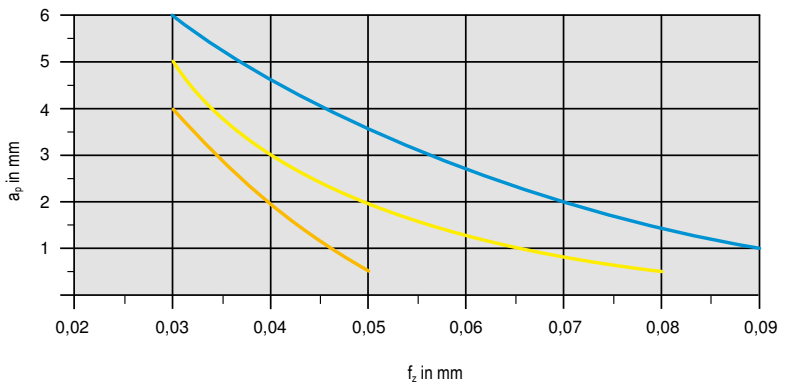
DC mm	α °
10	11,0
12	7,9
16	4,3
20	3,0
25	2,5
32	1,6
40	1,2
50	1,0

$D = D_{max} - DC / D_{min} - DC$

Starting Parameter



XDKT 07

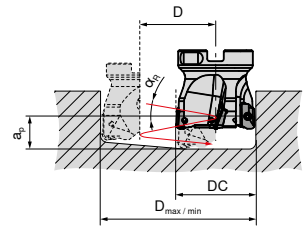


Material			Inserts		v_c in m/min	Cooling
Steel	P.2.2	40CrMnMoS 8-6	XDKT070308SR-M50	CTCP230	200	Dry
Stainless steel	M.1.1	X6CrNiMoTi 1712 2	XDKT070308SR-F50	CTPM240	180	Dry
Heat resistant alloys	S.2.2	Inconel 718	XDKT070308ER-F50	CTC5240	35	Emulsion

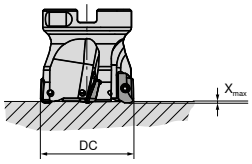
Detailed information on cutting speed for each grade can be found on → page 39+40
From v_c > 400 m/min, the tool must be balanced!

System MaxiMill 211-11

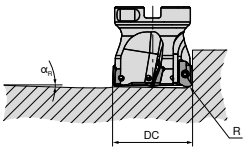
Machining strategy



1 Helical plunging



2 Axial ramping



3 Angled ramping

DC mm	1 Helical plunging RE = 0,8 mm	2 Axial ramping X_{max}	3 Angled ramping α_R
12	α_R 16 ° $D_{max.}$ 21 mm $D_{min.}$ 14 mm	1,3 mm	18 °
16	α_R 9,5 ° $D_{max.}$ 29 mm $D_{min.}$ 21 mm	1,5 mm	10,8 °
20	α_R 7 ° $D_{max.}$ 37 mm $D_{min.}$ 30 mm	2,0 mm	9,8 °
25	α_R 4,5 ° $D_{max.}$ 47 mm $D_{min.}$ 40 mm	2,0 mm	7,5 °
32	α_R 3,2 ° $D_{max.}$ 61 mm $D_{min.}$ 53 mm	1,0 mm	4,8 °
40	α_R 2,2 ° $D_{max.}$ 77 mm $D_{min.}$ 72 mm	1,6 mm	2,9 °
50	α_R 1,7 ° $D_{max.}$ 98 mm $D_{min.}$ 93 mm	1,6 mm	2,2 °
63	α_R 1,5 ° $D_{max.}$ 123 mm $D_{min.}$ 116 mm	1,6 mm	1,8 °
80	α_R 1,0 ° $D_{max.}$ 157 mm $D_{min.}$ 153 mm	1,6 mm	1,4 °
100	α_R 0,8 ° $D_{max.}$ 197 mm $D_{min.}$ 193 mm	1,6 mm	1,1 °
125	α_R 0,6 ° $D_{max.}$ 247 mm $D_{min.}$ 243 mm	1,6 mm	0,8 °

$D_{max.}$ in mm = largest diameter for flat bottom hole

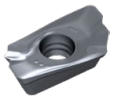
$D_{min.}$ in mm = Smallest diameter for flat bottom surface

a_p in mm = D x π x tan (α_R) = Pitch

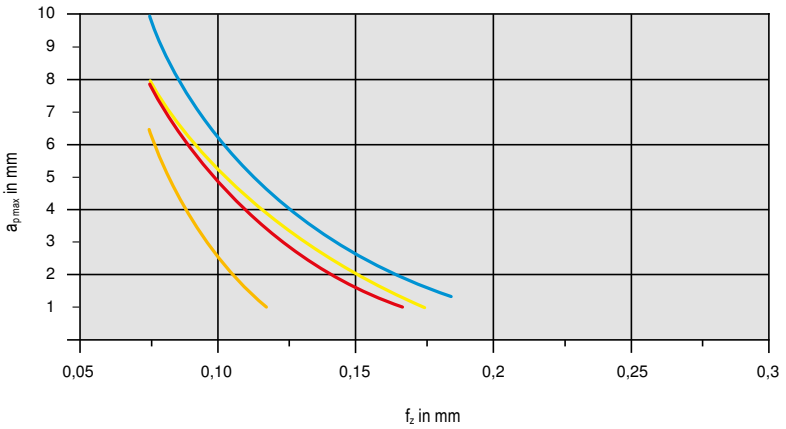
l_s in mm = Overhang length

DC mm	Maximum speed related to projection length n_{max} in min^{-1}				
	l_a = 1–2 x Ø mm	l_a = 2,5 x Ø mm	l_a = 3 x Ø mm	l_a = 4 x Ø mm	l_a = 5 x Ø mm
12	55000	51500	47000	42000	37000
16	42000	38500	34100	28900	24200
20	36900	33000	28500	23900	19500
25	33200	29000	24400	19900	15400
32	30200	26000	20900	16600	11900
40	27700	23000	18000	13500	9000
50	25400	20400	15400	10800	6100
63	23300	18300	12900	8300	3700
80	21300	16100	10600	5800	
100	19600	14100	8400		
125	17900	12800	7600		

Starting Parameter



XDKT 11

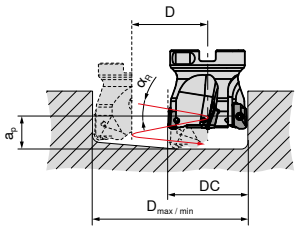


Material			Inserts		v_c in m/min	Cooling
Steel	P.2.2	40CrMnMoS 8-6	XDKT11T308SR-M50	CTCP230	200	Dry
Stainless steel	M.1.1	X6CrNiMoTi 1712 2	XDKT11T308SR-F50	CTPM240	180	Dry
Cast iron	K.1.1	EN-GJL-250 (GG25)	XDKT11T308SR-R50	CTCK215	250	Dry
Heat resistant alloys	S.2.2	Inconel 718	XDKT11T308ER-F50	CTC5240	35	Emulsion

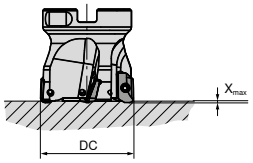
Detailed information on cutting speed for each grade can be found on → page 39+40
From v_c > 400 m/min, the tool must be balanced!

System MaxiMill 211-15

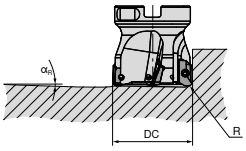
Machining strategy



① Helical plunging



② Axial ramping



③ Angled ramping

DC mm		① Helical plunging RE = 0,8 mm	② Axial ramping X_{max}	③ Angled ramping α_R
25	α_R	7,5 °	2,7 mm	9,5 °
	$D_{max.}$	48 mm		
	$D_{min.}$	37 mm		
32	α_R	5 °	2,5 mm	6,8 °
	$D_{max.}$	62 mm		
	$D_{min.}$	47 mm		
40	α_R	3,2 °	2,5 mm	5,1 °
	$D_{max.}$	78 mm		
	$D_{min.}$	63 mm		
50	α_R	2,5 °	2,5 mm	2,5 °
	$D_{max.}$	98 mm		
	$D_{min.}$	86 mm		
63	α_R	1,5 °	2,5 mm	2,5 °
	$D_{max.}$	124 mm		
	$D_{min.}$	111 mm		
80	α_R	1,3 °	2,5 mm	2,0 °
	$D_{max.}$	158 mm		
	$D_{min.}$	147 mm		
100	α_R	1,1 °	2,5 mm	1,5 °
	$D_{max.}$	198 mm		
	$D_{min.}$	190 mm		
125	α_R	0,9 °	2,5 mm	0,9 °
	$D_{max.}$	248 mm		
	$D_{min.}$	240 mm		
160	α_R	0,6 °	2,5 mm	0,7 °
	$D_{max.}$	318 mm		
	$D_{min.}$	310 mm		

Maximum speed related to projection length n_{max} in min^{-1}			
DC mm	l_a = 2 x Ø mm	l_a = 3 x Ø mm	l_a = 5 x Ø mm
25	26560	19520	13320
32	24160	16720	9520
40	22160	14400	7200
50	20320	12320	4880
63	18640	10320	2960
80	17040	8480	
100	15680	6720	
125	14320		
160	13200		

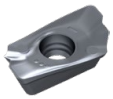
$D_{max.}$ in mm = largest diameter for flat bottom hole

$D_{min.}$ in mm = Smallest diameter for flat bottom surface

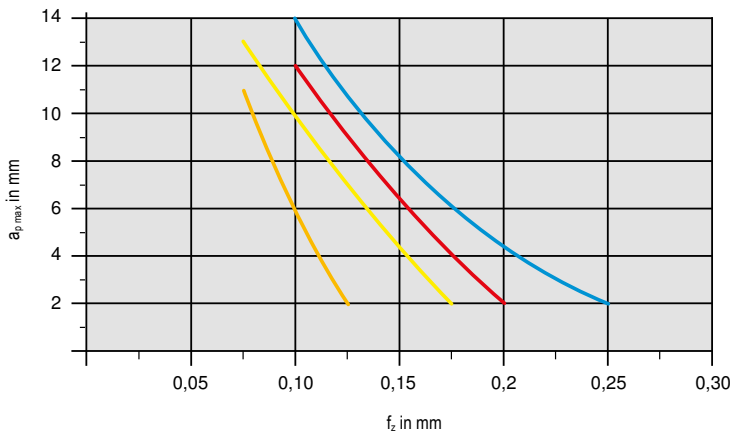
a_p in mm = D x π x tan (α_R) = Pitch

l_a in mm = Overhang length

Starting Parameter



XDKT 15



Material			Inserts		v_c in m/min	Cooling
Steel	P.2.2	40CrMnMoS 8-6	XDKT150508SR-M50	CTCP230	200	Dry
Stainless steel	M.1.1	X6CrNiMoTi 1712 2	XDKT150508SR-F50	CTPM240	180	Dry
Cast iron	K.1.1	EN-GJL-250 (GG25)	XDKT150508SR-R50	CTCK215	250	Dry
Heat resistant alloys	S.2.2	Inconel 718	XDKT150508ER-F40	CTC5240	35	Emulsion

Detailed information on cutting speed for each grade can be found on → page 39+40
From v_c > 400 m/min, the tool must be balanced!

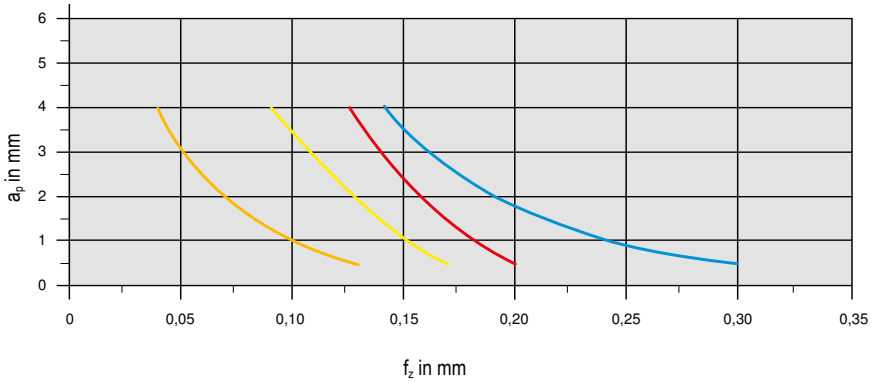
System MaxiMill 490-09

Machining strategy

System MaxiMill 490-09 is not suitable for plunging!

Starting Parameter

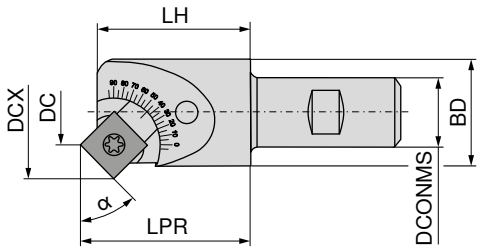
SDNT 09



Material			Inserts		v_c in m/min	Cooling
Steel	**P.2.2**	40CrMnMoS 8-6	**SDNT09T308SR-29**	**CTCP230**	200	Dry
Stainless steel	**M.1.1**	X6CrNiMoTi 1712 2	**SDNT09T308SR-33**	**CTPM240**	180	Dry
Cast iron	**K.1.1**	EN-GJL-250 (GG25)	**SDNT09T308SR-31**	**CTCK215**	250	Dry
Heat resistant alloys	**S.2.2**	Inconel 718	**SDNT09T308ER-M31**	**CTC5240**	35	Emulsion

Detailed information on cutting speed for each grade can be found on → page 39+40

MaxiMill 490-09 adjustable angle milling cutter – dimensions



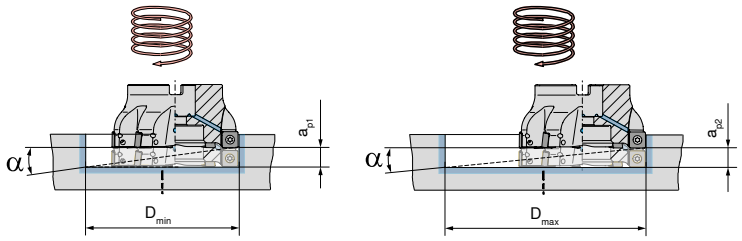
Constant dimensions			Angle-dependent dimensions*			
BD	DCONMS	LH	α	DC*	DCX	LPR*
18,6	16	32	**0°**	**9,35/1,60****	**20,14**	**33,07**
			5°	3,81	20,82	33,40
			10°	4,59	21,44	33,69
			15°	**5,42**	**21,98**	**33,95**
			20°	6,30	22,45	34,17
			25°	7,23	22,85	34,35
			30°	**8,18**	**23,16**	**34,49**
			35°	9,15	23,39	34,58
			40°	10,14	23,53	34,64
			45°	**11,13**	**23,59**	**34,65**
			50°	12,12	23,56	34,61
			55°	13,09	23,44	34,54
			60°	**14,04**	**23,24**	**34,42**
			65°	14,96	22,96	34,26
			70°	15,84	22,60	34,06
			75°	**16,68**	**22,16**	**33,83**
			80°	17,46	21,65	33,56
			85°	18,19	21,07	33,25
			90°	**10,07/1,90****	**20,44**	**32,93**

* Tangential cutting point at deepest engagement point
** Smallest diameter in centre

System MaxiMill 490-12

Machining strategy

Helical plunging (without pilot hole)



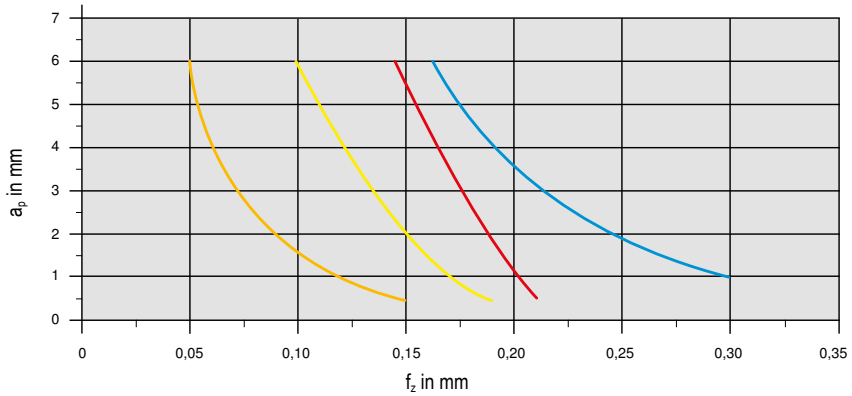
$$B = (D_W - DC) \times \pi \times \tan \alpha$$

D_w = Diameter of the hole to be produced
DC = Nominal diameter of the milling tool
B = Axial feed to 360° circular movement

DC mm	D_{min} mm	a_{p1} mm	D_{max} mm	a_{p2} mm	α °
50	77	2,5	98	4,8	2,0
63	103	1,8	124	3,0	1,0
80	137	2,1	158	3,0	0,8
100	177	2,1	198	2,9	0,6
125	227	1,8	248	2,4	0,4

Starting Parameter

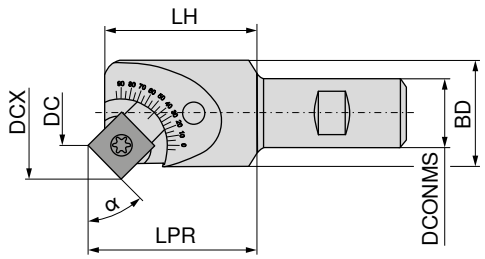
SDMT 12



Material			Inserts		v_c in m/min	Cooling
Steel	**P.2.2**	40CrMnMoS 8-6	**SDMT1205ZZSN-29**	**CTCP230**	200	Dry
Stainless steel	**M.1.1**	X6CrNiMoTi 1712 2	**SDMT120512SR-33**	**CTPM240**	180	Dry
Cast iron	**K.1.1**	EN-GJL-250 (GG25)	**SDMT1205ZZSN-31**	**CTCK215**	250	Dry
Heat resistant alloys	**S.2.2**	Inconel 718	**SDMT120508ER-M31**	**CTC5240**	35	Emulsion

Detailed information on cutting speed for each grade can be found on → page 39+40

MaxiMill 490-12 adjustable angle milling cutter – dimensions



Constant dimensions			Angle-dependent dimensions*			
BD	DCONMS	LH	α	DC*	DCX	LPR*
25	20	37	**0°**	**25,07/1,12****	**26,64**	**38,36**
			5°	3,72	27,61	38,79
			10°	4,84	28,48	39,21
			15°	**6,03**	**29,25**	**39,58**
			20°	7,27	29,92	39,90
			25°	8,57	30,48	40,16
			30°	**9,91**	**30,92**	**40,37**
			35°	11,28	31,25	40,51
			40°	12,67	31,45	40,60
			45°	**14,08**	**31,54**	**40,62**
			50°	15,48	31,50	40,58
			55°	16,86	31,34	40,48
			60°	**18,23**	**31,06**	**40,33**
			65°	19,56	30,66	40,11
			70°	20,85	30,15	39,83
			75°	**22,08**	**29,52**	**39,51**
			80°	23,26	28,79	39,12
			85°	24,35	27,95	38,69
			90°	**25,37/1,42****	**26,94**	**38,21**

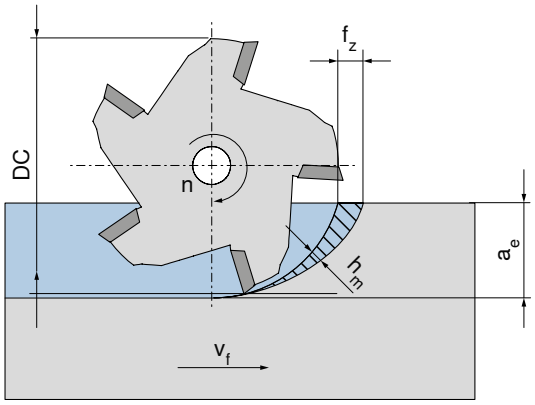
* Tangential cutting point at deepest engagement point
** Smallest diameter in centre

Average chip thickness [h_m] – the approach

Shoulder milling

1 Select appropriate average chip thickness [h_m] for the steel from the table.

Material	Tensile strength N/mm²	h_m mm
for steel	...–800	0,16
for steel	800–1000	0,14
for steel	1000–1200	0,12
for steel	1200–...	0,10
for stainless steel	...–750	0,15
for stainless steel	750–900	0,13
for stainless steel	900–1150	0,11
for stainless steel	1150–...	0,09 *

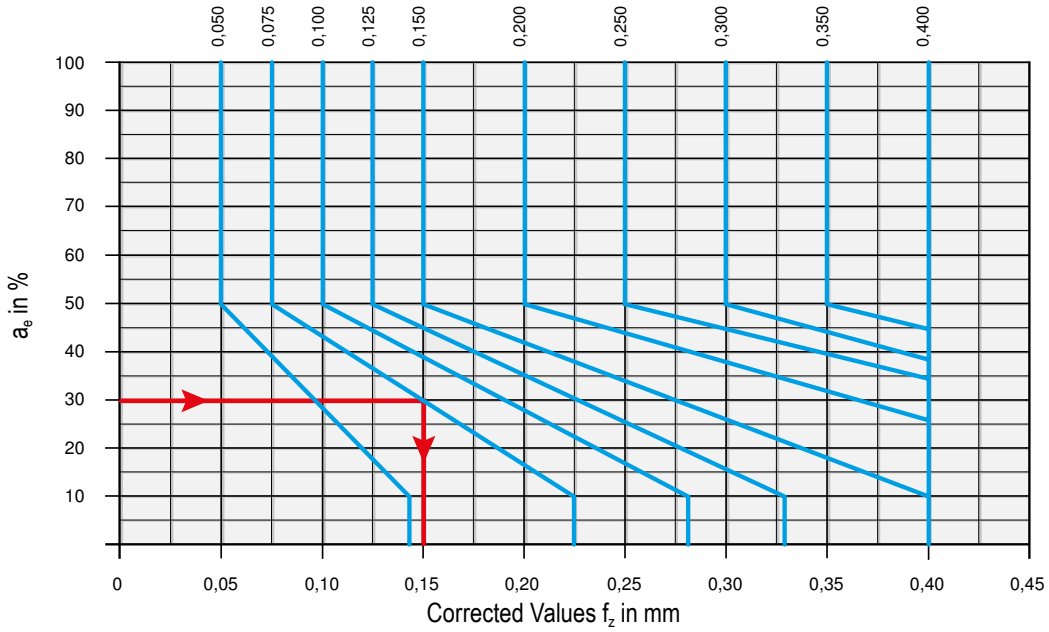


2 Select the corrected feed rate value from the table based on the appropriate chip thickness [h_m] and depth of cut [a_e].

h_m mm	Corrected feed value f_z for h_m				
0,16	0,36	0,29	0,25	0,18	0,16
0,14	0,31	0,26	0,22	0,16	0,14
0,12	0,27	0,22	0,19	0,14	0,12
0,10	0,22	0,18	0,16	0,12	0,10
0,15	0,34	0,27	0,24	0,17	0,15
0,13	0,29	0,24	0,21	0,15	0,13
0,11	0,25	0,20	0,17	0,13	0,11
0,09 *	0,20	0,16	0,14	0,10	0,09 *
a_e =	**0,2 x DC**	**0,3 x DC**	**0,4 x DC**	**0,75 x DC**	**1 x DC**

* f_z < 0,08 mm: Danger, as tool is not working and cutting

Start values f_z in mm from starting parameter diagram

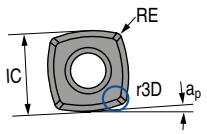


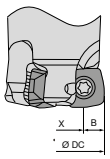
Example:
Start value (f_z) = 0.075 mm
a_e = 30 %
corrected value (f_z) = 0.15 mm

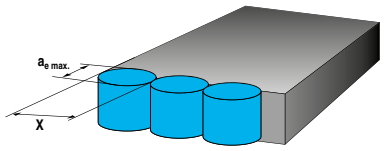
System MaxiMill HFC-06

Machining strategy

Programmed radius R = 1.2 mm



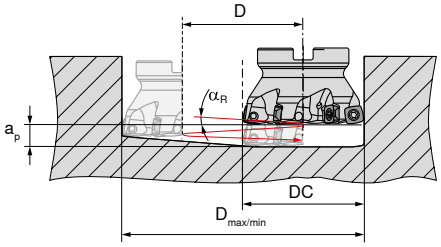




Cutting depth and remaining material			Cutting width for flat surfaces			Cutting depth when plunging				
IC in mm	RE in mm	$a_{p\ max.}$ in mm	DCX in mm	X in mm	B in mm	$a_{e\ max.}$ in mm	f_z in mm			X
							initial	min.	max.	
6,35	0,5	0,8	16–32	DCX–(2 x B)	4,3	5,3	0,10	0,08	0,15	<0,7 x DCX

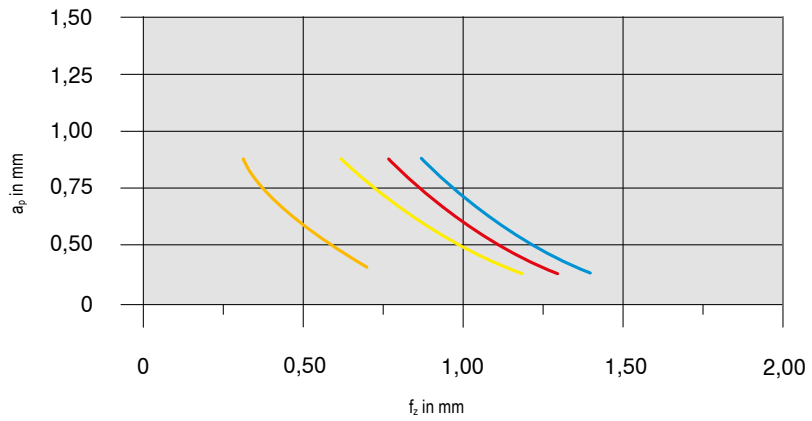
	circular		
	Helical plunging (helical plunging into solid material)		
DCX	$D_{min.}$	$D_{max.}$	$\alpha_{R\ max.}$
mm	mm	mm	°
16	22	31	4,5°
20	30	39	2,3°
25	40	49	1,3°
32	54	63	0,9°
42	74	83	0,6°

	axial	Angled
	Plunging	
DCX	$X_{max.}$	$\alpha_{R\ max.}$
mm	mm	°
16		5,9°
20		3,2°
25	0,5	2°
32		1,3°
42		0,7°



Starting Parameter

XPLX 06



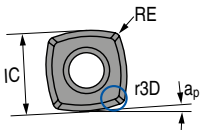
Material			Inserts		v_c in m/min	Cooling
Steel	**P.2.2**	40CrMnMoS 8-6	**XPLX 060305SR-M50**	**CTPP235**	200	Dry
Stainless steel	**M.1.1**	X6CrNiMoTi 1712 2	**XPLX 060305ER-M50**	**CTPM240**	180	Dry
Cast iron	**K.1.1**	EN-GJL-250 (GG25)	**XPLX 060305ER-M50**	**CTCK215**	250	Dry
Heat resistant alloys	**S.2.2**	Inconel 718	**XPLX 060305SR-F40**	**CTC5240**	35	Emulsion

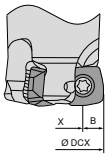
Detailed information on cutting speed for each grade can be found on → page 39+40
From v_c > 400 m/min, the tool must be balanced!

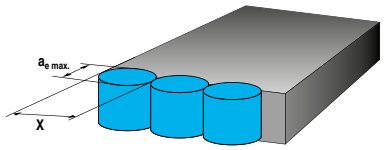
System MaxiMill HFC-09

Machining strategy

Programmed radius R = 2 mm

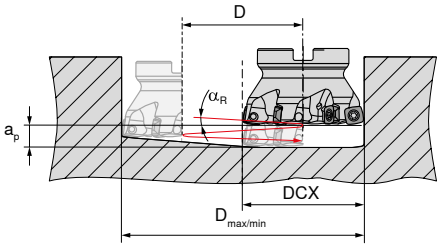






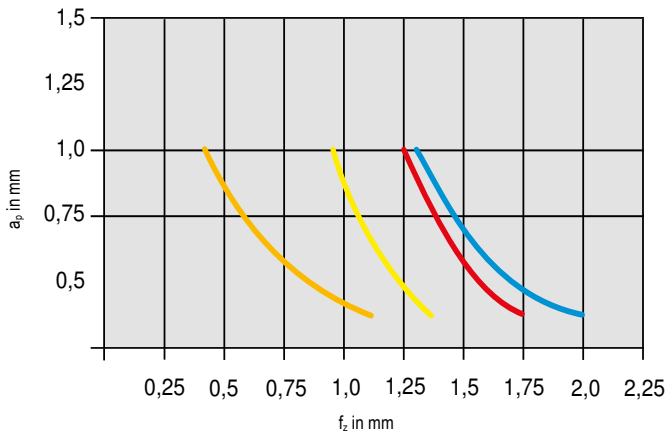
Cutting depth and remaining material			Cutting width for flat surfaces			Cutting depth when plunging				
IC in mm	RE in mm	$a_{p\,max.}$ in mm	DCX in mm	X in mm	B in mm	$a_{e\,max.}$ in mm	f_z in mm			X
							initial	min.	max.	
9	0,8	1	25–66	DCX–(2 x B)	5,9	7,5	0,10	0,08	0,15	<0,7 x DCX

	circular			axial	Angled
	Helical plunging (helical plunging into solid material)			Plunging	
DCX mm	$D_{min.}$ mm	$D_{max.}$ mm	$\alpha_{R\,max.}$ °	DCX mm	$X_{max.}$ mm	$\alpha_{R\,max.}$ °
25	35	48	3,1°	25		3,6°
32	49	62	1,7°	32		2,0°
35	55	68	1,4°	35		1,6°
40	65	78	1,0°	40		1,2°
42	69	82	0,9°	42	0,75	1,1°
50	85	98	0,8°	50		0,9°
52	89	102	0,7°	52		0,8°
63	111	124	0,7°	63		0,8°
66	117	130	0,6°	66		0,7°



Starting Parameter

XDLX 09



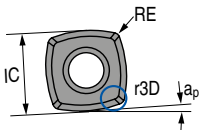
Material			Inserts		v_c in m/min	Cooling
Steel	**P.2.2**	40CrMnMoS 8-6	**XDLX09T308SR-M50**	**CTPP235**	200	Dry
Stainless steel	**M.1.1**	X6CrNiMoTi 1712 2	**XDLX09T308SR-M50**	**CTPM240**	180	Dry
Cast iron	**K.1.1**	EN-GJL-250 (GG25)	**XDLX09T308SR-M50**	**CTCK215**	250	Dry
Heat resistant alloys	**S.2.2**	Inconel 718	**XDLX09T308ER-F40**	**CTC5240**	35	Emulsion

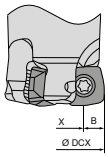
Detailed information on cutting speed for each grade can be found on → page 39+40
From v_c > 400 m/min, the tool must be balanced!

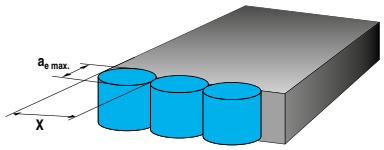
System MaxiMill HFC-12

Machining strategy

Programmed radius R = 3 mm



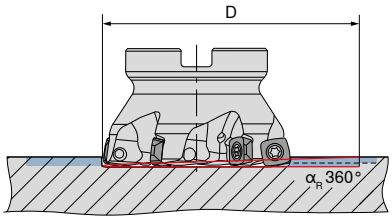




Cutting depth and remaining material			Cutting width for flat surfaces			Cutting depth when plunging				
IC in mm	RE in mm	$a_{p\,max.}$ in mm	DCX in mm	X in mm	B in mm	$a_{e\,max.}$ in mm	f_z in mm			X
							initial	min.	max.	
12	1,0	2	32–100	DCX–(2 x B)	8,3	10	0,15	0,10	0,20	<0,7 x DCX

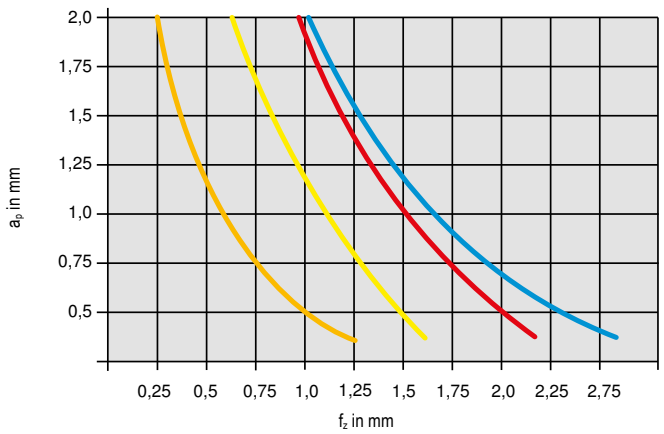
	circular		
	Helical plunging (helical plunging into solid material)		
DCX mm	$D_{min.}$ mm	$D_{max.}$ mm	$\alpha_{R\,max.}$ °
32	44	62	6,1°
35	50	68	3,7°
40	60	78	2,5°
42	64	82	2,3°
50	80	98	1,3°
52	84	102	1,3°
63	106	124	0,9°
66	112	130	0,9°
80	140	158	1,1°
100	180	198	0,6°

	axial	Angled
	Plunging	
DCX mm	$X_{max.}$ mm	$\alpha_{R\,max.}$ °
32	1,15	7,2°
35		4,4°
40		2,9°
42		2,7°
50 + 52		1,5°
63 + 66		1,1°
80		1,3°
100		0,7°



Starting Parameter

XOLX 12



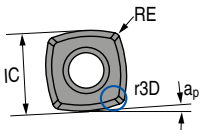
Material			Inserts		v_c in m/min	Cooling
Steel	**P.2.2**	40CrMnMoS 8-6	**XOLX120410SR-M50**	**CTPP235**	200	Dry
Stainless steel	**M.1.1**	X6CrNiMoTi 1712 2	**XOLX120410ER-M50**	**CTPM240**	180	Dry
Cast iron	**K.1.1**	EN-GJL-250 (GG25)	**XOLX120410ER-M50**	**CTCK215**	250	Dry
Heat resistant alloys	**S.2.2**	Inconel 718	**XOLX120410ER-F40**	**CTC5240**	35	Emulsion

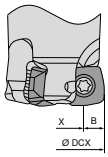
Detailed information on cutting speed for each grade can be found on → page 39+40
From v_c > 400 m/min, the tool must be balanced!

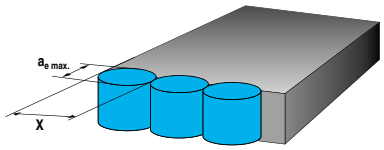
System MaxiMill HFC-19

Machining strategy

Programmed radius R = 5 mm



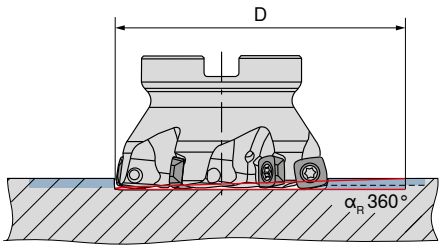




Cutting depth and remaining material			Cutting width for flat surfaces			Cutting depth when plunging				
IC in mm	RE in mm	$a_{p\,max.}$ in mm	DCX in mm	X in mm	B in mm	$a_{e\,max.}$ in mm	f_z in mm			X
							initial	min.	max.	
19,14	1,5	3,3	63–160	DCX–(2 x B)	13,1	12	0,2	0,10	0,25	<0,65 x DCX

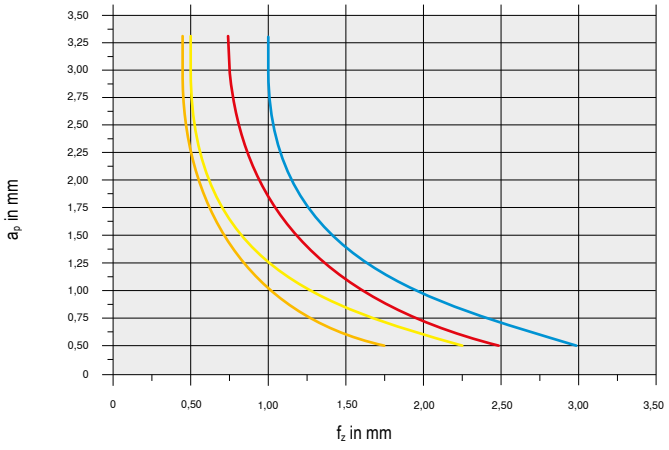
	circular		
	Helical plunging (helical plunging into solid material)		
DCX mm	$D_{min.}$ mm	$D_{max.}$ mm	$\alpha_{R\,max.}$ °
63	97	123	2,5°
80	131	157	1,4°
100	171	197	1,0°
125	221	247	0,7°
160	291	317	0,5°

	axial	Angled	
		Plunging	
DCX mm	$X_{max.}$ mm	$\alpha_{R\,max.}$ °	$a_{p\,max}$ mm
63		2,9°	
80		1,8°	
100	1,7	1,3°	3,3
125		1,0°	
160		0,7°	



Starting Parameter

XOLX 19



Material			Inserts		v_c in m/min	Cooling
Steel	P.2.2	40CrMnMoS 8-6	XOLX190615SR-M50	CTPP235	200	Dry
Stainless steel	M.1.1	X6CrNiMoTi 1712 2	XOLX190615SR-M50	CTPM240	180	Dry
Cast iron	K.1.1	EN-GJL-250 (GG25)	XOLX190615SR-M50	CTCK215	250	Dry
Heat resistant alloys	S.2.2	Inconel 718	XOLX190615ER-F40	CTC5240	35	Emulsion

Detailed information on cutting speed for each grade can be found on → page 39+40
From v_c > 400 m/min, the tool must be balanced!

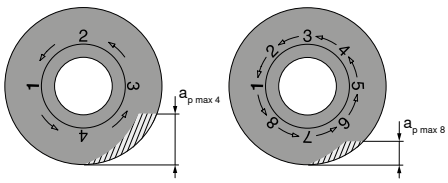
MaxiMill 251/251 RS system

Technical data

Recommended cutting depth

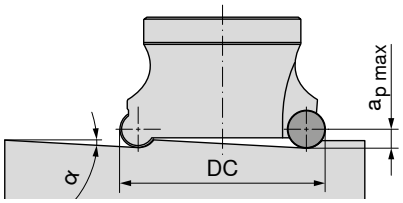
Ø mm	4-position $a_{p\,max.}$ mm	4-position $a_{p\,max}$ theoretical mm	8-face $a_{p\,max.}$ mm
5	1,0	2,0	0,7
8	1,5	3,5	1,1
10	2,5	4,5	1,4
12	3,0	5,5	1,7
16	4,0	7,5	2,3
20	4,0	9,5	2,9

Average depth for the 4/8 index use of the insert



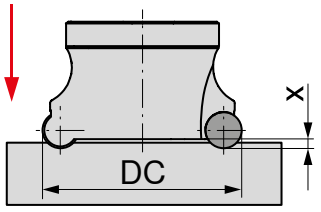
Detailed information on cutting speed for each grade can be found on → page 39+40

Angled ramping



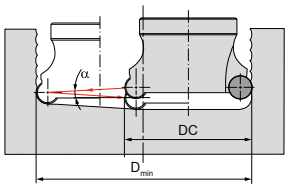
Ø DC mm	05 α °	08 α °	10 α °	12 α °	16 α °	20 α °
10	3,4					
12	16,0					
16	8,0	5,0				
20	5,5	20,0	1,3			
25	4,0	13,0	2,0	6,0		
32	3,0	8,0	3,0	4,0		
40			3,3	2,8		
42			3,1			
50			2,4	2,6	4,0	
52			2,2	2,3		
63				1,9	2,8	
66				1,6		
80				1,3	2,0	3,2
100				1,0	1,5	2,3
125						1,7

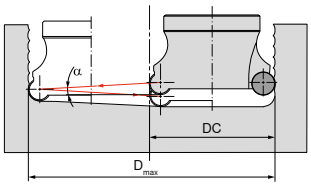
Axial ramping



Ø DC mm	05 $X_{max.}$ mm	08 $X_{max.}$ mm	10 $X_{max.}$ mm	12 $X_{max.}$ mm	16 $X_{max.}$ mm	20 $X_{max.}$ mm
10	0,5					
12	1,3					
16	1,3	0,5				
20	1,3	2,7	0,2			
25	1,3	2,7	0,4	1,0		
32	1,3	2,7	0,8	1,1		
40			1,5	1,2		
42			1,5	1,5		
50			1,5	1,5	2,0	
52			1,5	1,5	2,0	
63				1,5	2,0	
66				1,5	2,0	
80				1,5	2,0	3,0
100				1,5	2,0	3,0
125						3,0

Helical plunging





$D_{min.}$ = smallest drilling diameter depending on the tool diameter

$D_{max.}$ = Maximum hole diameter Depending on the tool diameter

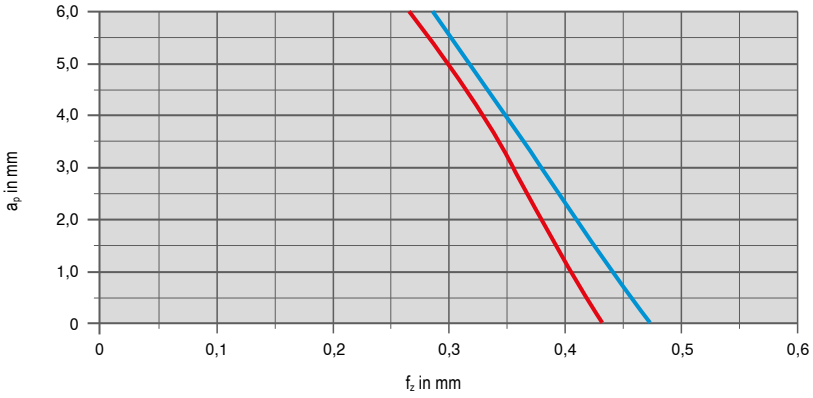
maximum possible hole diameter = 2 x DC – 1 mm

Ø DC mm	D_{min} mm	D_{max} mm	α_R °	D_{min} mm	D_{max} mm	α_R °	D_{min} mm	D_{max} mm	α_R °	D_{min} mm	D_{max} mm	α_R °	D_{min} mm	D_{max} mm	α_R °	D_{min} mm	D_{max} mm	α_R °
10	12	15	2,5															
12	16	19	2,1															
16	24	27	1,5	21	24	2,4												
20	32	35	1,2	27	32	1,9	26	30	1,3									
25	42	45	1,0	37	42	1,5	37	40	1,8	31	38	2,2						
32	56	59	0,7	51	56	1,2	50	54	1,5	46	52	1,7						
40							64	70	1,1	62	68	1,4						
42							68	74	1,1									
50							84	90	0,9	81	88	1,1	75	84	1,5			
52							88	94	0,9	86	92	1,0						
63										107	114	0,9	101	110	1,1			
66										113	120	0,8						
80										142	148	0,7	135	144	0,9	128	140	1,1
100										181	188	0,5	175	184	0,7	168	180	0,9
125																218	230	0,7

System A845

Starting Parameter

SNKX 1305AN.N

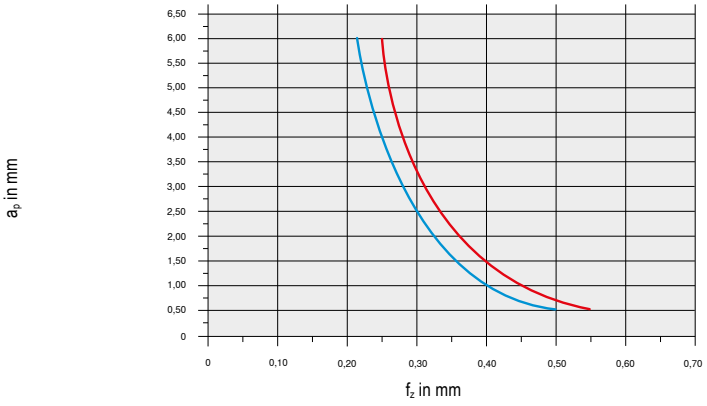


Material			Inserts		v_c in m/min	Cooling
Steel	**P.2.2**	40CrMnMoS 8-6	**SNKX 1305ANSN-R**	**CTICP230**	200	Dry
Heat resistant alloys	**K.1.1**	Inconel 718	**SNKX 1305ANEN-R**	**CTICK215**	300	Dry

System A875

Starting Parameter

SNKX 1305EZ.N



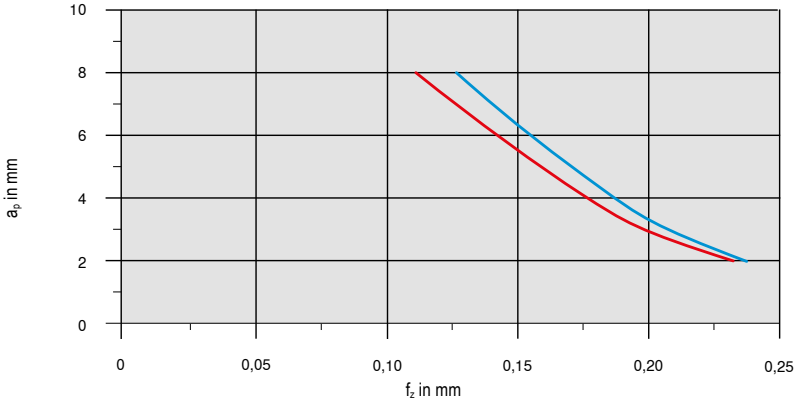
Material			Inserts		v_c in m/min	Cooling
Steel	**P.2.2**	40CrMnMoS 8-6	**SNKX 1305EZSN-R**	**CTICP230**	180	Dry
Heat resistant alloys	**K.1.1**	Inconel 718	**SNKX 1305EZEN-R**	**CTICK215**	250	Dry

Detailed information on cutting speed for each grade can be found on → page 39+40
From v_c > 400 m/min, the tool must be balanced!

System A890

Starting Parameter

SNKX 130508



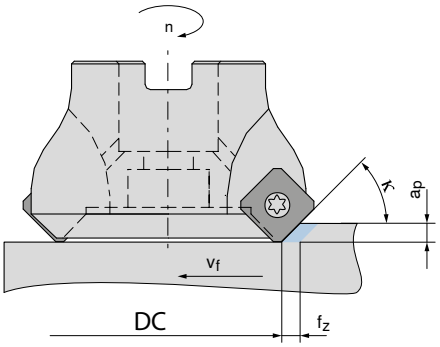
Material			Inserts		v_c in m/min	Cooling
Steel	**P.2.2**	40CrMnMoS 8-6	**SNKX 130508-R**	**CTICP230**	200	Dry
Heat resistant alloys	**K.1.1**	Inconel 718	**SNKX 130508-R**	**CTICK215**	250	Dry

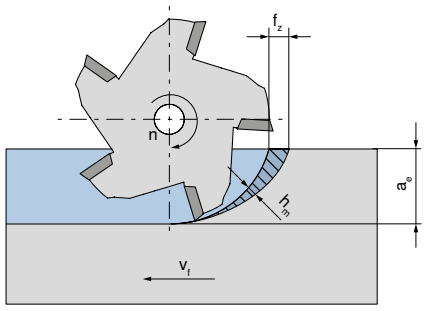
Detailed information on cutting speed for each grade can be found on → page 39+40
From v_c > 400 m/min, the tool must be balanced!

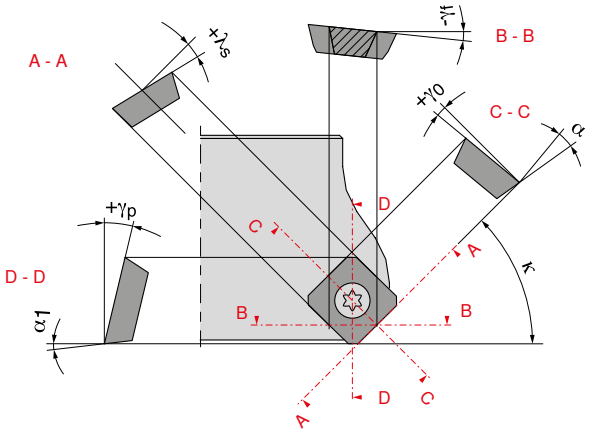
Abbreviations & dimensions

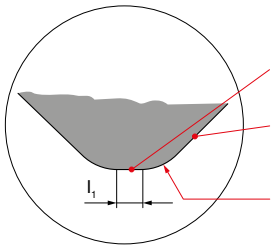
a_e	cutting width	mm
a_p	Cutting depth	mm
DC	Tool diameter	mm
D_w	Workpiece diameter	mm
f_z	Feed per tooth	mm
h_m	Average Chip Thickness	mm
k	Number of teeth	
k_c	Specific cutting force	N/mm²
$k_{c1.1}$	Specific cutting force for 1 mm ² chip area	N/mm²
BS	Length of trailing edge land	mm
m_c	Increase of specific cutting force	
n	rpm	rpm
Q	Chip volume	cm³/min
v_c	Cutting speed	m/min
v_f	Feed rate	mm/min.
ZNF	Number of Effective Teeth	

γ_0	Effective cutting angle	degree
γ_f	Side clearance angle	degree
γ_p	Axial cutting angle	degree
κ	Cutting edge angle	degree
λ_s	Angle of inclination	degree
α	Clearance angle	degree
α_1	Side clearance angle	degree









Trailing edge land

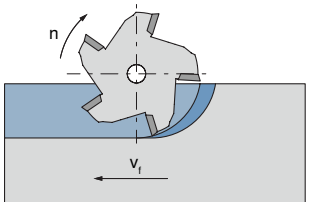
Main cutting edge

Corner radius

Engagement conditions

Recommended

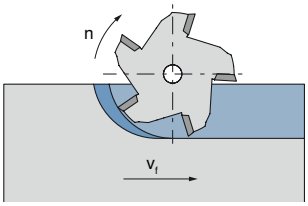
Climb milling



The feed direction of the workpiece is the same as the direction of rotation of the milling cutter in the cutting zone. The chips have maximum thickness at the beginning, chip thickness then decreases until it becomes zero at the end of the cut.

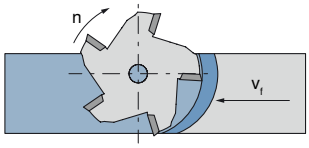
Unsuitable

Conventional milling

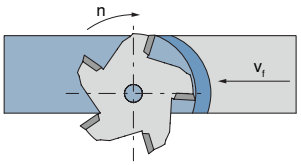


The feed direction of the workpiece is opposite to the direction of rotation of the milling cutter in the cutting zone. Chip thickness is zero at the beginning and increases until it reaches its maximum at the end of the cut.

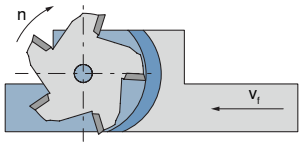
Cutter positioning



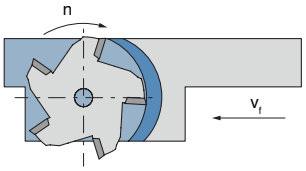
If possible the cutter should exit tangentially of the workpiece.



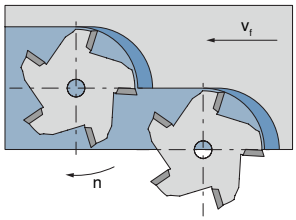
Workpiece situation



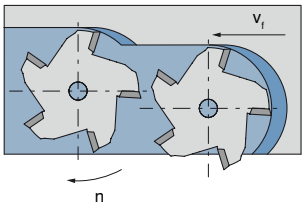
The workpiece should be clamped in such a way as to allow the cutter to emerge tangentially of the workpiece along the whole machining length.



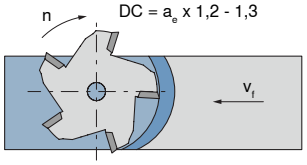
Overlapping



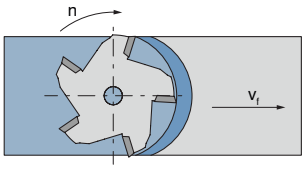
Either employ climb milling or ensure that the cutter comes out of the workpiece tangentially, as in the illustration on the left.



Cutter size



When face milling the diameter of the cutter should be 20–30 % larger than that of the workpiece.



ISO designation indexable milling inserts

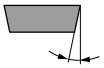
X	D	K	T	11	T3	08	S	R	-	F50
1	2	3	4	5	6	7	8	9		10

Z	N	H	W	12	05	PO	S	R	-	15	06	-	R
1	2	3	4	5	6	7	8	9		11	12		13

1 Insert shape

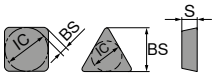
A	85°	
B	82°	
K	55°	
H	120°	
L	90°	
O	135°	
P	108°	
C	80°	
D	55°	
E	75°	
M	86°	
V	35°	
R		
S	90°	
T	60°	
W	80°	
X Z	Special version	

2 Clearance angle

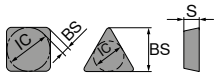


	α
A	3°
B	5°
C	7°
D	15°
E	20°
F	25°
G	30°
N	0°
P	11°
O	Special version

3 Tolerances

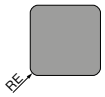


	IC ±mm	BS ±mm	S ±mm	IC = 6,35 / 9,52	IC = 12,7	IC = 15,8 / 19,05
A	0,025	0,005	0,025	●	●	●
C	0,025	0,013	0,025	●	●	●
E	0,025	0,025	0,025	●	●	●
F	0,013	0,005	0,025	●	●	●
G	0,025	0,025	0,13	●	●	●
H	0,013	0,013	0,025	●	●	●
J	0,05	0,005	0,025	●		
	0,08	0,005	0,025		●	
	0,10	0,005	0,025			●
K	0,05	0,013	0,025	●		
	0,08	0,013	0,02		●	
	0,10	0,013	0,02			●



	IC ±mm	BS ±mm	S ±mm	IC = 6,35 / 9,52	IC = 12,7	IC = 15,8 / 19,05
M	0,05	0,08	0,13	●		
	0,08	0,13	0,13		●	
	0,10	0,15	0,13			●
N	0,05	0,08	0,025	●		
	0,08	0,13	0,025		●	
	0,10	0,15	0,025			●
U	0,08	0,13	0,13	●		
	0,13	0,20	0,13		●	
	0,18	0,27	0,13			●

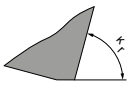
7 Trailing edge land / corner radius



Radius

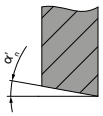
	RE in mm
M0*	
02	0,2
04	0,4
08	0,8
12	1,2

* Only with insert type "R"



1. Designation

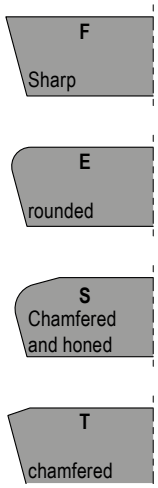
	K_r
A	45°
D	60°
E	75°
F	85°
P	90°
Z	Alternative



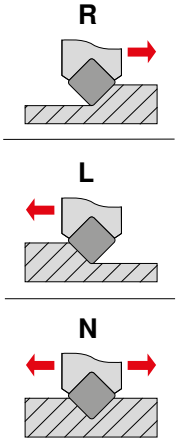
2. Designation

	α'_n
A	3°
B	5°
C	7°
D	15°
E	20°
F	25°
G	30°
N	0°
P	11°
Z O	Alternative

8 Cutting edge



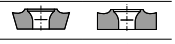
9 Direction of cut



ISO designation indexable milling inserts

4

Characteristics

A	
F	
G	
M	
N	
Q	
R	
T	
U	
W	
X	Special version

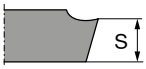
5

Cutting length

IC mm	A	T	C/S	H	L	R	V	W	O	X	Z
4,90										07	
5,00						05					
5,56			05		08			03			
6,00											
6,35		11	06		10			04		06	
6,65	10										
6,80										11	
7,00											04
7,94			07								
8,00						08					
9,00					12						
9,30										15	
9,52	16	16	09		15			06	04		
9,57	15										
9,60										09	
10,00			10		11	10					12
12,00						12					
12,50										20	
12,70		12/22	12		20		22	08		12	
15,81			15		22			10			
16,00						16					
16,20				09							
16,74			16								
17,00			17								
17,18									06		
18,18									07		
19,05			19					13			
20,00						20					

6

Insert thickness



	S mm
01	1,59
T1	1,98
02	2,38
03	3,18
T3	3,97
04	4,76
05	5,56
06	6,35
07	7,94
09	9,52

10

Chip groove

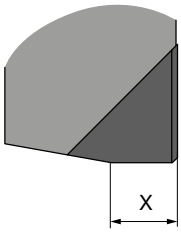
Chip breaker designation
F.. = fine
M.. = medium
R.. roughing

Additional characteristics:
R = transition radius main/ secondary cutting edge
Q = Smoothing edge

11

Manufacturer specification

Length of the finishing cutting edge

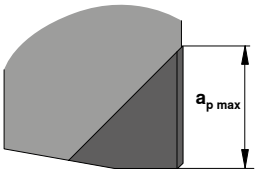


00 = 0,0 mm
10 = 1,0 mm
12 = 1,2 mm
15 = 1,5 mm
30 = 3,0 mm
50 = 5,0 mm

12

Manufacturer specification

$a_{p\,max}$



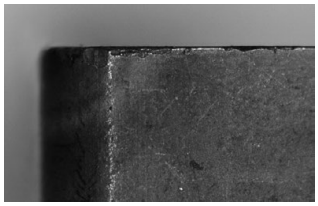
02 = 2,0 mm
03 = 3,0 mm
04 = 4,0 mm
06 = 6,0 mm
07 = 7,0 mm
11 = 11,0 mm

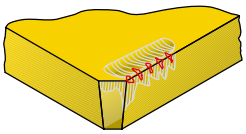
13

Manufacturer specification

F = Fine
M = Medium
R = Rough

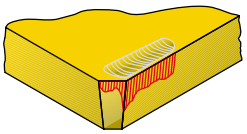
Cutting demands when milling





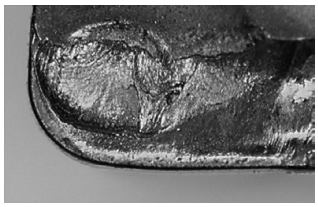
Edge chipping

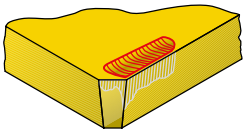
Cutting speed ↑
Feed per tooth ↓
Toughness of grade ↑
Cutting edge chamfer ↑



Wear on clearance face

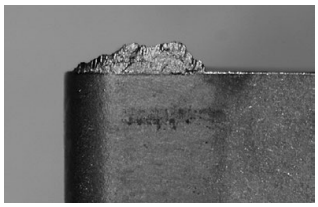
Cutting speed ↓
Feed per tooth ↑
Abrasion resistant grade ↑

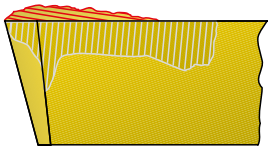




Cratering

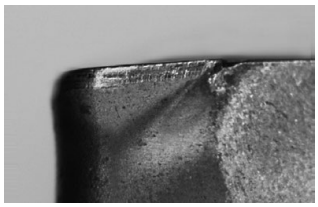
Cutting speed ↓
Feed per tooth ↓
Abrasion resistant grade ↑

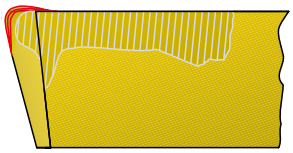




Built-up edge

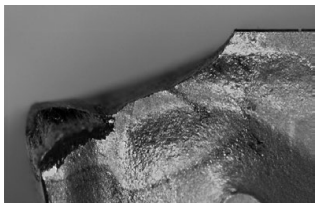
Cutting speed ↑
Feed per tooth ↑
Wear resistance ↑

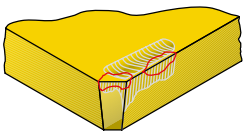




Cutting-edge deformation

Cutting speed ↓
Feed per tooth ↓
Abrasion resistant grade ↑

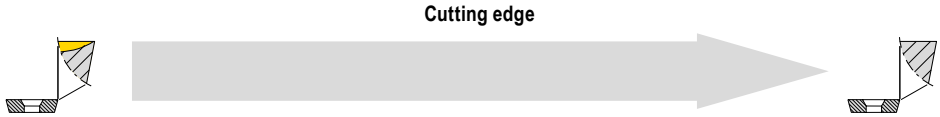




Cutting Edge Breakage

Cutting speed ↓
Toughness of grade ↑

Chip Breakers Overview



			Sharp		medium		stable	
			●		● ●		● ● ●	
			10	20	30	40	50	60
increasing wedge angle	fine	F	-F10 -27 -27P	-F20		-F40	-F50	-ER -FN -33P -33
	medium	M			-M31 -M30 -M32		-M50 -31	-EN -29
	rough	R			-R30		-R50	-SN -R60 -SR

Chip breaker code

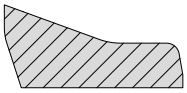
			Cutting edge		
			Sharp	medium	stable
			10–20	30–40	50–60
Application type	light	F	●	● ●	● ● ●
	universal	M	●	● ●	● ● ●
	difficult	R	●	● ●	● ● ●

Example: Chip breaker -M50

Chip breaker description

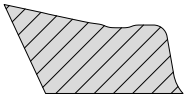
-27P

- Highly positive geometry
- Ground, sharp cutting edge
- Low adhesion
- Recommendation for non-ferrous metals



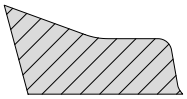
-F10

- Highly positive geometry
- Ground, sharp cutting edge
- Low adhesion
- Recommendation for non-ferrous metals



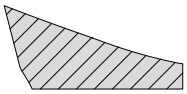
-27

- Highly positive geometry
- Sharp cutting edges
- First choice for non-ferrous metals



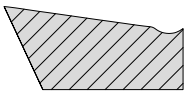
-F20

- Highly positive geometry
- Lightly rounded cutting edge
- Recommendation for non-ferrous metals



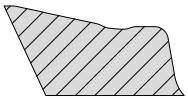
-F40

- Positive geometry
- Rounded cutting edge
- Finish and rough machining
- For unstable clamping situations
- Recommendation for heat-resistant materials, titanium and super alloys



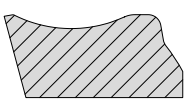
-F50

- Streamlined geometry with protective chamfer
- Rounded cutting edge
- Light rough machining
- For unstable clamping situations
- Recommendation for stainless steel materials



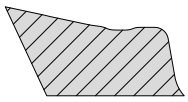
-33P

- Positive geometry with small neutral protective chamfer
- Low adhesion
- Rounded cutting edge
- Low cutting force and good stability
- For unstable clamping situations
- Light rough machining
- First choice for stainless steels



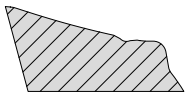
-M30

- Positive geometry
- Rounded cutting edge
- Medium rough machining
- For unstable clamping situations
- Recommendation for martensitic stainless steels (blade machining only with MaxiMill 251)



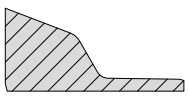
-M31

- Positive geometry
- Rounded cutting edge
- Finish and rough machining
- For unstable clamping situations
- For heat-resistant materials, titanium and super alloys



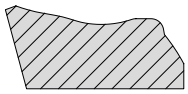
-M32

- Positive geometry
- Rounded cutting edge
- Low cutting force and good stability
- Medium rough machining
- First choice for martensitic stainless steels



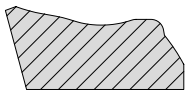
-M50

- Universal geometry with protective chamfer
- Rounded cutting edge
- Light to medium rough machining
- Recommendation for general steel materials



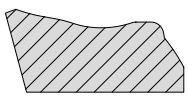
-31

- Positive geometry with neutral protective chamfer
- Rounded cutting edge
- Heavy rough machining
- Strongly interrupted cuts
- First choice for cast iron materials



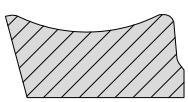
-29

- Positive geometry with slightly negative protective chamfer
- Rounded cutting edge
- Low cutting force and good stability
- Light to medium rough machining
- First choice for general steels



-33

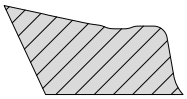
- Positive geometry with small neutral protective chamfer
- Rounded cutting edge
- Low cutting force and good stability
- For unstable clamping situations
- Light rough machining
- First choice for stainless steels



Chip breaker description

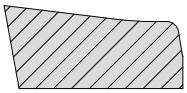
-29R

- Positive geometry with slightly negative protective chamfer
- Heavily rounded cutting edge
- Low cutting force and good stability
- Light to medium rough machining
- First choice for general steels



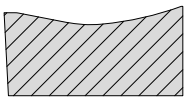
-R30

- Slightly positive geometry
- Rounded cutting edge
- Medium rough machining
- Strongly interrupted cuts
- First choice for cast iron materials



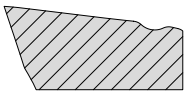
-R50

- Rugged geometry with protective chamfer
- Rounded cutting edge
- Rough machining
- Interrupted cuts
- Recommendation for cast iron materials



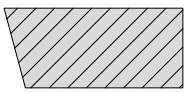
-R60

- Rugged geometry with protective chamfer
- Rounded cutting edge
- Rough machining
- For stable clamping situations
- Recommendation for high-strength steel materials



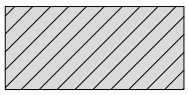
-FN

- Neutral and highly stable geometry
- Heavily rounded cutting edge
- For stable machining conditions
- First choice for hard machining up to approx. 50 HRC



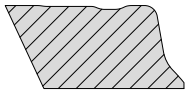
-ER

- Neutral Geometry
- Rounded cutting edge
- Universal application
- High surface quality due to face chamfer
- First choice for machining cast iron and non-ferrous metals



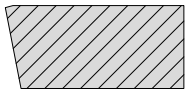
-EN

- Neutral geometry
- Rounded cutting edge
- High surface quality due to face chamfer (radial protective chamfer on indexable insert)
- First choice for machining cast iron and non-ferrous metals



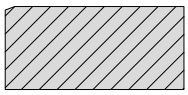
-SN

- Neutral geometry
- Rounded cutting edge
- High surface quality due to face chamfer (radial protective chamfer on indexable insert)
- Low cutting forces
- First choice for good flatness



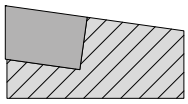
-SR

- Neutral geometry with negative protective chamfer
- Rounded cutting edge
- Robust indexable insert
- For poor machining conditions
- First choice for machining cast iron and steels



-FR

- Neutral Geometry
- Slightly rounded and stable cutting edge
- Associated with Ceramic and CBN cutting materials.
- For stable machining situations
- First choice for machining cast irons



Grades Overview

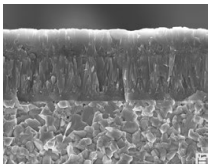
Grade Type	Standard designation	ISO application range	Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat resistant alloys	Tempered steel	Non-metal materials
		01 05 10 15 20 25 30 35 40 45 50	P	M	K	N	S	H	O
CTIP220	HC-P20 HC-K20		●		●				
CTIP230	HC-P30 HC-K25		●		●				
CTIP235	HC-P25 HC-M30 HC-K30		●	○	○				
CTICM235	HC-P40 HC-M35		●	●					
CTIPM240	HC-P40 HC-M40		○	●					
CTICK215	HC-K15				●				
CTIW3215	HC-K15 HC-N10 HC-O10				○	●			○

● **Main Application**
○ Extended application

wear-resistant v_c+ ⟷ v_c– tough

Grade description

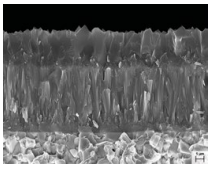
CTICP220



HC-P20 | **HC-K20**

Specification:
Composition: Co 8.0%; mixed carbide 2.0%; WC balance | Medium grain size 1-2µm | Hardness: HV_{30} 1500 | Layer system: CVD TiCN-Al_3O_2
Application:
Dry machining, high cutting speed + more wear resistant grades to CTCP230
Material example:
Low material strength up to approx. 250 HB / 840 N/mm²

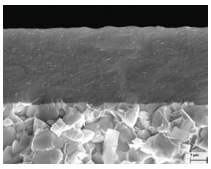
CTICP230



HC-P30 | HC-M25 | **HC-K25**

Specification:
Composition: Co 10.5%; mixed carbide 2.0%; WC balance | Medium grain size 1-2µm | Hardness: HV_{30} 1400 | Layer system: CVD TiCN-Al_2O_3
Application:
Dry machining, universal grade for higher cutting speeds

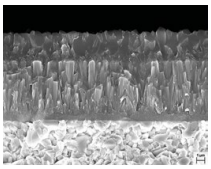
CTIP225



HC-P35 | HC-M30

Specification:
Composition: Co 10.5%; mixed carbide 2.0%; WC balance | Medium grain size 1-2µm | Hardness: HV_{30} 1400 | Layer system: PVD TiAlTaN
Application:
Wet machining, universal grade for medium cutting speeds

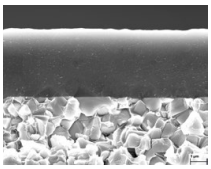
CTICM235



HC-P40 | **HC-M35**

Specification:
Composition: Co 12.5%; mixed carbide 2.0%; WC balance | Fine grain size 1µm | Hardness: HV_{30} 1380 | Layer system: CVD TiCN-Al_2O_3
Application:
Dry machining for medium cutting speeds
Material example:
Martensitic stainless steels

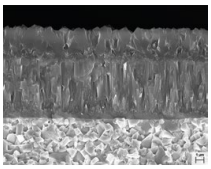
CTIP2240



HC-P40 | **HC-M40**

Specification:
Composition: Co 12.0%; mixed carbide 2.0%; WC balance | Fine grain size 1µm | Hardness: HV_{30} 1380 | Layer system: PVD TiAlTaN
Application:
Wet machining, universal grade for higher cutting speeds
Material example:
Austenitic stainless steels

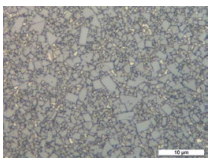
CTIK215



HC-K15

Specification:
Composition: Co 6.0%; mixed carbide 2.0%; WC balance | Fine grain size 1µm | Hardness: HV_{30} 1630 | Layer system: CVD TiCN-Al_2O_3
Application:
Special grade for the dry machining of cast iron materials at high cutting speeds
Material example:
Cast iron materials such as GG25 and GGG40

CTIW3215



K15 | **N15** | O15

Specification:
Composition: Co 6.0%; WC balance | Fine grain size 1µm | Hardness: HV_{30} 1650 | Layer system: uncoated
Application:
Uncoated carbide for the machining of aluminium and non-ferrous metals
Material example:
Non-ferrous metals such as AlMgSi1

Grade description

C T C P 2 2 0 (Example)

CT
CERATIZIT

Coating

W	Uncoated carbide	**S**	Mixed ceramic
C	CVD-coated carbide	**K**	Whisker ceramic
P	PVD-coated carbide	**I**	SiAlON
T	Cermet, uncoated	**D**	PCD
E	Cermet, coated	**B**	PcBN
N	Silicon nitride, uncoated	**L**	PcBN coated
M	Silicon nitride, coated	**H**	HSS sintered

Main application – material

P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metals
S	Heat resistant alloys
H	Tempered steel
O	Non-metal materials
X	Universal application

Application

1	Turning
2	Milling
3	Grooving
4	Drilling
5	Thread turning
6	Others
7	Several processes

Degree of hardness

05	ISO 05
10	ISO 10
15	ISO 15
20	ISO 20
25	ISO 25
30	ISO 30
35	ISO 35
40	ISO 40

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