145 YEARS
1879–2024

SARATOOLS.com
POWER TO PRODUCE
A BRAND OF SARTORIUS WERKZEUGE

01.07.2026

TOOL CATALOGUE

THAT'S POWER TO PRODUCE





Dear Customer,

The new SARTORIUS Tools Catalog 2026 has arrived: compact, practical, and consistently tailored to the requirements of your daily work.

Since our foundation in 1879, we have stood for reliability, quality, and strong partnerships. As a machining specialist, we understand the day-to-day challenges of manufacturing and know what truly matters in practice: precise results, efficient processes, and dependable solutions.

With more than 45,000 products, our own brands ATORN and ORION, and a comprehensive range of services, we offer you a powerful all-in-one solution. While ATORN represents the highest standards of quality and performance, we are gradually transforming our previous brand SARA into our new entry-level value brand, ORION.

We offer particular expertise in the fields of machining, workholding, metrology, and environmental technology. These areas are complemented by services such as calibration, regrinding, and repairs, ensuring you can rely on maximum support in your daily operations.

A special highlight is our SARABOT, our smart automation solution for part loading. It helps you streamline processes, save valuable time, and sustainably increase productivity.

We sincerely thank you for your trust and look forward to continuing to support you as a reliable partner, with expert knowledge, a strong product portfolio, and solutions that truly add value to your daily work.

SARTORIUS Werkzeuge GmbH & Co. KG

Özcan Esen
Managing Director

Karsten Bloch
Managing Director



WE ARE GLOBAL. BUT WE'RE LOCAL TOO.

POWER TO PRODUCE is for everyone. That is why we have built up a large network of sales partners throughout Europe, so that you can always rely on SARTORIUS. No matter where you are. No matter where you work.

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OUR PRODUCT PARTNERS

Professional products for almost any application. It's no coincidence – and it's all down to our many partners. Partners with high-quality, innovative products. Partners like:

Mahr · GG · palbit CUTTING TOOLS SOLUTIONS · VAN HOORN CARBIDE · Mitutoyo

kitagawa EUROPE · ARIANA · BAUER SÜDLOHN · SAUTER · PFERD

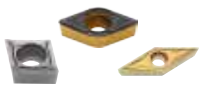
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MAPAL · EPPINGER SMARTER TOOLING SOLUTIONS · diebold Goldring-Werkzeuge · amf

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Turning tools

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Knurling

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Summary of icons used for drilling tools

INFO

Cutting material	HM e.g.: carbide metal	CBN e.g.: cubic boron nitride	PKD e.g.: polycrystalline diamond
Coating	TiN Titanium-nitride coating	TiCN Titanium-carbo-nitride coating	TiAlN Titanium-aluminium-nitride coating
Standard	DIN 4951-4965 Complies with DIN 4951 - 4965		
Shank design	Corresponds to straight shank		
Thread	M e.g. metric thread	MF e.g. metric fine thread	BSW e.g. British Standard Whitworth
Thread angle	55° Thread angle is 55°		
Coolant design	With internal coolant supply		
Cutting data	Vc/fz Further information such as cutting data recommendations is available in the technical appendix		

WHEN YOUR
TOOL FINDER WORKS
FASTER THAN YOU.
THIS IS POWER TO PRODUCE

- Time savings – no lengthy catalogue searches
- STEP and DFX data for your tool
- Download the cutting data as a PDF
- Immediate access to the online shop

Find the right tool now

https://toolfinder.sartorius-werkzeuge.de/

Designation key for carbide grades

INFO

H	C	7	6	2	0
1	2	3	4	5	6



1 Cutting material

H Carbide metal

2 Coating

C coated

W uncoated

3 Generation

7 Generation of carbide quality

4 ISO group

6	ISO P	P
5	ISO M	M
4	ISO K	K
3	ISO N	N
2	ISO S	S

5/6 depending on ISO group

10	P10 M10 K10 N10 S10
20	P20 M20 K20 N20 S20
30	P30 M30 K30 N30 S30

A	C	P	25	T	-6
1	2	3	4	5	6

1 Brand

A ATORN

S SARA®

5 Cutting material

T Turning

6 Additional information

Generation or additive for coating

2 Cutting material

C	Carbide, CVD-coated
P	Carbide, PVD-coated
W	uncoated
K	Ceramics
B	CBN
A	PKD

3 ISO group

ISO P	P
ISO M	M
ISO K	K
ISO N	N
ISO S	S

4 depending on ISO group

10	P10 M10 K10 N10 S10
20	P20 M20 K20 N20 S20
30	P30 M30 K30 N30 S30

Cutting data on packaging

INFO

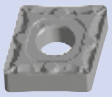
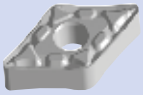
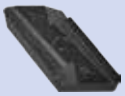
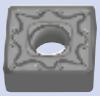
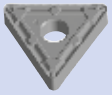
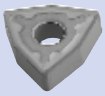
The range of indexable cutting inserts is always supplied with cutting data on the packaging. This offers the user a high degree of safety and good handling.

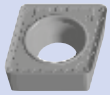
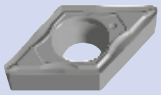
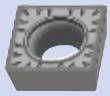
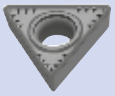
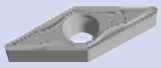


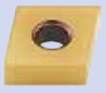
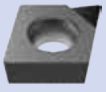
Overview of geometries of indexable cutting inserts

ISO designation codes in the INFO section

INFO

negative		P	M	K	N	S
	CN...	835	838	840	840	841
	DN...	842	844	846	846	846
	KNUX	847				
	SN...	848	849	850		850
	TN...	852	853		854	854
	VN...	855	856		857	
	WN..	858	859		862	862

positive		P	M	K	N	S
	CC...	863	866	868	868	
	DC...	869	872	874	874	
	RC...	875				
	SC...	875	876	877	877	
	TC...	878	880	881	881	
	VB...	882	884			
	VC...	885	887		889	
	WC...	889	889			

	Ceramics	890
	CBN	892
	PKD	899

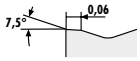


ISO indexable cutting inserts CN.. ISO P

ISO P

- **80° rhombic, negative 0°**

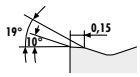
Chip breaker FP1 negative

F finishing ●	M medium ○	R roughing -	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Smoothing 	CNMG 120404-FP1			●	○	○				ACP25T	10	366731 0114	
	CNMG 120408-FP1			●	○	○				ACP25T	10	366731 0214	

ISO	ACP25T
ISO P steel	Vc = 100 - 240
ISO M stainless steel	Vc = 70 - 210
ISO K cast iron	Vc = 120 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.07 - 0.25 ap = 0.25 - 2.5

3135

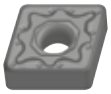
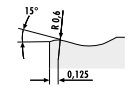
Chip breaker MP5 negative

F finishing ○	M medium ●	R roughing ○	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Medium processing 	CNMG 120404-MP5			●		○				ACP15T	10	366613 0115	
				●	○	○				ACP25T	10	366732 0114	
	CNMG 120408-MP5			●		○				ACP15T	10	366613 0315	
				●	○	○				ACP25T	10	366732 0214	
				●	○					ACP35T	10	366613 0535	
	CNMG 120412-MP5			●		○				ACP15T	10	366613 0615	
				●	○	○				ACP25T	10	366732 0314	
				●	○					ACP35T	10	366613 0835	

ISO	ACP15T	ACP25T	ACP35T
ISO P steel	Vc = 180 - 400	Vc = 100 - 240	Vc = 90 - 200
ISO M stainless steel		Vc = 70 - 210	Vc = 55 - 200
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.15 - 0.4 ap = 0.25 - 5.0		

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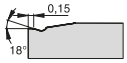
Chip breaker MP negative

F finishing -	M medium ●	R roughing -	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Medium processing 	CNMG 120404-MP			●		○				HC7620	10	311155 2612	
				●						HC7630	10	311155 2613	
	CNMG 120408-MP			●		○				HC7610	10	311155 2711	
				●		○				HC7620	10	311155 2712	
				●						HC7630	10	311155 2713	
	CNMG 120412-MP			●		○				HC7610	10	311155 2811	
				●		○				HC7620	10	311155 2812	
				●						HC7630	10	311155 2813	
	CNMG 160608-MP			●		○				HC7620	10	311155 4012	
	CNMG 160612-MP			●		○				HC7620	10	311155 4112	

ISO	HC7610	HC7620	HC7630
ISO P steel	Vc = 110 - 420	Vc = 80 - 350	Vc = 60 - 220
ISO K cast iron	Vc = 110 - 320	Vc = 60 - 290	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.15 - 0.25 ap = 0.8 - 4	f = 0.1 - 0.18 ap = 1 - 7	ap = 0.8 - 4

3147

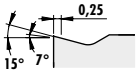
Chip breaker LC negative

F finishing ○	M medium ●	R roughing -	palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Medium finishing 	CNMG 120404-LC	●								**PHG115**	10	333605 0164	
		●								**PHG125**	10	333605 0165	
	CNMG 120408-LC	●								**PHG115**	10	333605 0264	
		●								**PHG125**	10	333605 0265	

3148

ISO	PHG115	PHG125
ISO P steel	Vc = 110 - 350	Vc = 100 - 295
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.07 - 0.50 ap = 0.60 - 3.00	

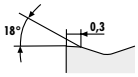
Chip breaker PM negative

F finishing ○	M medium ●	R roughing -	palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Medium finishing 	CNMG 120404-PM	●		○						**PH2G115**	10	333702 0177	
		●		○						**PH2G125**	10	333702 0178	
	CNMG 120408-PM	●		○						**PH2G115**	10	333702 0277	
		●		○						**PH2G125**	10	333702 0278	
	CNMG 120412-PM	●		○						**PH2G115**	10	333702 0377	
		●		○						**PH2G125**	10	333702 0378	

3148

ISO	PH2G115	PH2G125
ISO P steel	Vc = 110 - 400	Vc = 100 - 345
ISO K cast iron	Vc = 110 - 400	Vc = 100 - 345
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.10 - 0.65 ap = 0.40 - 5.50	

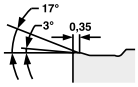
Chip breaker RP1 negative

F finishing -	M medium ○	R roughing ●	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Roughing 	CNMG 160608-RP1	●	○							**ACP35T**	10	366620 0335	
	CNMG 160612-RP1	●	○	○						**ACP25T**	10	366734 0114	
		●	○							**ACP35T**	10	366620 0635	
	CNMG 160616-RP1	●	○	○						**ACP25T**	10	366734 0214	
	CNMG 190612-RP1	●	○	○						**ACP25T**	10	366734 0314	
		●	○							**ACP35T**	10	366620 0935	
	CNMG 190616-RP1	●	○	○						**ACP25T**	10	366734 0414	
		●	○							**ACP35T**	10	366620 1235	

3135

ISO	ACP25T	ACP35T
ISO P steel	Vc = 100 - 240	Vc = 90 - 200
ISO M stainless steel	Vc = 70 - 210	Vc = 55 - 200
ISO K cast iron	Vc = 120 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.6 - 1.0 ap = 3.2 - 7.6	f = 0.2 - 0.7 ap = 0.5 - 7.5

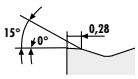
Chip breaker RP5 negative

F finishing -	M medium ○	R roughing ●	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Roughing 	CNMG 120408-RP5	●		○						**HC7610**	10	311520 1511	
		●		○						**HC7620**	10	311520 1512	
		●		○						**HC7630**	10	311520 1513	
	CNMG 120412-RP5	●		○						**HC7610**	10	311520 1611	
		●		○						**HC7620**	10	311520 1612	
		●		○						**HC7630**	10	311520 1613	

3147

ISO	HC7610	HC7620	HC7630
ISO P steel	Vc = 160 - 320	Vc = 130 - 270	Vc = 110 - 230
ISO K cast iron	Vc = 160 - 520	Vc = 130 - 440	Vc = 110 - 390
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.20 - 0.40 ap = 1 - 6		

Chip breaker RP2 negative

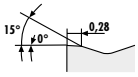
F finishing -	M medium ○	R roughing ●	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Roughing 			CNMG 120408-RP2	●		○				ACP15T	10	366618 0115	
			CNMG 120412-RP2	●		○				ACP15T	10	366618 0215	

ISO	ACP15T	ACP25T
ISO P steel	Vc = 180 - 400	Vc = 100 - 240
ISO M stainless steel		Vc = 70 - 210
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.5 ap = 0.5 - 6.0	

3135

Chip breaker RP3-HP negative

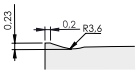
NEW

F finishing -	M medium ○	R roughing ●	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Roughing 			CNMG 120408-RP3	●	○	○				ACP25T	10	366733 0214	
			CNMG 120412-RP3	●	○	○				ACP25T	10	366733 0314	

ISO	ACP25T
ISO P steel	Vc = 100 - 270
ISO M stainless steel	Vc = 70 - 210
ISO K cast iron	Vc = 120 - 250
Vc = [m/min] fz = [mm/Z] ap = [mm]	f = 0.2 - 0.45 ap = 1.0 - 6.0

3135

Chip breaker GR negative

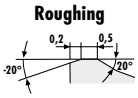
F finishing -	M medium -	R roughing ●	palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Roughing 			CNMM 120408-GR	●						PH2G115	10	333689 0177	
				●						PH2G125	10	333689 0178	
			CNMM 120412-GR	●						PH2G125	10	333689 0278	

ISO	PH2G115	PH2G125
ISO P steel	Vc = 110 - 400	Vc = 100 - 345
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.25 - 0.65 ap = 1.00 - 8.00	

3148

Chip breaker RP9 negative

NEW

F finishing -	M medium -	R roughing ●	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Roughing 			CNMM 190616-RP9	●	○	○				ACP25T	10	366749 0114	
			CNMM 190624-RP9	●	○	○				ACP25T	10	366749 0214	
			CNMM 250924-RP9	●	○	○				ACP25T	10	366749 0314	
			CNMM 250932-RP9	●	○	○				ACP25T	10	366749 0414	

ISO	ACP25T
ISO P steel	Vc = 100 - 240
ISO M stainless steel	Vc = 70 - 210
ISO K cast iron	Vc = 120 - 250
Vc = [m/min] fz = [mm/Z] ap = [mm]	f = 0.5 - 1.5 ap = 2.0 - 13.0

3135

ISO indexable cutting inserts CN.. ISO M

ISO M

- 80° rhombic, negative 0°

Chip breaker FM5 negative

F finishing	M medium	R roughing
●	-	-



Smoothing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
CNGP 120402-FM5		●	○	○	○		APM20T	10	366609 0120	
CNGP 120404-FM5		●	○	○	○		APM20T	10	366609 0220	
CNGP 120408-FM5		●	○	○	○		APM20T	10	366609 0320	

3135

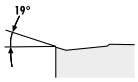
ISO	APM20T
ISO M stainless steel	Vc = 60 - 200
ISO K cast iron	Vc = 120 - 220
ISO N Al/non-ferrous	Vc = 100 - 600
ISO S superalloys	Vc = 20 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.08 - 0.25 ap = 0.2 - 2.5

Chip breaker FM negative

F finishing	M medium	R roughing
●	-	-



Smoothing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
CNMG 120404-FM	●	●					HC7510	10	310153 2624	
		●			○		HC7520	10	310153 2625	
	○	●			○		HC7820	10	311531 0112	
CNMG 120408-FM	●	●					HC7510	10	310153 2724	
		●			○		HC7520	10	310153 2725	
	○	●			○		HC7820	10	311531 0212	

3147

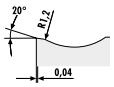
ISO	HC7510	HC7520	HC7820
ISO P steel	Vc = 140 - 320		Vc = 50 - 140
ISO M stainless steel	Vc = 175 - 270	Vc = 120 - 260	Vc = 110 - 250
ISO S superalloys		Vc = 30 - 60	Vc = 40 - 60
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.12 ap = 0.4 - 1.5		f = 0.05 - 0.2

Chip breaker MM negative

F finishing	M medium	R roughing
-	●	-



Medium processing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
CNMG 120404-MM		●			○		HC7520	10	310157 2625	
		●			○		HC7530	10	310157 2626	
CNMG 120408-MM		●			○		HC7520	10	310157 2725	
		●			○		HC7530	10	310157 2726	
CNMG 120412-MM		●			○		HC7520	10	310157 2825	
		●			○		HC7530	10	310157 2826	

3147

ISO	HC7520	HC7530
ISO M stainless steel	Vc = 120 - 260	Vc = 90 - 200
ISO S superalloys	Vc = 30 - 60	Vc = 20 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.1 - 0.18 ap = 1.2 - 3.5	

Chip breaker MM5 negative

F finishing	M medium	R roughing
-	●	○



Medium processing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
CNMG 090304-MM5	○	●			○		APM25T	10	366615 0021	
CNMG 120408-MM5	○	●			○		APM25T	10	366615 0121	

3135

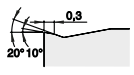
ISO	APM25T
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 40 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.25 - 0.5 ap = 0.5 - 4.0

Chip breaker SF negative

F finishing	M medium	R roughing
○	●	-



Srednja obrada



palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
CNMG 120404-SF		●					PHS215	10	333604 0371	
		●					PHS225	10	333604 0472	
CNMG 120408-SF		●					PHS215	10	333604 0771	
		●					PHS225	10	333604 0872	
CNMG 120412-SF		●					PHS215	10	333604 1171	
		●					PHS225	10	333604 1272	

3148

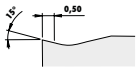
ISO	PHS215	PHS225
ISO M stainless steel	Vc = 80 - 290	Vc = 55 - 240
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.10 - 0.55 ap = 0.60 - 3.0	

Chip breaker GS negative

F finishing	M medium	R roughing
○	●	-



Medium finishing



palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
CNMG 120404-GS		●			●		PHH920	10	333577 0194	
		●			●		PHH910	10	333577 0195	
CNMG 120408-GS		●			●		PHH920	10	333577 0294	
		●			●		PHH910	10	333577 0295	
CNMG 120412-GS		●			●		PHH920	10	333577 0394	
		●			●		PHH910	10	333577 0395	

ISO	PHH910	PHH920
ISO M stainless steel	Vc = 130 - 250	Vc = 110 - 220
ISO S superalloys	Vc = 25 - 70	Vc = 20 - 60
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.10 - 0.50 ap = 0.50 - 4.0	

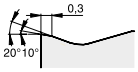
3148

Chip breaker SS negative

F finishing	M medium	R roughing
-	●	●



Medium finishing



palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
CNMG 090304-SS		●					PHS225	10	333609 0172	
CNMG 090308-SS		●					PHS225	10	333609 0472	
CNMG 120404-SS		●					PHS215	10	333609 0771	
		●					PHS225	10	333609 0772	
CNMG 120408-SS		●					PHS215	10	333609 1271	
		●					PHS225	10	333609 1272	
CNMG 120412-SS		●					PHS215	10	333609 1771	
		●					PHS225	10	333609 1772	
CNMG 160608-SS		●					PHS225	10	333609 2472	
CNMG 160612-SS		●					PHS225	10	333609 2672	

ISO	PHS215	PHS225
ISO M stainless steel	Vc = 120 - 260	Vc = 55 - 240
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.10 - 1.0 ap = 0.6 - 8.50	

3148

Chip breaker SM2 negative

F finishing	M medium	R roughing
-	●	○



Medium finishing to roughing operation



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
CNMG 120404-SM2	○	●					ACM20T	10	311677 0112	
CNMG 120408-SM2	○	●					ACM20T	10	311677 0212	

ISO	ACM20T
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 120 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.14 - 0.4 ap = 1.0 - 4.2

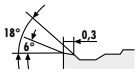
3147

Chip breaker RM5 negative

F finishing	M medium	R roughing
-	○	●



Roughing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
CNMG 120408-RM5	○	●			○		APM25T	10	366616 0121	
CNMG 120412-RM5	○	●			○		APM25T	10	366616 0221	
CNMG 160612-RM5	○	●					APM25T	10	366616 0421	

ISO	APM25T
ISO P steel	Vc = 80 - 250
ISO M stainless steel	Vc = 40 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.25 - 0.5 ap = 0.5 - 6.0

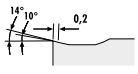
3135

Chip breaker RM (HC75..) negative

F finishing	M medium	R roughing
-	-	●



Roughing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
CNMG 120408-RM		●			○		HC7520	10	310161 2725	
		●			○		HC7530	10	310161 2726	
CNMG 120412-RM		●			○		HC7520	10	310161 2825	
		●			○		HC7530	10	310161 2826	

ISO	HC7520	HC7530
ISO M stainless steel	Vc = 120 - 260	Vc = 90 - 200
ISO S superalloys	Vc = 30 - 60	Vc = 20 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.22 - 0.4 ap = 1.5 - 4.5	

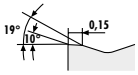
3147

ISO indexable cutting inserts CN.. ISO K

ISO K

- **80° rhombic, negative 0°**

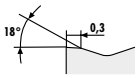
Chip breaker MK negative

F finishing -	M medium ●	R roughing ○	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Medium finishing to roughing operation 	CNMG 120408-MK	○		●					**ACK20T**	10	366617 0130	

ISO	ACK20T
ISO P steel	Vc = 150 - 340
ISO K cast iron	Vc = 150 - 550
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.5 ap = 0.5 - 5.0

3135

Chip breaker RK2 negative

F finishing -	M medium ○	R roughing ●	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Medium finishing to roughing operation 	CNMG 120408-RK2	○		●					**ACK20T**	10	366614 0130	
	CNMG 120412-RK2	○		●					**ACK20T**	10	366614 0230	

ISO	ACK20T
ISO P steel	Vc = 150 - 340
ISO K cast iron	Vc = 150 - 550
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.6 ap = 0.5 - 7.5

3135

ISO indexable cutting inserts CN.. ISO N

ISO N

- **80° rhombic, negative 0°**

Chip breaker MS negative

F finishing ○	M medium ●	R roughing -	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Smoothing 	CNMG 120404-MS						●			**PH0910**	10	333603 0120	
					●			●		**PHH920**	10	333603 0194	
	CNMG 120408-MS						●			**PH0910**	10	333603 0320	
					●			●		**PHH920**	10	333603 0394	
	CNMG 120412-MS						●			**PH0910**	10	333603 0520	
					●			●		**PHH920**	10	333603 0594	

ISO	PH0910	PHH920
ISO M stainless steel		Vc = 90 - 200
ISO N Al/non-ferrous	Vc = 35 - 630	
ISO S superalloys		Vc = 35 - 145
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.10 - 0.60 ap = 0.20 - 3.6	f = 0.08 - 0.60 ap = 0.10 - 3.60

3148



ISO indexable cutting inserts CN.. ISO S

- **80° rhombic, negative 0°**

ISO S

Chip breaker MS1 negative

F finishing	M medium	R roughing
●	○	-



Medium processing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
CNMG 120404-MS1		○			●		APS15T	10 366611 0131	
CNMG 120408-MS1		○			●		APS15T	10 366611 0231	

ISO	APS10T	APS15T
ISO M stainless steel	Vc = 60 - 230	Vc = 60 - 230
ISO S superalloys	Vc = 30 - 120	Vc = 30 - 120
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.08 - 0.3 ap = 0.25 - 3.0	

3135

Chip breaker SS2 negative

F finishing	M medium	R roughing
-	○	●



Medium finishing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
CNMG 120408-SS2		●			●		APS40T	10 366716 0140	
CNMG 120412-SS2		●			●		APS40T	10 366716 0240	
CNMG 160612-SS2		●			●		APS40T	10 366716 0540	

ISO	APS40T
ISO M stainless steel	Vc = 80 - 200
ISO S superalloys	Vc = 60 - 160
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.1 - 0.5 ap = 1.0 - 5.0

3135

Premium partner

PALBIT is represented on five continents with an extensive sales network and serves a large number of customers in over 60 countries with state-of-the-art tool technology for a wide range of applications. Since 1 January 2019, the PALBIT brand has been exclusively distributed in Germany by SARTORIUS.

palbit® CUTTING TOOLS SOLUTIONS

ISO indexable cutting inserts DN.. ISO P

- **55° rhombic, negative 0°**

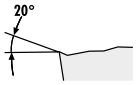
ISO P

Chip breaker FP negative

F finishing	M medium	R roughing
●	-	-



Smoothing



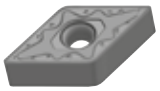
ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
DNMG 110404-FP	●		○				HC7620	10 311251 2312	
DNMG 110408-FP	●		○				HC7610	10 311251 2411	
	●		○				HC7620	10 311251 2412	
DNMG 150604-FP	●		○				HC7610	10 311251 3011	
	●		○				HC7620	10 311251 3012	
DNMG 150608-FP	●		○				HC7620	10 311251 3112	

ISO	HC7610	HC7620
ISO P steel	Vc = 140 - 420	Vc = 80 - 350
ISO K cast iron	Vc = 140 - 320	Vc = 50 - 290
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.08 - 0.25	f = 0.05 - 0.2
	ap = 0.2 - 2	

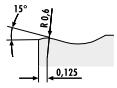
3147

Chip breaker MP negative

F finishing	M medium	R roughing
-	●	-



Medium processing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
DNMG 110404-MP	●		○				HC7620	10 311255 2312	
	●						HC7630	10 311255 2313	
DNMG 110408-MP	●		○				HC7610	10 311255 2411	
	●		○				HC7620	10 311255 2412	
	●						HC7630	10 311255 2413	
DNMG 150604-MP	●		○				HC7610	10 311255 3011	
	●		○				HC7620	10 311255 3012	
	●						HC7630	10 311255 3013	
DNMG 150608-MP	●		○				HC7610	10 311255 3111	
	●		○				HC7620	10 311255 3112	
	●						HC7630	10 311255 3113	

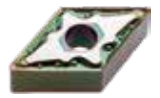
ISO	HC7610	HC7620	HC7630
ISO P steel	Vc = 140 - 420	Vc = 80 - 350	Vc = 60 - 220
ISO K cast iron	Vc = 140 - 320	Vc = 50 - 290	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.18 - 0.35	f = 0.15 - 0.25	
	ap = 0.6 - 5		

3147

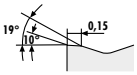
Chip breaker MP5 negative

- **Note:** for DNMG 1104.. Reduction of max. feed ap = 3.0 mm, f = 0.1-0.35 mm/rev

F finishing	M medium	R roughing
○	●	-



Medium processing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
DNMG 110404-MP5	●	○	○				ACP25T	10 366736 0114	
DNMG 110408-MP5	●	○	○				ACP25T	10 366736 0214	
DNMG 150404-MP5	●	○	○				ACP25T	10 366736 0314	
DNMG 150408-MP5	●	○	○				ACP25T	10 366736 0414	
DNMG 150604-MP5	●		○				ACP15T	10 366637 0415	
	●	○	○				ACP25T	10 366736 0514	
DNMG 150608-MP5	●		○				ACP15T	10 366637 0615	
	●	○	○				ACP25T	10 366736 0614	
	●	○					ACP35T	10 366637 0835	
DNMG 150612-MP5	●	○					ACP35T	10 366637 1135	

ISO	ACP15T	ACP25T	ACP35T
ISO P steel	Vc = 100 - 400	Vc = 100 - 240	Vc = 90 - 190
ISO M stainless steel		Vc = 70 - 200	Vc = 55 - 180
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.45		f = 0.12 - 0.5
	ap = 1.0 - 4.0		

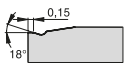
3135

Chip breaker LC negative

F finishing	M medium	R roughing
○	●	-



Mittlere Bearbeitung

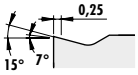


palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
DNMG 150604-LC	●						PH2G115	10 333619 0477	
	●						PH2G125	10 333619 0478	
DNMG 150608-LC	●						PH2G115	10 333619 0577	
	●						PH2G125	10 333619 0578	

ISO	PH2G115	PH2G125
ISO P steel	Vc = 100 - 345	Vc = 110 - 400
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.07 - 0.40	
	ap = 0.40 - 3.00	

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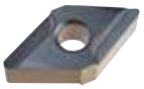
Chip breaker PM negative

F finishing	M medium	R roughing	palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
○	●	-											
 Medium finishing 	DNMG 150404-PM		●		○					PH2G115	10	333703 0377	
			●		○					PH2G125	10	333703 0378	
	DNMG 150408-PM		●		○					PH2G115	10	333703 0477	
			●		○					PH2G125	10	333703 0478	
	DNMG 150604-PM		●		○					PH2G115	10	333703 0677	
			●		○					PH2G125	10	333703 0678	
	DNMG 150608-PM		●		○					PH2G115	10	333703 0777	
			●		○					PH2G125	10	333703 0778	

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ISO	PH2G115	PH2G125
ISO P steel	Vc = 110 - 400	Vc = 100 - 345
ISO K cast iron	Vc = 110 - 400	Vc = 100 - 345
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.10 - 0.30 ap = 0.50 - 6.00	

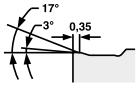
Chip breaker 02 negative

F finishing	M medium	R roughing	palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
-	●	○											
 Medium finishing to roughing operation 	DNMX 150604-L02		●							PHG115	10	333626 0164	
			●							PHG125	10	333626 0165	
	DNMX 150604-R02		●							PHG115	10	333626 0264	
			●							PHG125	10	333626 0265	
	DNMX 150608-L02		●							PHG115	10	333626 0364	
			●							PHG125	10	333626 0365	
	DNMX 150608-R02												
			●							PHG125	10	333626 0465	

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ISO	PHG115	PHG125
ISO P steel	Vc = 100 - 295	Vc = 110 - 350
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.14 - 0.50 ap = 0.70 - 5.0	

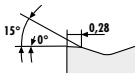
Chip breaker RP5 negative

F finishing	M medium	R roughing	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
-	○	●											
 Roughing 	DNMG 150608-RP5		●			○				HC7610	10	311520 1711	
			●			○				HC7620	10	311520 1712	
			●			○				HC7630	10	311520 1713	
	DNMG 150612-RP5		●			○				HC7620	10	311520 1812	

3147

ISO	HC7610	HC7620	HC7630
ISO P steel	Vc = 200 - 340	Vc = 140 - 290	Vc = 140 - 230
ISO K cast iron	Vc = 250 - 580	Vc = 140 - 490	Vc = 180 - 430
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.15 - 0.35 ap = 0.8 - 5.0	f = 0.20 - 0.55 ap = 1.0 - 5.0	f = 0.15 - 0.35 ap = 0.8 - 5.0

Chip breaker RP2 negative

F finishing	M medium	R roughing	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
-	○	●											
 Roughing 	DNMG 150608-RP2		●		○					ACP15T	10	366641 0115	
	DNMG 150608-RP3		●		○	○				ACP25T	10	366737 0614	
	DNMG 150612-RP2		●		○					ACP15T	10	366641 0415	
	DNMG 150612-RP3		●		○	○				ACP25T	10	366737 0714	

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ISO	ACP15T	ACP25T
ISO P steel	Vc = 100 - 400	Vc = 100 - 240
ISO M stainless steel		Vc = 70 - 200
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.45 ap = 1.0 - 6.0	f = 0.3 - 0.5 ap = 1.5 - 5.0

ISO indexable cutting inserts DN.. ISO M

ISO M

- 55° rhombic, negative 0°

Chip breaker FM5 negative

F finishing	M medium	R roughing
●	-	-



Smoothing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
DNGP 150404-FM5		●	○	○	○		APM20T	10	366631 0120	
DNGP 150602-FM5		●	○	○	○		APM20T	10	366631 0220	
DNGP 150604-FM5		●	○	○	○		APM20T	10	366631 0320	
DNGP 150608-FM5		●	○	○	○		APM20T	10	366631 0420	

3135

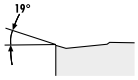
ISO	APM20T
ISO M stainless steel	Vc = 60 - 120
ISO K cast iron	Vc = 120 - 220
ISO N Al/non-ferrous	Vc = 100 - 600
ISO S superalloys	Vc = 20 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.1 - 0.25 ap = 0.5 - 2.5

Chip breaker FM (HC75..) negative

F finishing	M medium	R roughing
●	-	-



Smoothing



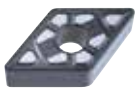
ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
DNMG 110404-FM	●	●					HC7510	10	310253 2324	
		●			○		HC7520	10	310253 2325	
DNMG 110408-FM	●	●					HC7510	10	310253 2424	
		●			○		HC7520	10	311543 0125	
DNMG 150604-FM	●	●					HC7510	10	310253 3024	
		●			○		HC7520	10	310253 3025	
DNMG 150608-FM		●			○		HC7520	10	311543 0225	

3147

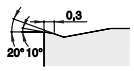
ISO	HC7510	HC7520
ISO P steel	Vc = 140 - 320	Vc = 140 - 320
ISO M stainless steel	Vc = 170 - 260	Vc = 170 - 260
ISO S superalloys	Vc = 30 - 60	Vc = 30 - 60
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.12 ap = 0.4 - 1.5	

Chip breaker SF negative

F finishing	M medium	R roughing
○	●	-



Medium finishing



palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
DNMG 110404-SF		●					PHS215	10	333618 0371	
		●					PHS225	10	333618 0472	
DNMG 110408-SF		●					PHS215	10	333618 0771	
		●					PHS225	10	333618 0872	
DNMG 150404-SF		●					PHS215	10	333618 1171	
		●					PHS225	10	333618 1272	
DNMG 150408-SF		●					PHS215	10	333618 1571	
		●					PHS225	10	333618 1672	
DNMG 150412-SF		●					PHS215	10	333618 1971	
		●					PHS225	10	333618 2072	
DNMG 150604-SF		●					PHS215	10	333618 2371	
		●					PHS225	10	333618 2472	
DNMG 150608-SF		●					PHS215	10	333618 2771	
		●					PHS225	10	333618 2872	
DNMG 150612-SF		●					PHS215	10	333618 3171	
		●					PHS225	10	333618 3272	

3148

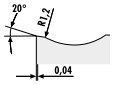
ISO	PHS215	PHS225
ISO M stainless steel	Vc = 80 - 290	Vc = 55 - 240
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.10 - 0.55 ap = 0.60 - 3.0	

Chip breaker MM (HC75..) negative

F finishing	M medium	R roughing
-	●	-



Medium processing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
DNMG 110404-MM		●			○		HC7520	10	310257 0425	
		●			○		HC7530	10	310257 2326	
DNMG 110408-MM		●			○		HC7520	10	310257 2425	
		●			○		HC7530	10	310257 2426	
DNMG 150604-MM		●			○		HC7520	10	310257 3025	
		●			○		HC7530	10	310257 3026	
DNMG 150608-MM		●			○		HC7520	10	310257 3125	

3147

ISO	HC7520	HC7530
ISO M stainless steel	Vc = 110 - 260	Vc = 90 - 200
ISO S superalloys	Vc = 30 - 60	Vc = 20 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.15 - 0.25 ap = 0.8 - 3	f = 0.05 - 0.18

Chip breaker MM5 negative

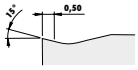
• **Note:** for DNMG 1104.. Reduction of max. feed ap = 3.0 mm, f = 0.1-0.35 mm/rev

F finishing	M medium	R roughing	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
○	●	-											
 Medium processing 			DNMG 110404-MM5	○	●					**APM25T**	10	366634 0121	
			DNMG 110408-MM5	○	●					**APM25T**	10	366634 0221	
			DNMG 150604-MM5	○	●					**APM25T**	10	366634 0321	
			DNMG 150608-MM5	○	●					**APM25T**	10	366634 0421	

ISO	APM25T
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 60 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.14 - 0.4 ap = 0.25 - 4.0

3135

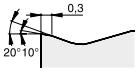
Chip breaker GS negative

F finishing	M medium	R roughing	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
○	●	-											
 Medium finishing 			DNMG 110404-GS		●			●		**PHH920**	10	333578 0794	
					●			●		**PHH910**	10	333578 0795	
			DNMG 110408-GS		●			●		**PHH920**	10	333578 0894	
					●			●		**PHH910**	10	333578 0895	
			DNMG 150404-GS		●			●		**PHH920**	10	333578 0194	
					●			●		**PHH910**	10	333578 0195	
			DNMG 150408-GS		●			●		**PHH920**	10	333578 0294	
					●			●		**PHH910**	10	333578 0295	
			DNMG 150412-GS		●			●		**PHH920**	10	333578 0394	
					●			●		**PHH910**	10	333578 0395	
			DNMG 150604-GS		●			●		**PHH920**	10	333578 0494	
					●			●		**PHH910**	10	333578 0495	
			DNMG 150608-GS		●			●		**PHH920**	10	333578 0594	
					●			●		**PHH910**	10	333578 0595	
			DNMG 150612-GS		●			●		**PHH920**	10	333578 0694	
					●			●		**PHH910**	10	333578 0695	

ISO	PHH910	PHH920
ISO M stainless steel	Vc = 130 - 250	Vc = 110 - 220
ISO S superalloys	Vc = 25 - 70	Vc = 20 - 60
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.10 - 0.35 ap = 0.15 - 3.0	

3148

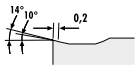
Chip breaker SS negative

F finishing	M medium	R roughing	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
-	●	●											
 Medium finishing to roughing operation 			DNMG 150404-SS		●					**PHS215**	10	333623 0471	
					●					**PHS225**	10	333623 0472	
			DNMG 150408-SS		●					**PHS215**	10	333623 0971	
					●					**PHS225**	10	333623 0972	
			DNMG 150412-SS		●					**PHS215**	10	333623 1371	
					●					**PHS225**	10	333623 1372	
			DNMG 150604-SS		●					**PHS215**	10	333623 1871	
					●					**PHS225**	10	333623 1872	
			DNMG 150608-SS		●					**PHS215**	10	333623 2371	
					●					**PHS225**	10	333623 2372	
			DNMG 150612-SS		●					**PHS215**	10	333623 2871	
					●					**PHS225**	10	333623 2872	

ISO	PHS215	PHS225
ISO M stainless steel	Vc = 55 - 240	Vc = 55 - 240
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.1 - 1.0 ap = 0.3 - 6.4	

3148

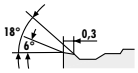
Chip breaker RM

F finishing	M medium	R roughing	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
-	-	-											
 Roughing 			DNMG 150608-RM	●	●			●		**HC7820**	10	311544 0112	
			DNMG 150612-RM	●	●			●		**HC7820**	10	311544 0212	

ISO	HC7820
ISO P steel	Vc = 50 - 140
ISO M stainless steel	Vc = 80 - 220
ISO S superalloys	Vc = 40 - 60
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.22 - 0.40 ap = 1.5 - 4.0

3147

Chip breaker RM5 negative

F finishing -	M medium ○	R roughing ●	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Roughing 	DNMG 150608-RM5		○	●						APM25T	10	366640 0121	
	DNMG 150612-RM5		○	●						APM25T	10	366640 0221	

ISO	APM25T
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 60 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.25 - 0.5 ap = 0.5 - 6.0

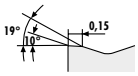
3135

ISO indexable cutting inserts DN.. ISO K

ISO K

- **55° rhombic, negative 0°**

Chip breaker MK negative

F finishing ○	M medium ●	R roughing -	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Medium finishing 	DNMG 150608-MK		○		●					ACK20T	10	366632 0130	
	DNMG 150612-MK												

ISO	ACK20T
ISO P steel	Vc = 150 - 340
ISO K cast iron	Vc = 150 - 340
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.5 ap = 0.25 - 5.0

3135

ISO indexable cutting inserts DN.. ISO N

ISO N

- **55° rhombic, negative 0°**

Chip breaker MS negative

F finishing ○	M medium ●	R roughing -	palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Smoothing 	DNMG 150404-MS					●				PH0910	10	333617 0120	
	DNMG 150408-MS					●				PH0910	10	333617 0320	
	DNMG 150412-MS					●				PH0910	10	333617 0520	
	DNMG 150604-MS					●				PH0910	10	333617 0820	
			○					●		PHH920	10	333617 0994	
	DNMG 150608-MS					●				PH0910	10	333617 1020	
			○					●		PHH920	10	333617 1194	

ISO	PH0910	PHH920
ISO M stainless steel		Vc = 90 - 220
ISO N Al/non-ferrous	Vc = 35 - 630	
ISO S superalloys		Vc = 35 - 145
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.10 - 0.60 ap = 0.20 - 4.0	f = 0.10 - 0.40 ap = 0.2 - 3.6

3148

ISO indexable cutting inserts DN.. ISO S

ISO S

- **55° rhombic, negative 0°**

Chip breaker MS1 negative

F finishing ○	M medium ●	R roughing -	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Medium processing 	DNMG 150608-MS1			○				●		APS15T	10	366639 0231	

ISO	APS10T	APS15T
ISO M stainless steel	Vc = 50 - 220	Vc = 50 - 220
ISO S superalloys	Vc = 30 - 120	Vc = 30 - 120
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.1 - 0.3 ap = 0.4 - 3.0	

3135

ISO indexable cutting inserts KNUX ISO P

- **55° rhombic, negative 0°**

ISO P

Chip breaker SR right-hand version

- **Note:**
  RH insert = **right-hand** tool holder or **left-hand** boring bar
  LH insert = **left-hand** tool holder or **right-hand** boring bar

F finishing ○	M medium ●	R roughing -	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Medium finishing 			KNUX 160405-SR	●	○	○				ACP25T	10	366739 0114	
			KNUX 160410-SR	●	○	○				ACP25T	10	366739 0214	

3135

ISO	ACP25T
ISO P steel	Vc = 100 - 240
ISO M stainless steel	Vc = 70 - 210
ISO K cast iron	Vc = 130 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.6 ap = 0.5 - 4.8

Chip breaker SL left-hand version

- **Note:**
  RH insert = **right-hand** tool holder or **left-hand** boring bar
  LH insert = **left-hand** external tool holder or **right-hand** boring bar

F finishing ○	M medium ●	R roughing -	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Medium finishing 			KNUX 160405-SL	●	○	○				ACP25T	10	366738 0114	
			KNUX 160410-SL	●	○	○				ACP25T	10	366738 0214	

3135

ISO	ACP25T
ISO P steel	Vc = 100 - 240
ISO M stainless steel	Vc = 70 - 210
ISO K cast iron	Vc = 130 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.6 ap = 0.5 - 4.8

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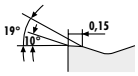
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ISO indexable cutting inserts SN.. ISO P

• **90° square, negative 0°**

ISO P

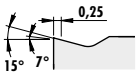
Chip breaker MP5 negative

F finishing -	M medium ●	R roughing ○	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Medium processing 	SNMG 120408-MP5			●	○	○				ACP25T	10	366740 0114	
	SNMG 120412-MP5			●	○	○				ACP25T	10	366740 0214	

3135

ISO	ACP15T	ACP25T	ACP35T
ISO P steel	Vc = 180 - 400	Vc = 100 - 240	Vc = 90 - 190
ISO M stainless steel		Vc = 70 - 200	Vc = 55 - 180
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	ap = 0.5 - 5	f = 0.18 - 0.4 ap = 0.5 - 5.0	ap = 0.5 - 5

Chip breaker PM negative

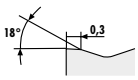
F finishing ○	M medium ●	R roughing -	palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Medium finishing 	SNMG 120408-PM			●		○				PH2G115	10	333704 0177	
				●		○				PH2G125	10	333704 0178	

3148

ISO	PH2G115	PH2G125
ISO P steel	Vc = 110 - 400	Vc = 100 - 345
ISO K cast iron	Vc = 110 - 400	Vc = 100 - 345
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.15 - 0.50 ap = 0.50 - 6.00	

Chip breaker RP1 negative

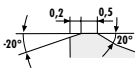
• ap up to 11 mm possible for SNMG 1906..

F finishing -	M medium ○	R roughing ●	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Roughing 	SNMG 150612-RP1			●	○	○				ACP25T	10	366742 0114	
	SNMG 190612-RP1			●	○	○				ACP25T	10	366742 0214	
				●	○					ACP35T	10	366658 0435	

3135

ISO	ACP25T	ACP35T
ISO P steel	Vc = 100 - 240	Vc = 90 - 200
ISO M stainless steel	Vc = 70 - 210	Vc = 55 - 200
ISO K cast iron	Vc = 120 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.6 - 1.0 ap = 3.2 - 7.6	f = 0.2 - 0.7 ap = 1.0 - 7.5

Chip breaker RP9 negative

F finishing -	M medium -	R roughing ●	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Roughing 	SNMM 190616-RP9			●	○	○				ACP25T	10	366750 0114	
	SNMM 190624-RP9			●	○	○				ACP25T	10	366750 0214	
	SNMM 250924-RP9			●	○	○				ACP25T	10	366750 0314	
	SNMM 250932-RP9			●	○	○				ACP25T	10	366750 0414	

3135

ISO	ACP25T
ISO P steel	Vc = 100 - 240
ISO M stainless steel	Vc = 70 - 210
ISO K cast iron	Vc = 120 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.3 - 1.4 ap = 2.5 - 13.0

ISO indexable cutting inserts SN.. ISO M

• 90° square, negative 0°

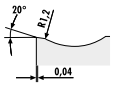
ISO M

Chip breaker MM negative

F finishing	M medium	R roughing
-	●	-



Medium processing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
SNMG 120408-MM		●			○		HC7520	10	310451 2725	
SNMG 120412-MM		●			○		HC7530	10	310451 2826	

ISO	HC7520	HC7530
ISO M stainless steel	Vc = 110 - 260	Vc = 110 - 260
ISO S superalloys	Vc = 30 - 60	Vc = 20 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.18 - 0.3 ap = 0.8 - 3	

3147

Chip breaker MM5 negative

F finishing	M medium	R roughing
-	●	○



Medium processing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
SNMG 120408-MM5	○	●					APM25T	10	366656 0121	

ISO	APM25T
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 60 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.14 - 0.4 ap = 0.25 - 4.0

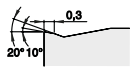
3135

Chip breaker SF negative

F finishing	M medium	R roughing
○	●	-



Medium finishing



palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
SNMG 120404-SF		●					PHS215	10	333635 0371	
		●					PHS225	10	333635 0472	
SNMG 120408-SF		●					PHS215	10	333635 0771	
		●					PHS225	10	333635 0872	
SNMG 120412-SF		●					PHS215	10	333635 1171	
		●					PHS225	10	333635 1272	

ISO	PHS215	PHS225
ISO M stainless steel	Vc = 80 - 290	Vc = 55 - 240
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.1 - 0.55 ap = 1.0 - 4.0	

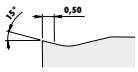
3148

Chip breaker GS negative

F finishing	M medium	R roughing
○	●	-



Medium finishing



palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
SNMG 120408-GS		●			●		PHH920	10	333580 0194	
		●			●		PHH910	10	333580 0195	

ISO	PHH910	PHH920
ISO M stainless steel	Vc = 130 - 250	Vc = 110 - 220
ISO S superalloys	Vc = 25 - 70	Vc = 20 - 60
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.10 - 0.50 ap = 0.50 - 4.0	

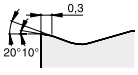
3148

Chip breaker SS negative

F finishing	M medium	R roughing
-	●	●



Medium finishing to roughing operation



palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
SNMG 120404-SS		●					PHS225	10	333637 0572	
SNMG 120408-SS		●					PHS225	10	333637 0872	
SNMG 120412-SS		●					PHS225	10	333637 1172	

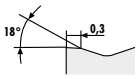
ISO	PHS225
ISO M stainless steel	Vc = 55 - 240
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.1 - 0.8 ap = 0.5 - 8.0

3148

ISO indexable cutting inserts SN.. ISO K

- **90° square, negative 0°**

Chip breaker RK2 negative

F finishing -	M medium ○	R roughing ●	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Medium finishing to roughing operation 	SNMG 120408-RK2			○		●				ACK20T	10	366653 0130	

3135

ISO K

ISO	ACK20T
ISO P steel	Vc = 150 - 340
ISO K cast iron	Vc = 150 - 340
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.6 ap = 0.5 - 7.5





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Overview of all free manufacturers' catalogues on page 12/13

ISO indexable cutting inserts SNMX R 1-4

- **90° square, negative 0°**

Radius indexable turning insert

- **Note: When using indexable cutting inserts with radius > 3 mm, the insert seat must be modified**
- Suitable for PSSN tool holder
- With 8 cutting edges
- **Main application: ISO P**
- Feed f: 0.1–0.2 mm/rev
- Cutting speed Vc 50–120m/min

ISO designation	r mm	art.no.	€
SNMX 120408 R1	1.0	311686 1201	
SNMX 120408 R2	2.0	311686 1202	
SNMX 120408 R3	3.0	311686 1203	
SNMX 120408 R4	4.0	311686 1204	
SNMX 120408 R1-4	1.0-4.0	311686 1234	
		3164	





ISO indexable cutting inserts TN.. ISO P

ISO P

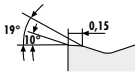
- **60° triangular, negative 0°**

Chip breaker MP5 negative

F finishing	M medium	R roughing	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
-	●	○	TNMG 160404-MP5	●	○	○				ACP25T	10	366743 0114	
			TNMG 160408-MP5	●		○				ACP15T	10	366670 0415	
				●	○	○				ACP25T	10	366743 0214	
				●	○					ACP35T	10	366670 0635	
			TNMG 160412-MP5	●	○	○				ACP25T	10	366743 0314	
			TNMG 220404-MP5	●	○	○				ACP25T	10	366743 0414	
			TNMG 220408-MP5	●	○	○				ACP25T	10	366743 0514	



Medium processing



ISO	ACP15T	ACP25T	ACP35T
ISO P steel	Vc = 100 - 400	Vc = 100 - 240	Vc = 90 - 190
ISO M stainless steel		Vc = 70 - 200	Vc = 55 - 180
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.4 ap = 0.25 - 4.5		

3135

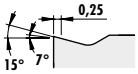
Chip breaker PM negative

NEW

F finishing	M medium	R roughing	palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
○	●	-	TNMG 160404-PM	●		○				PH2G115	10	333705 0177	
				●		○				PH2G125	10	333705 0178	
			TNMG 160408-PM	●		○				PH2G115	10	333705 0277	
				●		○				PH2G125	10	333705 0278	



Medium finishing



ISO	PH2G115	PH2G125
ISO P steel	Vc = 110 - 400	Vc = 100 - 345
ISO K cast iron	Vc = 110 - 400	Vc = 100 - 345
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.10 - 0.30 ap = 0.50 - 5.00	ap = 0.80 - 6.60

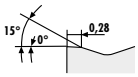
3148

Chip breaker RP2 negative

F finishing	M medium	R roughing	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
-	○	●	TNMG 160408-RP2	●	○	○				ACP25T	10	366744 0114	
			TNMG 160412-RP2	●	○	○				ACP25T	10	366744 0214	



Roughing



ISO	ACP25T
ISO P steel	Vc = 100 - 240
ISO M stainless steel	Vc = 70 - 210
ISO K cast iron	Vc = 120 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.3 - 0.5 ap = 1.5 - 5.0

3135

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ISO indexable cutting inserts TN.. ISO M

- **60° triangular, negative 0°**

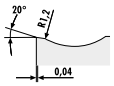
ISO M

Chip breaker MM (HC75..) negative

F finishing	M medium	R roughing
-	●	-



Medium processing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
TNMG 160408-MM		●			○		HC7520	10	310557 3825	
		●			○		HC7530	10	310557 3826	

3147

ISO	HC7520	HC7530
ISO M stainless steel	Vc = 110 - 260	Vc = 130 - 200
ISO S superalloys	Vc = 30 - 60	Vc = 20 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.18 - 0.35 ap = 0.6 - 4	

Chip breaker MM5 negative

F finishing	M medium	R roughing
-	●	○



Medium processing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
TNMG 160404-MM5	○	●					APM25T	10	366669 0121	
TNMG 160408-MM5	○	●					APM25T	10	366669 0221	

3135

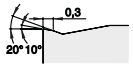
ISO	APM25T
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 60 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.18 - 0.4 ap = 0.5 - 5.0

Chip breaker SF negative

F finishing	M medium	R roughing
○	●	-



Medium finishing



palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
TNMG 160404-SF		●					PHS215	10	333648 0371	
		●					PHS225	10	333648 0472	
TNMG 160408-SF		●					PHS215	10	333648 0771	
		●					PHS225	10	333648 0872	
TNMG 160412-SF		●					PHS215	10	333648 1171	
		●					PHS225	10	333648 1272	

3148

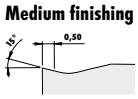
ISO	PHS215	PHS225
ISO M stainless steel	Vc = 80 - 290	Vc = 55 - 240
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.1 - 0.55 ap = 0.6 - 3.0	

Chip breaker GS negative

F finishing	M medium	R roughing
○	●	-



Medium finishing



palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
TNMG 160404-GS		●			●		PHH920	10	333581 0194	
		●			●		PHH910	10	333581 0195	
TNMG 160408-GS		●			●		PHH920	10	333581 0294	
		●			●		PHH910	10	333581 0295	
TNMG 160412-GS		●			●		PHH920	10	333581 0394	
		●			●		PHH910	10	333581 0395	

3148

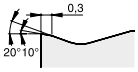
ISO	PHH910	PHH920
ISO M stainless steel	Vc = 130 - 250	Vc = 110 - 220
ISO S superalloys	Vc = 25 - 70	Vc = 20 - 60
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.10 - 0.50 ap = 0.50 - 4.0	

Chip breaker SS negative

F finishing	M medium	R roughing
-	●	●



Medium finishing to roughing operation

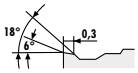


palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
TNMG 160404-SS		●					PHS215	10	333653 0171	
		●					PHS225	10	333653 0172	
TNMG 160408-SS		●					PHS215	10	333653 0671	
		●					PHS225	10	333653 0723	
TNMG 160412-SS		●					PHS215	10	333653 1171	
		●					PHS225	10	333653 1172	
TNMG 220408-SS		●					PHS215	10	333653 1671	
		●					PHS225	10	333653 1672	
TNMG 220412-SS		●					PHS225	10	333653 2172	

3148

ISO	PHS215	PHS225
ISO M stainless steel	Vc = 55 - 240	Vc = 55 - 240
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.1 - 1.0 ap = 0.3 - 8.5	

Chip breaker RM5 negative

F finishing -	M medium ○	R roughing ●	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Roughing 	TNMG 160408-RM5			○	●					**APM25T**	10	366675 0221	

ISO	APM25T
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 60 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.6 ap = 0.5 - 6.0

3135

ISO indexable cutting inserts TN.. ISO N

- **60° triangular, negative 0°**

ISO N

Chip breaker MS negative

F finishing ○	M medium ●	R roughing -	palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Smoothing 	TNMG 160404-MS				●					**PH0910**	10	333647 0120	
				○				●		**PHH920**	10	333647 0194	
	TNMG 160408-MS				●					**PH0910**	10	333647 0320	
				○				●		**PHH920**	10	333647 0394	
	TNMG 160412-MS				●					**PH0910**	10	333647 0520	

ISO	PH0910	PHH920
ISO M stainless steel		Vc = 90 - 220
ISO N Al/non-ferrous	Vc = 35 - 630	
ISO S superalloys		Vc = 35 - 145
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.10 - 0.60 ap = 0.30 - 3.8	f = 0.08 - 0.40 ap = 0.20 - 3.80

3148

ISO indexable cutting inserts TN.. ISO S

- **60° triangular, negative 0°**

ISO S

Chip breaker MS1 negative

F finishing ○	M medium ●	R roughing -	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Medium processing 	TNMG 160408-MS1				○			●		**APS15T**	10	366672 0231	

ISO	APS10T	APS15T
ISO M stainless steel	Vc = 50 - 220	Vc = 50 - 220
ISO S superalloys	Vc = 30 - 120	Vc = 30 - 120
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.1 - 0.3 ap = 0.5 - 3.0	

3135

ISO indexable cutting inserts VN.. ISO P

• **35° rhombic, negative 0°**

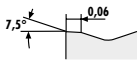
ISO P

Chip breaker FP1 negative

F finishing	M medium	R roughing	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	○	-	VNMG 160404-FP1	●		○				**ACP15T**	10	366686 0115	



Smoothing



3135

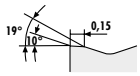
ISO	ACP15T
ISO P steel	Vc = 180 - 400
ISO K cast iron	Vc = 140 - 520
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.07 - 0.25 ap = 0.2 - 2.5

Chip breaker MP5 negative

F finishing	M medium	R roughing	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
○	●	-	VNMG 160404-MP5	●		○				**ACP15T**	10	366685 0115	
				●	○	○				**ACP25T**	10	366746 0114	
			VNMG 160408-MP5										
				●	○	○				**ACP25T**	10	366746 0214	



Medium processing



3135

ISO	ACP15T	ACP25T
ISO P steel	Vc = 180 - 400	Vc = 100 - 240
ISO M stainless steel		Vc = 70 - 200
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.4 ap = 0.25 - 3.5	

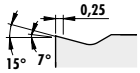
Chip breaker PM negative

NEW

F finishing	M medium	R roughing	palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
○	●	-	VNMG 160404-PM	●		○				**PH2G115**	10	333706 0177	
				●		○				**PH2G125**	10	333706 0178	
			VNMG 160408-PM	●		○				**PH2G115**	10	333706 0277	
				●		○				**PH2G125**	10	333706 0278	
			VNMG 160412-PM	●		○				**PH2G115**	10	333706 0377	
				●		○				**PH2G125**	10	333706 0378	



Medium finishing



3148

ISO	PH2G115	PH2G125
ISO P steel	Vc = 110 - 400	Vc = 100 - 345
ISO K cast iron	Vc = 110 - 400	Vc = 100 - 345
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.10 - 0.30 ap = 1.00 - 4.00	

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ISO indexable cutting inserts VN.. ISO M

ISO M

- 35° rhombic, negative 0°

Chip breaker FM5 negative

F finishing	M medium	R roughing	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	-	-											
 Smoothing 	VNGP 160402-FM5			●	○	○	○			**APM20T**	10	366684 0120	
	VNGP 160404-FM5			●	○	○	○			**APM20T**	10	366684 0220	

3135

ISO	APM20T
ISO M stainless steel	Vc = 60 - 200
ISO K cast iron	Vc = 120 - 220
ISO N Al/non-ferrous	Vc = 100 - 600
ISO S superalloys	Vc = 20 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.08 ap = 0.14 - 2.5

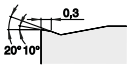
Chip breaker MM5 negative

F finishing	M medium	R roughing	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
○	●	-											
 Medium processing 	VNMG 160408-MM5			○	●					**APM25T**	10	366688 0121	

3135

ISO	APM25T
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 40 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.14 - 0.4 ap = 0.25 - 4

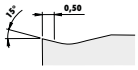
Chip breaker SF negative

F finishing	M medium	R roughing	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
○	●	-											
 Medium finishing 	VNMG 160404-SF			●						**PHS215**	10	333660 0371	
				●						**PHS225**	10	333660 0472	
	VNMG 160408-SF			●						**PHS215**	10	333660 0771	
				●						**PHS225**	10	333660 0872	
	VNMG 160412-SF			●						**PHS215**	10	333660 1171	
				●						**PHS225**	10	333660 1272	

3148

ISO	PHS215	PHS225
ISO M stainless steel	Vc = 80 - 290	Vc = 55 - 240
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.1 - 0.55 ap = 0.6 - 3.0	

Chip breaker GS negative

F finishing	M medium	R roughing	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
○	●	-											
 Medium finishing 	VNMG 160404-GS			●				●		**PHH920**	10	333582 0194	
				●				●		**PHH910**	10	333582 0195	
	VNMG 160408-GS			●				●		**PHH920**	10	333582 0294	
				●				●		**PHH910**	10	333582 0295	
	VNMG 160412-GS			●				●		**PHH920**	10	333582 0394	
				●				●		**PHH910**	10	333582 0395	

3148

ISO	PHH910	PHH920
ISO M stainless steel	Vc = 130 - 250	Vc = 110 - 220
ISO S superalloys	Vc = 25 - 70	Vc = 20 - 60
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.10 - 0.50 ap = 0.50 - 4.0	

ISO indexable cutting inserts VN.. ISO N

ISO N

- **35° rhombic, negative 0°**

Chip breaker MS negative

F finishing ○	M medium ●	R roughing -	palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Smoothing 	VNMG 160404-MS				●					**PH0910**	10	333659 0120	
					●			●		**PHH920**	10	333659 0194	
	VNMG 160408-MS				●					**PH0910**	10	333659 0320	
					●			●		**PHH920**	10	333659 0394	

ISO	PH0910	PHH920
ISO M stainless steel		Vc = 90 - 220
ISO N Al/non-ferrous	Vc = 35 - 630	
ISO S superalloys		Vc = 35 - 145
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.10 - 0.40 ap = 0.20 - 4.0	f = 0.08 - 0.40 ap = 0.20 - 4.00

3148

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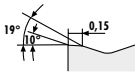
https://toolfinder.sartorius-werkzeuge.de/

ISO indexable cutting inserts WN.. ISO P

- **80° trigometric, negative 0°**

ISO P

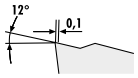
Chip breaker MP5 negative

F finishing	M medium	R roughing	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
-	●	-											
 Medium processing 	WNMG 060404-MP5		●	○	○				ACP25T	10	366747 0114	
	WNMG 060408-MP5		●	○	○				ACP25T	10	366747 0214	
	WNMG 080404-MP5		○		○				ACP15T	10	366695 0715	
			●	○	○				ACP25T	10	366747 0314	
	WNMG 080408-MP5											
			●	○	○				ACP25T	10	366747 0414	
			●	○					ACP35T	10	366695 1235	
	WNMG 080412-MP5											
			●	○	○				ACP25T	10	366747 0514	
			●	○					ACP35T	10	366695 1535	

3135

ISO	ACP15T	ACP25T	ACP35T
ISO P steel	Vc = 180 - 400	Vc = 100 - 240	Vc = 90 - 190
ISO M stainless steel		Vc = 70 - 200	Vc = 55 - 180
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.4 ap = 0.25 - 3.5		

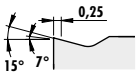
Chip breaker MP negative

F finishing	M medium	R roughing	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
-	●	-											
 Medium processing 	WNMG 060404-MP		●		○				HC7620	10	311755 0312	
	WNMG 060408-MP		●		○				HC7620	10	311755 0412	
	WNMG 080404-MP		●		○				HC7610	10	311755 0811	
			●		○				HC7620	10	311755 0812	
			●						HC7630	10	311755 0813	
	WNMG 080408-MP		●		○				HC7610	10	311755 0911	
			●		○				HC7620	10	311755 0912	
			●						HC7630	10	311755 0913	
	WNMG 080412-MP		●		○				HC7620	10	311755 1012	

3147

ISO	HC7610	HC7620	HC7630
ISO P steel	Vc = 110 - 350	Vc = 90 - 350	Vc = 60 - 220
ISO K cast iron	Vc = 140 - 240	Vc = 120 - 290	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.16 - 0.25 ap = 0.6 - 5	ap = 1 - 6	ap = 0.6 - 5

Chip breaker PM negative

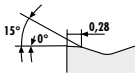
F finishing	M medium	R roughing	palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
○	●	-											
 Medium finishing 	WNMG 060404-PM		●		○				PH2G115	10	333707 0177	
			●		○				PH2G125	10	333707 0178	
	WNMG 060408-PM		●		○				PH2G115	10	333707 0277	
			●		○				PH2G125	10	333707 0278	
	WNMG 080404-PM		●		○				PH2G115	10	333707 0377	
			●		○				PH2G125	10	333707 0378	
	WNMG 080408-PM		●		○				PH2G115	10	333707 0477	
			●		○				PH2G125	10	333707 0478	

3148

NEW

ISO	PH2G115	PH2G125
ISO P steel	Vc = 110 - 400	Vc = 100 - 345
ISO K cast iron	Vc = 110 - 400	Vc = 100 - 345
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.10 - 0.30 ap = 0.50 - 4.00	ap = 0.80 - 4.00

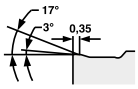
Chip breaker RP2 negative

F finishing -	M medium ○	R roughing ●	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Roughing 	WNMG080408-RP2			●	○	○				ACP25T	10	366748 0114	
	WNMG080412-RP2			●	○	○				ACP25T	10	366748 0214	

ISO	ACP25T
ISO P steel	Vc = 100 - 240
ISO M stainless steel	Vc = 70 - 200
ISO K cast iron	Vc = 120 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.3 - 0.5 ap = 1.5 - 5.0

3135

Chip breaker RP5 negative

F finishing -	M medium ○	R roughing ●	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Roughing 	WNMG 080408-RP5			●		●				HC7610	10	311520 1911	
				●		●				HC7620	10	311520 1912	
				●		●				HC7630	10	311520 1913	
	WNMG 080412-RP5			●		●				HC7620	10	311520 2012	

ISO	HC7610	HC7620	HC7630
ISO P steel	Vc = 160 - 270	Vc = 160 - 270	Vc = 160 - 270
ISO K cast iron	Vc = 140 - 390	Vc = 140 - 390	Vc = 140 - 390
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.4 ap = 0.8 - 6.0	ap = 1.0 - 6.0	ap = 0.8 - 6.0

3147

ISO indexable cutting inserts WN.. ISO M

ISO M

- **80° trigometric, negative 0°**

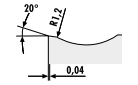
Chip breaker FM5 negative

F finishing ●	M medium -	R roughing -	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Smoothing 	WNGP 080404-FM5				●	○	○	○		APM20T	10	366692 0120	
	WNGP 080408-FM5				●	○	○	○		APM20T	10	366692 0220	

ISO	APM20T
ISO M stainless steel	Vc = 60 - 200
ISO K cast iron	Vc = 120 - 220
ISO N Al/non-ferrous	Vc = 100 - 600
ISO S superalloys	Vc = 20 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.08 ap = 0.14 - 2.5

3135

Chip breaker MM (HC75..) negative

F finishing -	M medium ●	R roughing -	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Medium processing 	WNMG 060404-MM				●			●		HC7520	10	310757 0325	
					●			○		HC7530	10	310757 0326	
	WNMG 060408-MM				●			○		HC7520	10	310757 0425	
					●			○		HC7530	10	310757 0426	
	WNMG 080404-MM				●			○		HC7520	10	310757 0625	
	WNMG 080408-MM				●			○		HC7520	10	310757 0925	
					●			○		HC7530	10	310757 0926	

ISO	HC7520	HC7530
ISO M stainless steel	Vc = 110 - 260	Vc = 90 - 200
ISO S superalloys	Vc = 30 - 60	Vc = 30 - 60
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.18 - 0.4 ap = 1 - 6	f = 0.18 - 0.35

3147

Chip breaker MM5 negative

F finishing	M medium	R roughing
-	●	-



Medium processing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
WNMG 060404-MM5	○	●					APM25T	10 366694 0121	
WNMG 060408-MM5	○	●					APM25T	10 366694 0221	
WNMG 080404-MM5	○	●					APM25T	10 366694 0321	
WNMG 080408-MM5	○	●					APM25T	10 366694 0421	

ISO	APM25T
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 40 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.4 ap = 0.25 - 3.5

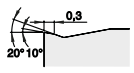
3135

Chip breaker SF negative

F finishing	M medium	R roughing
○	●	-



Medium finishing



palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
WNMG 060404-SF		●					PHS215	10 333668 0371	
		●					PHS225	10 333668 0472	
WNMG 060408-SF		●					PHS215	10 333668 0771	
		●					PHS225	10 333668 0872	
WNMG 060412-SF		●					PHS215	10 333668 1171	
		●					PHS225	10 333668 1272	
WNMG 080404-SF		●					PHS215	10 333668 1571	
		●					PHS225	10 333668 1672	
WNMG 080408-SF		●					PHS215	10 333668 1971	
		●					PHS225	10 333668 2072	
WNMG 080412-SF		●					PHS215	10 333668 2371	
		●					PHS225	10 333668 2472	

ISO	PHS215	PHS225
ISO M stainless steel	Vc = 80 - 290	Vc = 55 - 240
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.1 - 0.55 ap = 0.6 - 3.0	

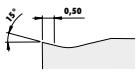
3148

Chip breaker GS negative

F finishing	M medium	R roughing
○	●	-



Medium finishing



palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
WNMG 060404-GS		●			●		PHH920	10 333583 0494	
		●			●		PHH910	10 333583 0495	
WNMG 060408-GS		●			●		PHH920	10 333583 0594	
		●			●		PHH910	10 333583 0595	
WNMG 080404-GS		●			●		PHH920	10 333583 0194	
		●			●		PHH910	10 333583 0195	
WNMG 080408-GS		●			●		PHH920	10 333583 0294	
		●			●		PHH910	10 333583 0295	
WNMG 080412-GS		●			●		PHH920	10 333583 0394	
		●			●		PHH910	10 333583 0395	

ISO	PHH910	PHH920
ISO M stainless steel	Vc = 130 - 250	Vc = 110 - 220
ISO S superalloys	Vc = 25 - 70	Vc = 20 - 60
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.10 - 0.40 ap = 0.15 - 3.50	

3148

Chip breaker SM2-HP negative

F finishing	M medium	R roughing
-	●	-



Medium finishing to roughing operation



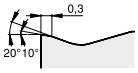
ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
WNMG 080404-SM2	○	●					ACM20T	10 311679 0112	
WNMG 080408-SM2	○	●					ACM20T	10 311679 0212	

Highly wear-resistant

ISO	ACM20T
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 120 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.4 ap = 1.0 - 4.2

3147

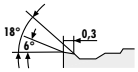
Chip breaker SS negative

F finishing -	M medium ●	R roughing ●	palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Medium finishing to roughing operation 			WNMG 060404-SS		●					PHS215	10	333674 0171	
					●					PHS225	10	333674 0172	
			WNMG 060408-SS		●					PHS215	10	333674 0571	
					●					PHS225	10	333674 0572	
			WNMG 080404-SS		●					PHS215	10	333674 1071	
					●					PHS225	10	333674 1072	
			WNMG 080408-SS		●					PHS215	10	333674 1571	
					●					PHS225	10	333674 1572	
			WNMG 080412-SS		●					PHS215	10	333674 2071	
					●					PHS225	10	333674 2072	

3148

ISO	PHS215	PHS225
ISO M stainless steel	Vc = 55 - 240	Vc = 55 - 240
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.6 ap = 0.5 - 4.0	

Chip breaker RM5 negative

F finishing -	M medium ○	R roughing ●	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Roughing 			WNMG 080408-RM5	○	●					APM25T	10	366699 0121	
			WNMG 080412-RM5	○	●					APM25T	10	366699 0321	

3135

ISO	APM25T
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 40 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.5 ap = 0.5 - 6

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ISO indexable cutting inserts WN.. ISO N

ISO N

- **80° trigometric, negative 0°**

Chip breaker MS negative

F finishing ○	M medium ●	R roughing -	palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Smoothing 	WNMG 080408-MS						●			**PH0910**	10	333667 0320	
	WNMG 080412-MS						●			**PH0910**	10	333667 0520	

ISO	PH0910
ISO N Al/non-ferrous	Vc = 35 - 630
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.20 - 0.55 ap = 0.70 - 4.0

3148

ISO indexable cutting inserts WN.. ISO S

ISO S

- **80° trigometric, negative 0°**

Chip breaker MS1 negative

F finishing ○	M medium ●	R roughing -	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Medium processing 	WNMG 080408-MS1				○			●		**APS15T**	10	366698 0231	

ISO	APS10T	APS15T
ISO M stainless steel	Vc = 60 - 230	Vc = 50 - 220
ISO S superalloys	Vc = 30 - 120	Vc = 30 - 120
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.08 - 0.3 ap = 0.25 - 3	

3135

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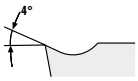
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ISO indexable cutting inserts CC.. ISO P

ISO P

- **80° rhombic, positive 7°**

Chip breaker FFP, CERMET design

F finishing	M medium	R roughing	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	-	-											
 Fine smoothing 	CCMT 060204-FFP			●	○	○				**ATU10T**	10	366603 0140	
	CCMT 09T304-FFP			●	○	○				**ATU10T**	10	366603 0240	

ISO	ATU10T
ISO P steel	Vc = 160 - 270
ISO M stainless steel	Vc = 130 - 240
ISO K cast iron	Vc = 220 - 350
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.2 ap = 0.1 - 1.65

3135

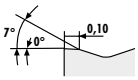
Chip breaker BO positive

F finishing	M medium	R roughing	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	-	-											
 Fine smoothing 	CCMT 060202-BO			●	○			○		**PH7910**	10	373510 1049	
				●	○			○		**PH7920**	10	373510 1050	
	CCMT 060204-BO			●	○			○		**PH7910**	10	373510 1149	
				●	○			○		**PH7920**	10	373510 1150	
	CCMT 060208-BO			●	○			○		**PH7920**	10	373510 1250	
	CCMT 09T302-BO			●	○			○		**PH7920**	10	373510 1350	
	CCMT 09T304-BO			●	○			○		**PH7910**	10	373510 1349	
				●	○			○		**PH7920**	10	373510 1450	
	CCMT 09T308-BO			●	○			○		**PH7910**	10	373510 1449	
				●	○			○		**PH7920**	10	373510 1550	
	CCMT 120404-BO			●	○			○		**PH7910**	10	373510 1549	
				●	○			○		**PH7920**	10	373510 1650	
	CCMT 120408-BO			●	○			○		**PH7910**	10	373510 1649	
				●	○			○		**PH7920**	10	373510 1750	

ISO	PH7910	PH7920
ISO P steel	Vc = 115 - 245	Vc = 100 - 230
ISO M stainless steel	Vc = 100 - 230	Vc = 100 - 235
ISO S superalloys	Vc = 33 - 170	Vc = 23 - 150
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.30 ap = 0.30 - 1.50	

1172

Chip breaker FP1 positive

F finishing	M medium	R roughing	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	○	-											
 Smoothing 	CCMT 060202-FP1			●	○	○				**ACP25T**	10	366718 0114	
	CCMT 060204-FP1			●		○				**ACP15T**	10	366604 0215	
				●	○	○				**ACP25T**	10	366718 0214	
	CCMT 09T302-FP1			●	○	○				**ACP25T**	10	366718 0314	
	CCMT 09T304-FP1			●		○				**ACP15T**	10	366604 0515	
				●	○	○				**ACP25T**	10	366718 0414	
	CCMT 09T308-FP1			●		○				**ACP15T**	10	366604 0715	
				●	○	○				**ACP25T**	10	366718 0514	
	CCMT 120404-FP1			●		○				**ACP15T**	10	366604 1015	

ISO	ACP15T	ACP25T
ISO P steel	Vc = 180 - 400	Vc = 100 - 240
ISO M stainless steel		Vc = 70 - 200
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.07 - 0.25 ap = 0.1 - 2.5	

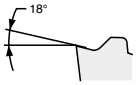
3135

Chip breaker FU1 positive

F finishing	M medium	R roughing
●	-	-



Smoothing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
CCGT 060201-FU1	●	●			●		HC7820	10 311530 1312	
CCGT 060202-FU1	●	●			●		HC7810	10 311530 1411	
	●	●			●		HC7820	10 311530 1412	
CCGT 060204-FU1	●	●			●		HC7810	10 311530 1511	
	●	●			●		HC7820	10 311530 1512	
CCGT 09T301-FU1	●	●			●		HC7820	10 311530 1612	
CCGT 09T302-FU1	●	●			●		HC7810	10 311530 1711	
	●	●			●		HC7820	10 311530 1712	
CCGT 09T304-FU1	●	●			●		HC7810	10 311530 1811	
	●	●			●		HC7820	10 311530 1812	
CCGT 09T308-FU1	●	●			●		HC7810	10 311530 1911	
	●	●			●		HC7820	10 311530 1912	
CCGT 120404-FU1	●	●			●		HC7820	10 311530 3212	
CCGT 120408-FU1	●	●			●		HC7820	10 311530 3312	

3147

ISO	HC7810	HC7820
ISO P steel	Vc = 80 - 160	Vc = 30 - 120
ISO M stainless steel	Vc = 130 - 220	Vc = 100 - 220
ISO S superalloys	Vc = 40 - 60	Vc = 40 - 60
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.30 ap = 0.3 - 3.0	f = 0.08 - 0.25 ap = 0.3 - 3.0

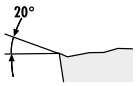
Excellent chip control

Chip breaker FP positive

F finishing	M medium	R roughing
●	-	-



Smoothing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
CCMT 060202-FP		●	○		●		HC7520	10 311526 0125	
	●		○				HC7610	10 311101 0111	
	●		○				HC7620	10 311101 0112	
CCMT 060204-FP		●			●		HC7520	10 311526 0225	
	●		○				HC7610	10 311101 0211	
	●		○				HC7620	10 311101 0212	
CCMT 09T302-FP	●		○				HC7610	10 311101 1111	
	●		○				HC7620	10 311101 1112	
CCMT 09T304-FP		●			●		HC7520	10 311526 0325	
	●		○				HC7610	10 311101 1211	
	●		○				HC7620	10 311101 1212	
CCMT 09T308-FP		●			●		HC7520	10 311526 0425	
	●		○				HC7610	10 311101 1311	
	●		○				HC7620	10 311101 1312	
CCMT 120404-FP	●		○				HC7610	10 311101 2611	
	●		○				HC7620	10 311101 2612	
CCMT 120408-FP	●		○				HC7610	10 311101 2711	
	●		○				HC7620	10 311101 2712	

3147

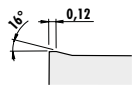
ISO	HC7520	HC7610	HC7620
ISO P steel		Vc = 140 - 380	Vc = 110 - 320
ISO M stainless steel	Vc = 80 - 220		
ISO K cast iron		Vc = 140 - 240	Vc = 140 - 260
ISO S superalloys	Vc = 30 - 60		
Vc = [m/min] f = [mm/U] ap = [mm]	ap = 0.1 - 1.5	f = 0.04 - 0.12 ap = 0.1 - 2.5	

Chip breaker FP2 positive

F finishing	M medium	R roughing
●	-	-



Smoothing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
CCMX 09T304-FP2	●	○	○				ACP25T	10 366728 0114	
CCMX 09T308-FP2	●	○	○				ACP25T	10 366728 0214	

3135

ISO	ACP25T
ISO P steel	Vc = 100 - 240
ISO M stainless steel	Vc = 70 - 210
ISO K cast iron	Vc = 130 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.4 ap = 0.3 - 3.0

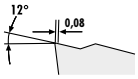
Chip breaker FP positive

F finishing	M medium	R roughing	palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	-	-											
 Smoothing 	CCMT 060204-FP			○					PH2G115	10	333502 0277	
				○					PH2G125	10	333502 0278	
	CCMT 09T304-FP			○					PH2G115	10	333502 0477	
				○					PH2G125	10	333502 0478	
	CCMT 09T308-FP			○					PH2G115	10	333502 0577	
				○					PH2G125	10	333502 0578	
	CCMT 120404-FP			○					PH2G115	10	333502 0677	
				○					PH2G125	10	333502 0678	

3148

ISO	PH2G115	PH2G125
ISO P steel	Vc = 110 - 400	Vc = 100 - 340
ISO K cast iron	Vc = 110 - 400	Vc = 100 - 340
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.03 - 0.45 ap = 0.06 - 2.40	

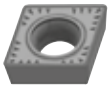
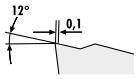
Chip breaker MP5 positive

F finishing	M medium	R roughing	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
-	●	○											
 Medium finishing 	CCMT 060204-MP5			○					ACP15T	10	366606 0115	
				○					ACP25T	10	366717 0114	
									ACP35T	10	366606 0335	
	CCMT 060208-MP5			○					ACP25T	10	366606 0525	
	CCMT 09T304-MP5			○					ACP15T	10	366606 0615	
				○					ACP25T	10	366717 0314	
									ACP35T	10	366606 0835	
	CCMT 09T308-MP5			○					ACP15T	10	366606 0915	
				○					ACP25T	10	366717 0414	
									ACP35T	10	366606 1135	
	CCMT 120404-MP5			○					ACP25T	10	366717 0514	
	CCMT 120408-MP5			○					ACP25T	10	366717 0614	
	CCMT 120412-MP5			○					ACP25T	10	366717 0714	

3135

ISO	ACP15T	ACP25T	ACP35T
ISO P steel	Vc = 180 - 400	Vc = 100 - 240	Vc = 90 - 200
ISO M stainless steel		Vc = 70 - 210	Vc = 55 - 200
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.4 ap = 0.25 - 3.5		

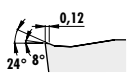
Chip breaker MP positive

F finishing	M medium	R roughing	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
-	●	-											
 Medium processing 	CCMT 060204-MP			○					HC7610	10	311103 0211	
				○					HC7620	10	311103 0212	
									HC7630	10	311103 0213	
	CCMT 09T304-MP			○					HC7610	10	311103 1211	
				○					HC7620	10	311103 1212	
									HC7630	10	311103 1213	
	CCMT 09T308-MP			○					HC7610	10	311103 1311	
				○					HC7620	10	311103 1312	
									HC7630	10	311103 1313	
	CCMT 120404-MP			○					HC7610	10	311103 2611	
				○					HC7620	10	311103 2612	
									HC7630	10	311103 2613	
	CCMT 120408-MP			○					HC7610	10	311103 2711	
				○					HC7620	10	311103 2712	
									HC7630	10	311103 2713	

3147

ISO	HC7610	HC7620	HC7630
ISO P steel	Vc = 140 - 380	Vc = 110 - 320	Vc = 80 - 220
ISO K cast iron	Vc = 140 - 240	Vc = 140 - 260	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.25 ap = 0.6 - 5		

Chip breaker MP positive

F finishing	M medium	R roughing	palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
○	●	-											
 Medium finishing 	CCMT 09T304-MP			○					PH2G115	10	333501 0277	
				○					PH2G125	10	333501 0278	
	CCMT 09T308-MP			○					PH2G115	10	333501 0377	
	CCMT 09T308-MP			○					PH2G125	10	333501 0378	
	CCMT 120404-MP			○					PH2G115	10	333501 0477	
				○					PH2G125	10	333501 0478	
	CCMT 120408-MP			○					PH2G115	10	333501 0577	
				○					PH2G125	10	333501 0578	

3148

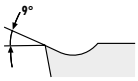
ISO	PH2G115	PH2G125
ISO P steel	Vc = 110 - 400	Vc = 100 - 340
ISO K cast iron	Vc = 110 - 400	Vc = 100 - 340
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.06 - 0.60 ap = 0.20 - 3.60	

ISO indexable cutting inserts CC.. ISO M

ISO M

- **80° rhombic, positive 7°**

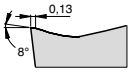
Chip breaker FFM positive

F finishing	M medium	R roughing	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	-	-											
 Fine smoothing 	CCGT 060200-FFM		●	○	○	○		APM20T	10	366602 0120			
	CCGT 060201-FFM		●	○	○	○		APM20T	10	366602 0220			
	CCGT 09T300-FFM		●	○	○	○		APM20T	10	366602 0320			
	CCGT 09T301-FFM		●	○	○	○		APM20T	10	366602 0420			

3135

ISO	APM20T
ISO M stainless steel	Vc = 60 - 200
ISO K cast iron	Vc = 120 - 220
ISO N Al/non-ferrous	Vc = 100 - 600
ISO S superalloys	Vc = 20 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.02 - 0.14 ap = 0.05 - 1.35

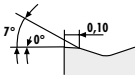
Chip breaker FS positive

F finishing	M medium	R roughing	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	-	-											
 Fine smoothing 	CCGT 060201-FS		●			●		PHH920	10	333513 0194			
			●			●		PHH910	10	333513 0195			
	CCGT 060202-FS		●			●		PHH920	10	333513 0294			
			●			●		PHH910	10	333513 0295			
	CCGT 060204-FS		●			●		PHH920	10	333513 0394			
			●			●		PHH910	10	333513 0395			
	CCGT 09T301-FS		●			●		PHH920	10	333513 0494			
			●			●		PHH910	10	333513 0495			
	CCGT 09T302-FS		●			●		PHH920	10	333513 0594			
			●			●		PHH910	10	333513 0595			
	CCGT 09T304-FS		●			●		PHH920	10	333513 0694			
			●			●		PHH910	10	333513 0695			

3148

ISO	PHH910	PHH920
ISO M stainless steel	Vc = 100 - 230	Vc = 90 - 220
ISO S superalloys	Vc = 40 - 150	Vc = 35 - 145
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.01 - 0.25 ap = 0.10 - 2.50	

Chip breaker FM1 positive

F finishing	M medium	R roughing	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	○	-											
 Smoothing 	CCMT 060202-FM1		○	●						APM25T	10	366605 0121	
	CCMT 060204-FM1		○	●						APM25T	10	366605 0221	
	CCMT 09T302-FM1		○	●						APM25T	10	366605 0321	
	CCMT 09T304-FM1		○	●						APM25T	10	366605 0421	
	CCMT 09T308-FM1		○	●						APM25T	10	366605 0521	

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ISO	APM25T
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 60 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.07 - 0.25 ap = 0.2 - 2.5

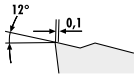
Chip breaker FM positive PHH

F finishing	M medium	R roughing	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	-	-											
 Smoothing 	CCMT 060202-FM		●			●		PHH920	10	333504 0194			
			●			●		PHH910	10	333504 0195			
	CCMT 060204-FM		●			●		PHH920	10	333504 0294			
			●			●		PHH910	10	333504 0295			
	CCMT 09T302-FM		●			●		PHH920	10	333504 0394			
			●			●		PHH910	10	333504 0395			
	CCMT 09T304-FM		●			●		PHH920	10	333504 0494			
			●			●		PHH910	10	333504 0495			
	CCMT 09T308-FM		●			●		PHH920	10	333504 0594			
			●			●		PHH910	10	333504 0595			

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ISO	PHH910	PHH920
ISO M stainless steel	Vc = 100 - 230	Vc = 90 - 220
ISO S superalloys	Vc = 40 - 150	Vc = 35 - 145
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.03 - 0.45 ap = 0.06 - 2.00	

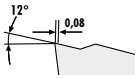
Chip breaker MP stainless steel positive

F finishing -	M medium ●	R roughing -	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Medium processing 	CCMT 060204-MP				●			○		HC7520	10	310103 0225	
					●			○		HC7530	10	310103 0226	
	CCMT 09T304-MP				●			○		HC7520	1	310103 1225	
					●			○		HC7530	10	310103 1226	
	CCMT 09T308-MP				●			○		HC7520	10	310103 1325	
					●			○		HC7530	10	310103 1326	

ISO	HC7520	HC7530
ISO M stainless steel	Vc = 80 - 240	Vc = 90 - 160
ISO S superalloys	Vc = 30 - 60	Vc = 30 - 60
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.25 ap = 0.6 - 5	ap = 0.8 - 5

3147

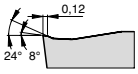
Chip breaker MM3 positive

F finishing -	M medium ●	R roughing ○	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Medium finishing 	CCMT 060204-MM3			○	●					APM25T	10	366607 0121	
	CCMT 060208-MM3			○	●					APM25T	10	366607 0221	
	CCMT 09T304-MM3			○	●					APM25T	10	366607 0321	
				○	●					APM35T	10	366607 0422	
	CCMT 09T308-MM3			○	●					APM25T	10	366607 0521	
	CCMT 120404-MM3			○	●					APM25T	10	366607 0721	
	CCMT 120408-MM3			○	●					APM25T	10	366607 0821	
	CCMT 120412-MM3			○	●					APM25T	10	366607 0921	

ISO	APM25T	APM35T
ISO P steel	Vc = 80 - 250	Vc = 90 - 200
ISO M stainless steel	Vc = 40 - 250	Vc = 55 - 200
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.3 ap = 0.25 - 3.5	

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Chip breaker MM positive PHH

F finishing ○	M medium ●	R roughing -	palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Medium finishing 	CCMT 09T304-MM				●			●		PHH920	10	333509 0394	
					●			●		PHH910	10	333509 0395	
	CCMT 09T308-MM				●			●		PHH920	10	333509 0494	
					●			●		PHH910	10	333509 0495	
	CCMT 120404-MM				●			●		PHH920	10	333509 0594	
					●			●		PHH910	10	333509 0595	
	CCMT 120408-MM				●			●		PHH920	10	333509 0694	
					●			●		PHH910	10	333509 0695	

ISO	PHH910	PHH920
ISO M stainless steel	Vc = 100 - 230	Vc = 90 - 220
ISO S superalloys	Vc = 40 - 150	Vc = 35 - 145
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.06 - 0.60 ap = 0.20 - 3.60	

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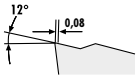
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ISO indexable cutting inserts CC.. ISO K

ISO K

- **80° rhombic, positive 7°**

Chip breaker MK positive

F finishing -	M medium ●	R roughing ○	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Medium finishing 			CCMT 060204-MK	○		●				ACK20T	10	366608 0130	
			CCMT 09T304-MK	○		●				ACK20T	10	366608 0230	
			CCMT 09T308-MK	○		●				ACK20T	10	366608 0330	
			CCMT 120408-MK	○		●				ACK20T	10	366608 0430	

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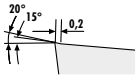
ISO	ACK20T
ISO P steel	Vc = 150 - 340
ISO K cast iron	Vc = 150 - 550
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.4 ap = 0.5 - 3.0

ISO indexable cutting inserts CC.. ISO N

ISO N

- **80° rhombic, positive 7°**

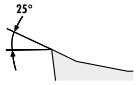
Chip breaker MN5 positive

F finishing ○	M medium ○	R roughing ○	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Medium processing 			CCGT 060202-MN5			○	●	○		AWN15T	10	366601 0216	
					○	○	●	○		APN15T	10	366601 0417	
			CCGT 060204-MN5			○	●	○		AWN15T	10	366601 0316	
					○	○	●	○		APN15T	10	366601 0517	
			CCGT 09T302-MN5			○	●	○		AWN15T	10	366601 0616	
					○	○	●	○		APN15T	10	366601 0717	
			CCGT 09T304-MN5			○	●	○		AWN15T	10	366601 0816	
					○	○	●	○		APN15T	10	366601 0917	
			CCGT 09T308-MN5			○	●	○		AWN15T	10	366601 1016	
					○	○	●	○		APN15T	10	366601 1117	
			CCGT 120404-MN5			○	●	○		AWN15T	10	366601 1216	
			CCGT 120408-MN5			○	●	○		AWN15T	10	366601 1416	
					○	○	●	○		APN15T	10	366601 1517	

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ISO	APN15T	AWN15T
ISO M stainless steel	Vc = 50 - 140	
ISO K cast iron	Vc = 120 - 200	Vc = 120 - 200
ISO N Al/non-ferrous	Vc = 100 - 3000	Vc = 100 - 2000
ISO S superalloys	Vc = 18 - 45	Vc = 20 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.1 - 0.5 ap = 0.1 - 4.5	

Chip breaker MN positive

F finishing ●	M medium ●	R roughing -	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Medium processing 			CCGT 060202-MN		○		●			HC8310	10	310901 0102	
			CCGT 060204-MN		○		●			HC8310	10	310901 0202	
			CCGT 09T302-MN		○		●			HC8310	10	310901 1102	
			CCGT 09T304-MN		○		●			HC8310	10	310901 1202	
			CCGT 09T308-MN		○		●			HC8310	10	310901 1302	
			CCGT 120402-MN		○		●			HC8310	10	310901 2502	
			CCGT 120404-MN		○		●			HC8310	10	310901 2602	
			CCGT 120408-MN		○		●			HC8310	10	310901 2702	

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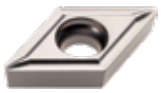
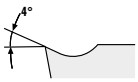
ISO	HC8310
ISO M stainless steel	Vc = 120 - 200
ISO N Al/non-ferrous	Vc = 160 - 1200
Vc = [m/min] fz = [mm/Z] ap = [mm]	f = 0.04 - 0.2 ap = 0.2 - 3.5

ISO indexable cutting inserts DC.. ISO P

ISO P

- 55° rhombic, positive 7°

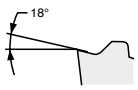
Chip breaker FFP, CERMET design

F finishing	M medium	R roughing	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	-	-											
 Fine smoothing 	DCMT 11T304-FFP		●	○	○				ATU10T	10	366627 0240
	DCMT 11T304-FFP										

ISO	ATU10T
ISO P steel	Vc = 160 - 270
ISO M stainless steel	Vc = 130 - 240
ISO K cast iron	Vc = 220 - 350
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.2 ap = 0.1 - 1.65

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Chip breaker FU1

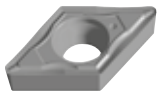
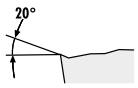
F finishing	M medium	R roughing	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	-	-											
 Smoothing 	DCGT 070101-FU1		●	●				●		HC7820	10	311530 2012
	DCGT 070202-FU1		●	●				●		HC7810	10	311530 2111
			●	●				●		HC7820	10	311530 2112
	DCGT 070204-FU1		●	●				●		HC7810	10	311530 2211
			●	●				●		HC7820	10	311530 2212
	DCGT 11T301-FU1		●	●				●		HC7820	10	311530 2312
	DCGT 11T302-FU1		●	●				●		HC7810	10	311530 2411
			●	●				●		HC7820	10	311530 2412
	DCGT 11T304-FU1		●	●				●		HC7810	10	311530 2511
			●	●				●		HC7820	10	311530 2512
	DCGT 11T308-FU1		●	●				●		HC7810	10	311530 2611
			●	●				●		HC7820	10	311530 2612

ISO	HC7810	HC7820
ISO P steel	Vc = 80 - 160	Vc = 80 - 130
ISO M stainless steel	Vc = 130 - 220	Vc = 100 - 210
ISO S superalloys	Vc = 40 - 70	Vc = 40 - 60
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.30 ap = 0.3 - 3.0	f = 0.05 - 0.12 ap = 0.3 - 3.0

Excellent chip control

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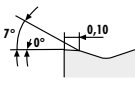
Chip breaker type FP

F finishing	M medium	R roughing	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	-	-											
 Smoothing 	DCMT 070202-FP			●				●		HC7520	10	311527 0125
			●		○					HC7610	10	311201 0511
			●		○					HC7620	10	311201 0512
	DCMT 070204-FP			●				●		HC7520	10	311527 0225
			●		○					HC7610	10	311201 0611
			●		○					HC7620	10	311201 0612
	DCMT 11T302-FP			●				●		HC7520	10	311527 0325
			●		○					HC7610	10	311201 1911
			●		○					HC7620	10	311201 1912
	DCMT 11T304-FP			●				●		HC7520	10	311527 0425
			●		○					HC7610	10	311201 2011
			●		○					HC7620	10	311201 2012
	DCMT 11T308-FP			●				●		HC7520	10	311527 0525
			●		○					HC7620	10	311201 2112

ISO	HC7520	HC7610	HC7620
ISO P steel		Vc = 160 - 380	Vc = 110 - 320
ISO M stainless steel	Vc = 140 - 220		
ISO K cast iron		Vc = 140 - 280	Vc = 140 - 260
ISO S superalloys	Vc = 30 - 60		
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.16 ap = 0.1 - 1.5		

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Chip breaker FP1

F finishing	M medium	R roughing	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	○	-											
 Smoothing 	DCMT 070202-FP1		●		○				ACP15T	10	366625 0015
			●	○	○				ACP25T	10	366719 0114
	DCMT 070204-FP1		●		○				ACP15T	10	366625 0415
			●	○	○				ACP25T	10	366719 0214
	DCMT 11T302-FP1		●		○				ACP15T	10	366625 0715
			●	○	○				ACP25T	10	366719 0314
	DCMT 11T304-FP1		●		○				ACP15T	10	366625 1015
			●	○	○				ACP25T	10	366719 0414
	DCMT 11T308-FP1		●	○	○				ACP25T	10	366719 0514

ISO	ACP15T	ACP25T
ISO P steel	Vc = 180 - 400	Vc = 100 - 240
ISO M stainless steel		Vc = 70 - 210
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.07 - 0.25 ap = 0.5 - 2.5	

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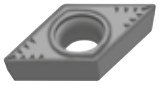
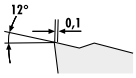
Chip breaker FP positive

F finishing	M medium	R roughing	palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	-	-											
 Smoothing 			DCMT 070202-FP	●		○				PH2G125	10	333515 0178	
			DCMT 070204-FP	●		○				PH2G115	10	333515 0277	
				●		○				PH2G125	10	333515 0278	
			DCMT 11T302-FP	●		○				PH2G115	10	333515 0377	
				●		○				PH2G125	10	333515 0378	
			DCMT 11T304-FP	●		○				PH2G115	10	333515 0477	
				●		○				PH2G125	10	333515 0478	
			DCMT 11T308-FP	●		○				PH2G115	10	333515 0577	
				●		○				PH2G125	10	333515 0578	

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ISO	PH2G115	PH2G125
ISO P steel	Vc = 110 - 400	Vc = 100 - 340
ISO K cast iron	Vc = 110 - 400	Vc = 100 - 340
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.03 - 0.30 ap = 0.06 - 2.00	

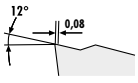
Chip breaker type MP

F finishing	M medium	R roughing	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
-	●	-											
 Medium processing 			DCMT 070204-MP	●		○				HC7610	10	311203 0611	
				●		○				HC7620	10	311203 0612	
				●						HC7630	10	311203 0613	
			DCMT 070208-MP	●		○				HC7610	10	311203 0711	
				●		○				HC7620	10	311203 0712	
				●						HC7630	10	311203 0713	
			DCMT 11T304-MP	●		○				HC7620	10	311203 2012	
				●						HC7630	10	311203 2013	
			DCMT 11T308-MP	●		○				HC7620	10	311203 2112	
				●						HC7630	10	311203 2113	

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ISO	HC7610	HC7620	HC7630
ISO P steel	Vc = 160 - 380	Vc = 110 - 320	Vc = 80 - 220
ISO K cast iron	Vc = 140 - 280	Vc = 140 - 260	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.2 ap = 0.6 - 2	f = 0.12 - 0.2 ap = 0.6 - 4	

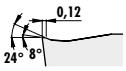
Chip breaker MP5

F finishing	M medium	R roughing	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
○	●	-											
 Smoothing 			DCMT 070204-MP5	●	○	○				ACP25T	10	366720 0214	
			DCMT 070208-MP5	●	○	○				ACP25T	10	366720 0314	
				●	○					ACP35T	10	366630 0435	
			DCMT 11T304-MP5	●		○				ACP15T	10	366630 0515	
				●	○	○				ACP25T	10	366720 0414	
				●	○					ACP35T	10	366630 0735	
			DCMT 11T308-MP5	●		○				ACP15T	10	366630 0815	
				●	○	○				ACP25T	10	366720 0514	
				●	○					ACP35T	10	366630 1035	

3135

ISO	ACP15T	ACP25T	ACP35T
ISO P steel	Vc = 180 - 400	Vc = 100 - 240	Vc = 90 - 200
ISO M stainless steel		Vc = 70 - 210	Vc = 55 - 200
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.4 ap = 0.25 - 3.5		

Chip breaker MP positive

F finishing ○	M medium ●	R roughing -	palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Medium finishing 			DCMT 070204-MP	●		○				**PH2G115**	10	333566 0077	
				●		○				**PH2G125**	10	333566 0078	
			DCMT 070208-MP	●		○				**PH2G115**	10	333566 0177	
				●		○				**PH2G125**	10	333566 0178	
			DCMT 11T304-MP	●		○				**PH2G115**	10	333566 0277	
				●		○				**PH2G125**	10	333566 0278	
			DCMT 11T308-MP	●		○				**PH2G115**	10	333566 0377	
				●		○				**PH2G125**	10	333566 0378	
			DCMT 11T312-MP	●		○				**PH2G115**	10	333566 0477	
				●		○				**PH2G125**	10	333566 0478	

3148

ISO	PH2G115	PH2G125
ISO P steel	Vc = 110 - 400	Vc = 100 - 340
ISO K cast iron	Vc = 110 - 400	Vc = 100 - 340
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.06 - 0.60 ap = 0.19 - 3.00	

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ISO indexable cutting inserts DC.. ISO M

ISO M

- 55° rhombic, positive 7°

Chip breaker FFM

F finishing	M medium	R roughing
●	-	-



Fine smoothing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
DCGT 070200-FFM		●	○	○	○		APM20T	10	366624 0120	
DCGT 070201-FFM		●	○	○	○		APM20T	10	366624 0220	
DCGT 11T300-FFM		●	○	○	○		APM20T	10	366624 0320	
DCGT 11T301-FFM		●	○	○	○		APM20T	10	366624 0420	

3135

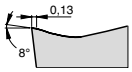
ISO	APM20T
ISO M stainless steel	Vc = 60 - 200
ISO K cast iron	Vc = 120 - 220
ISO N Al/non-ferrous	Vc = 100 - 600
ISO S superalloys	Vc = 20 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.02 - 0.14 ap = 0.05 - 1.35

Chip breaker FS positive

F finishing	M medium	R roughing
●	-	-



Fine smoothing



ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
DCGT 070201-FS		●			●		PHH920	10	333524 0194	
		●			●		PHH910	10	333524 0195	
DCGT 070202-FS		●			●		PHH920	10	333524 0294	
		●			●		PHH910	10	333524 0295	
DCGT 070204-FS		●			●		PHH920	10	333524 0394	
		●			●		PHH910	10	333524 0395	
DCGT 11T301-FS		●			●		PHH920	10	333524 0494	
		●			●		PHH910	10	333524 0495	
DCGT 11T302-FS		●			●		PHH920	10	333524 0594	
		●			●		PHH910	10	333524 0595	
DCGT 11T304-FS		●			●		PHH920	10	333524 0694	
		●			●		PHH910	10	333524 0695	

3148

ISO	PHH910	PHH920
ISO M stainless steel	Vc = 100 - 230	Vc = 90 - 220
ISO S superalloys	Vc = 40 - 150	Vc = 35 - 145
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.01 - 0.30 ap = 0.10 - 3.50	

Chip breaker FM positive PHH

F finishing	M medium	R roughing
●	-	-



Smoothing



palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
DCMT 070202-FM		●			●		PHH920	10	333516 0194	
		●			●		PHH910	10	333516 0195	
DCMT 070204-FM		●			●		PHH920	10	333516 0294	
		●			●		PHH910	10	333516 0295	
DCMT 11T302-FM		●			●		PHH920	10	333516 0594	
		●			●		PHH910	10	333516 0595	
DCMT 11T304-FM		●			●		PHH920	10	333516 0394	
		●			●		PHH910	10	333516 0395	
DCMT 11T308-FM		●			●		PHH920	10	333516 0494	
		●			●		PHH910	10	333516 0495	

3148

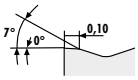
ISO	PHH910	PHH920
ISO M stainless steel	Vc = 100 - 230	Vc = 90 - 220
ISO S superalloys	Vc = 40 - 150	Vc = 35 - 145
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.03 - 0.30 ap = 0.06 - 2.00	

Chip breaker FM1

F finishing	M medium	R roughing
●	○	-



Medium finishing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
DCMT 070202-FM1	○	●					APM25T	10	366626 0125	
DCMT 070204-FM1	○	●					APM25T	10	366626 0225	
DCMT 11T302-FM1	○	●					APM25T	10	366626 0325	
DCMT 11T304-FM1	○	●					APM25T	10	366626 0425	
DCMT 11T308-FM1	○	●					APM25T	10	366626 0525	

3135

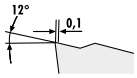
ISO	APM25T
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 40 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.07 - 0.25 ap = 0.2 - 2.5

Chip breaker type MP, stainless steel

F finishing	M medium	R roughing
-	●	-



Medium processing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
DCMT 070204-MP		●			○		**HC7530**	10	310203 0626
DCMT 11T304-MP		●			○		**HC7530**	10	310203 2026
DCMT 11T308-MP		●			○		**HC7530**	10	310203 2126

ISO	HC7530
ISO M stainless steel	Vc = 90 - 160
ISO S superalloys	Vc = 20 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.20 ap = 0.6 - 4.0

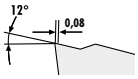
3147

Chip breaker MM3

F finishing	M medium	R roughing
○	●	-



Medium finishing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
DCMT 070204-MM3	○	●					**APM35T**	10	366629 0121
DCMT 070208-MM3	○	●					**APM35T**	10	366629 0221
DCMT 11T304-MM3	○	●					**APM25T**	10	366629 0321
DCMT 11T308-MM3	○	●					**APM25T**	10	366629 0521

ISO	APM25T	APM35T
ISO P steel	Vc = 60 - 250	Vc = 60 - 250
ISO M stainless steel	Vc = 40 - 250	Vc = 40 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.3 ap = 0.25 - 3.5	

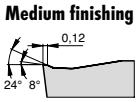
3135

Chip breaker MM positive PHH

F finishing	M medium	R roughing
○	●	-



Medium finishing



palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
DCMT 070204-MM		●			●		**PHH920**	10	333521 0194
		●			●		**PHH910**	10	333521 0195
DCMT 070208-MM		●			●		**PHH920**	10	333521 0294
		●			●		**PHH910**	10	333521 0295
DCMT 11T304-MM		●			●		**PHH920**	10	333521 0394
		●			●		**PHH910**	10	333521 0395
DCMT 11T308-MM		●			●		**PHH920**	10	333521 0494
		●			●		**PHH910**	10	333521 0495
DCMT 11T312-MM		●			●		**PHH920**	10	333521 0594
		●			●		**PHH910**	10	333521 0595

ISO	PHH910	PHH920
ISO M stainless steel	Vc = 100 - 230	Vc = 90 - 220
ISO S superalloys	Vc = 40 - 150	Vc = 35 - 145
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.06 - 0.60 ap = 0.19 - 3.00	

3148

ISO indexable cutting inserts DC.. ISO K

ISO K

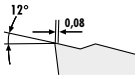
- **55° rhombic, positive 7°**

Chip breaker MK

F finishing	M medium	R roughing
○	●	-



Medium finishing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
DCMT 11T304-MK	○		●				**ACK20T**	10	366628 0230	

ISO	ACK20T
ISO P steel	Vc = 150 - 340
ISO K cast iron	Vc = 150 - 550
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.4 ap = 0.5 - 3.5

3135

ISO indexable cutting inserts DC.. ISO N

ISO N

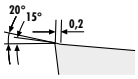
- **55° rhombic, positive 7°**

Chip breaker MN5

F finishing	M medium	R roughing
○	○	○



Medium processing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
DCGT 070202-MN5			○	●	○		**AWN15T**	10	366623 0216	
		○	○	●	○		**APN15T**	10	366623 0317	
DCGT 070204-MN5			○	●	○		**AWN15T**	10	366623 0416	
		○	○	●	○		**APN15T**	10	366623 0517	
DCGT 11T302-MN5			○	●	○		**AWN15T**	10	366623 0716	
		○	○	●	○		**APN15T**	10	366623 0817	
DCGT 11T304-MN5			○	●	○		**AWN15T**	10	366623 0916	
		○	○	●	○		**APN15T**	10	366623 1017	
DCGT 11T308-MN5			○	●	○		**AWN15T**	10	366623 1116	
		○	○	●	○		**APN15T**	10	366623 1217	

ISO	APN15T	AWN15T
ISO M stainless steel	Vc = 50 - 140	
ISO K cast iron	Vc = 120 - 200	Vc = 120 - 200
ISO N Al/non-ferrous	Vc = 100 - 3000	Vc = 100 - 2000
ISO S superalloys	Vc = 18 - 45	Vc = 20 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.1 - 0.5 ap = 0.1 - 4.5	

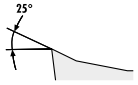
3135

Chip breaker MN

F finishing	M medium	R roughing
●	●	-



Medium processing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
DCGT 070202-MN		○		●			**HC8310**	10	310903 0502	
DCGT 070204-MN		○		●			**HC8310**	10	310903 0602	
DCGT 11T302-MN		○		●			**HC8310**	10	310903 1902	
DCGT 11T304-MN		○		●			**HC8310**	10	310903 2002	
DCGT 11T308-MN		○		●			**HC8310**	10	310903 2102	

ISO	HC8310
ISO M stainless steel	Vc = 120 - 200
ISO N Al/non-ferrous	Vc = 160 - 1200
Vc = [m/min] fz = [mm/Z] ap = [mm]	f = 0.04 - 0.2 ap = 0.2 - 3

3147

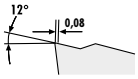
ISO indexable cutting inserts RC.. ISO P

ISO P

- **360° round, positive 7°**

Chip breaker MP5

- For RCMT 08.. ap max. = 4.0 mm
- For RCMT 10.. ap max. = 5.0 mm

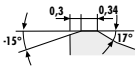
F finishing -	M medium ○	R roughing ○	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Medium finishing to roughing operation 	RCMT 0803MO-MP5	●	○					**ACP35T**	10	366646 0135	
	RCMT 1003MO-MP5	●	○					**ACP35T**	10	366646 0235	
	RCMT 1204MO-MP5	●	○					**ACP35T**	10	366646 0335	

ISO	ACP35T
ISO P steel	Vc = 90 - 200
ISO M stainless steel	Vc = 55 - 200
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.15 - 0.6 ap = 0.8 - 6.0

3135

Chip breaker RP11

- With RCMT 2006MO.. ap up to 9.5 mm possible

F finishing -	M medium ○	R roughing ●	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Medium finishing to roughing operation 	RCMT 1606MO-RP11	●	○							**ACP35T**	10	366647 0335	
		●	○	○						**ACP25T**	10	366721 0114	
	RCMT 2006MO-RP11	●	○							**ACP35T**	10	366647 0435	
		●	○	○						**ACP25T**	10	366721 0214	

ISO	ACP25T	ACP35T
ISO P steel	Vc = 100 - 240	Vc = 90 - 200
ISO M stainless steel	Vc = 70 - 210	Vc = 55 - 200
ISO K cast iron	Vc = 130 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.7 ap = 2.0 - 7.0	

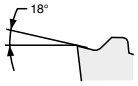
3135

ISO indexable cutting inserts SC.. ISO P

ISO P

- **90° square, positive 7°**

Chip breaker FU1 positive

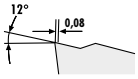
F finishing -	M medium -	R roughing -	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Smoothing 	SCGT 09T304-FU1	●	●					●		**HC7820**	10	311536 0112	
	SCGT 09T308-FU1	●	●					●		**HC7820**	10	311536 0212	
	SCGT 120408-FU1	●	●					●		**HC7820**	10	311536 0312	

Excellent chip control

ISO	HC7820
ISO P steel	Vc = 30 - 120
ISO M stainless steel	Vc = 100 - 220
ISO S superalloys	Vc = 40 - 70
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.8 - 0.25 ap = 0.3 - 3.5

3147

Chip breaker MP5

F finishing -	M medium ●	R roughing ○	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Medium finishing 	SCMT 09T304-MP5	●	○	○				**ACP25T**	10	366722 0114	
	SCMT 09T308-MP5										
		●	○					**ACP35T**	10	366649 0335	
	SCMT 120404-MP5	●	○	○				**ACP25T**	10	366722 0314	
	SCMT 120408-MP5	●	○	○				**ACP25T**	10	366722 0414	
		●	○					**ACP35T**	10	366649 0735	
	SCMT 120412-MP5	●	○	○				**ACP25T**	10	366722 0514	
		●	○					**ACP35T**	10	366649 0935	

ISO	ACP25T	ACP35T
ISO P steel	Vc = 100 - 240	Vc = 90 - 190
ISO M stainless steel	Vc = 70 - 210	Vc = 55 - 200
ISO K cast iron	Vc = 120 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.4 ap = 0.25 - 4.5	

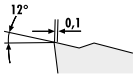
3135

Chip breaker type MP

F finishing	M medium	R roughing
-	●	-



Medium processing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
SCMT 09T304-MP	●		○				HC7620	10	311401 1212	
	●						HC7630	10	311401 1213	
SCMT 09T308-MP	●		○				HC7620	10	311401 1312	
	●						HC7630	10	311401 1313	
SCMT 120404-MP	●		○				HC7620	10	311401 2612	
SCMT 120408-MP	●		○				HC7620	10	311401 2712	

3147

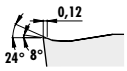
ISO	HC7620	HC7630
ISO P steel	Vc = 110 - 320	Vc = 80 - 220
ISO K cast iron	Vc = 140 - 240	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.25 ap = 0.6 - 4	

Chip breaker MP positive

F finishing	M medium	R roughing
○	●	-



Medium finishing



palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
SCMT 09T304-MP	●		○				PH2G115	10	333567 0177	
	●		○				PH2G125	10	333567 0178	
SCMT 120408-MP	●		○				PH2G115	10	333567 0477	
	●		○				PH2G125	10	333567 0478	

3148

ISO	PH2G115	PH2G125
ISO P steel	Vc = 110 - 400	Vc = 100 - 340
ISO K cast iron	Vc = 110 - 400	Vc = 100 - 340
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.08 - 0.60 ap = 0.25 - 3.60	

ISO indexable cutting inserts SC.. ISO M

ISO M

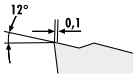
- **90° square, positive 7°**

Chip breaker type MP, stainless steel

F finishing	M medium	R roughing
-	●	-



Medium processing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
SCMT 09T308-MP		●			○		HC7520	10	311401 1322	
SCMT 120408-MP		●			○		HC7520	10	311401 2722	

3147

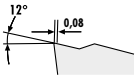
ISO	HC7520
ISO M stainless steel	Vc = 80 - 240
ISO S superalloys	Vc = 30 - 60
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.16 - 0.35 ap = 0.6 - 5

Chip breaker MM3, especially for stainless steel

F finishing	M medium	R roughing
-	●	○



Medium finishing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
SCMT 09T304-MM3	○	●					APM25T	10	366650 0121	
SCMT 09T308-MM3	○	●					APM25T	10	366650 0221	
SCMT 120404-MM3	○	●					APM25T	10	366650 0321	
SCMT 120408-MM3	○	●					APM25T	10	366650 0421	

3135

ISO	APM25T
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 40 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.4 ap = 0.25 - 3.5

ISO indexable cutting inserts SC.. ISO K

• **90° square, positive 7°**

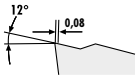
ISO K

Chip breaker MK

F finishing	M medium	R roughing
-	●	○



Medium finishing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
SCMT 09T308-MK	○		●				**ACK20T**	10	366651 0130	
SCMT 120408-MK	○		●				**ACK20T**	10	366651 0230	

ISO	ACK20T
ISO P steel	Vc = 150 - 340
ISO K cast iron	Vc = 150 - 550
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.15 - 0.5 ap = 0.5 - 5.0

3135

ISO indexable cutting inserts SC.. ISO N

• **90° square, positive 7°**

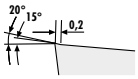
ISO N

Chip breaker MN5

F finishing	M medium	R roughing
○	○	○



Medium processing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
SCGT 09T304-MN5			○	●	○		**AWN15T**	10	366648 0116	
		○	○	●	○		**APN15T**	10	366648 0217	
SCGT 120408-MN5		○	○	●	○		**APN15T**	10	366648 0617	

ISO	APN15T	AWN15T
ISO M stainless steel	Vc = 50 - 140	
ISO K cast iron	Vc = 120 - 200	Vc = 120 - 200
ISO N Al/non-ferrous	Vc = 100 - 3000	Vc = 100 - 2000
ISO S superalloys	Vc = 18 - 45	Vc = 18 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.1 - 0.5 ap = 0.1 - 4.5	

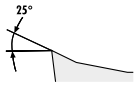
3135

Chip breaker MN

F finishing	M medium	R roughing
●	●	-



Medium finishing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
SCGT 09T304-MN		○		●			**HC8310**	10	310351 0202	
SCGT 09T308-MN		○		●			**HC8310**	10	310351 0302	

ISO	HC8310
ISO M stainless steel	Vc = 120 - 200
ISO N Al/non-ferrous	Vc = 160 - 1200
Vc = [m/min] fz = [mm/Z] ap = [mm]	f = 0.05 - 0.2 ap = 0.2 - 1.5

3147

Premium partner

PALBIT is represented on five continents with an extensive sales network and serves a large number of customers in over 60 countries with state-of-the-art tool technology for a wide range of applications. Since 1 January 2019, the PALBIT brand has been exclusively distributed in Germany by SARTORIUS.

palbit® CUTTING TOOLS SOLUTIONS

ISO indexable cutting inserts TC.. ISO P

ISO P

- **60° triangular, positive 7°**

Chip breaker FFP Cermet version

F finishing	M medium	R roughing
●	-	-



Fine smoothing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
TCGT 110202-FFP	●	○	○				**ATU10T**	10 366666 0140	
TCMT 110204-FFP	●	○	○				**ATU10T**	10 366666 0240	

3135

ISO	ATU10T
ISO P steel	Vc = 160 - 300
ISO M stainless steel	Vc = 130 - 240
ISO K cast iron	Vc = 220 - 350
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.2 ap = 0.1 - 1.65

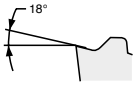
Excellent chip control

Chip breaker FU1 positive

F finishing	M medium	R roughing
-	-	-



Smoothing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
TCGT 110202-FU1	●	●			●		**HC7820**	10 311537 0112	
TCGT 110204-FU1	●	●			●		**HC7820**	10 311537 0212	
TCGT 16T304-FU1	●	●			●		**HC7820**	10 311537 0312	
TCGT 16T308-FU1	●	●			●		**HC7820**	10 311537 0412	

3147

ISO	HC7820
ISO P steel	Vc = 30 - 120
ISO M stainless steel	Vc = 100 - 220
ISO S superalloys	Vc = 40 - 70
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.5 - 0.12 ap = 0.3 - 3.0

Chip breaker FP positive

F finishing	M medium	R roughing
●	-	-



Smoothing



palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
TCMT 090204-FP	●		○				**PH2G115**	10 333546 0477	
	●		○				**PH2G125**	10 333546 0478	
TCMT 110204-FP	●		○				**PH2G115**	10 333546 0677	
	●		○				**PH2G125**	10 333546 0678	
TCMT 16T304-FP	●		○				**PH2G115**	10 333546 1177	
	●		○				**PH2G125**	10 333546 1178	

3148

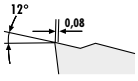
ISO	PH2G115	PH2G125
ISO P steel	Vc = 110 - 400	Vc = 100 - 340
ISO K cast iron	Vc = 110 - 400	Vc = 100 - 340
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.03 - 0.26 ap = 0.06 - 2.00	

Chip breaker MP5

F finishing	M medium	R roughing
-	●	○



Medium finishing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
TCMT 090204-MP5	●	○	○				**ACP25T**	10 366723 0114	
TCMT 110204-MP5	●		○				**ACP15T**	10 366665 0115	
	●	○	○				**ACP25T**	10 366723 0214	
	●	○					**ACP35T**	10 366665 0325	
TCMT 110208-MP5	●	○	○				**ACP25T**	10 366723 0314	
	●	○					**ACP35T**	10 366665 0535	
TCMT 16T304-MP5	●	○	○				**ACP25T**	10 366723 0414	
	●	○					**ACP35T**	10 366665 0735	
TCMT 16T308-MP5	●	○	○				**ACP25T**	10 366723 0514	
	●	○					**ACP35T**	10 366665 0935	
TCMT 16T312-MP5	●	○	○				**ACP25T**	10 366723 0614	

3135

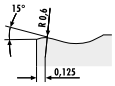
ISO	ACP15T	ACP25T	ACP35T
ISO P steel	Vc = 180 - 400	Vc = 100 - 240	Vc = 90 - 200
ISO M stainless steel		Vc = 70 - 210	Vc = 55 - 200
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.4	f = 0.123 - 0.4 ap = 0.25 - 4.5	f = 0.12 - 0.4

Chip breaker type MP

F finishing	M medium	R roughing
-	●	-



Medium processing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
TCMT 110204-MP	●		○				HC7610	10	311501 1511	
	●		○				HC7620	10	311501 1512	
	●						HC7630	10	311501 1513	
TCMT 16T304-MP	●		○				HC7610	10	311501 3411	
	●		○				HC7620	10	311501 3412	
	●						HC7630	10	311501 3413	
TCMT 16T308-MP	●		○				HC7610	10	311501 3511	
	●		○				HC7620	10	311501 3512	
	●						HC7630	10	311501 3513	

3147

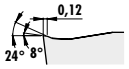
ISO	HC7610	HC7620	HC7630
ISO P steel	Vc = 160 - 340	Vc = 110 - 320	Vc = 80 - 220
ISO K cast iron	Vc = 140 - 240	Vc = 140 - 260	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.25 ap = 0.6 - 4		

Chip breaker MP positive

F finishing	M medium	R roughing
○	●	-



Medium finishing



palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
TCMT 090204-MP	●		○				PH2G115	10	333550 0177	
	●		○				PH2G125	10	333550 0178	
TCMT 090208-MP	●		○				PH2G115	10	333550 0277	
	●		○				PH2G125	10	333550 0278	
TCMT 110204-MP	●		○				PH2G115	10	333550 0377	
	●		○				PH2G125	10	333550 0378	
TCMT 110208-MP	●		○				PH2G115	10	333550 0477	
	●		○				PH2G125	10	333550 0478	
TCMT 16T304-MP	●		○				PH2G115	10	333550 0977	
	●		○				PH2G125	10	333550 0978	
TCMT 16T308-MP	●		○				PH2G115	10	333550 1077	
	●		○				PH2G125	10	333550 1078	
TCMT 16T312-MP	●		○				PH2G115	10	333550 1177	
	●		○				PH2G125	10	333550 1178	

3148

ISO	PH2G115	PH2G125
ISO P steel	Vc = 110 - 400	Vc = 100 - 340
ISO K cast iron	Vc = 110 - 400	Vc = 100 - 340
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.11 - 0.60 ap = 0.19 - 3.00	

Premium partner

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palbit® CUTTING TOOLS SOLUTIONS

ISO indexable cutting inserts TC.. ISO M

ISO M

- **60° triangular, positive 7°**

Chip breaker FM positive PHH

F finishing	M medium	R roughing
●	-	-



Smoothing



ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
TCMT 090202-FM		●			●		PHH920	10	333547 0394	
		●			●		PHH910	10	333547 0395	
TCMT 090204-FM		●			●		PHH920	10	333547 0494	
		●			●		PHH910	10	333547 0495	
TCMT 110202-FM		●			●		PHH920	10	333547 0594	
		●			●		PHH910	10	333547 0595	
TCMT 110204-FM		●			●		PHH920	10	333547 0694	
		●			●		PHH910	10	333547 0695	
TCMT 16T304-FM		●			●		PHH920	10	333547 1194	
		●			●		PHH910	10	333547 1195	

3148

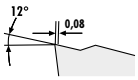
ISO	PHH910	PHH920
ISO M stainless steel	Vc = 100 - 230	Vc = 90 - 220
ISO S superalloys	Vc = 40 - 150	Vc = 35 - 145
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.03 - 0.23 ap = 0.06 - 1.70	

Chip breaker MM3

F finishing	M medium	R roughing
-	●	○



Medium finishing



ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
TCMT 110204-MM3	○	●					APM25T	10	366664 0122	
TCMT 16T304-MM3	○	●					APM25T	10	366664 0421	
TCMT 16T308-MM3	○	●					APM25T	10	366664 0621	

3135

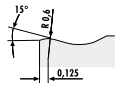
ISO	APM25T
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 40 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.4 ap = 0.25 - 4.0

Chip breaker type MP, stainless steel

F finishing	M medium	R roughing
-	●	-



Medium processing



ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
TCMT 110204-MP		●			○		HC7520	10	310501 1525	
TCMT 16T304-MP		●			○		HC7520	10	310501 3425	
TCMT 16T308-MP		●			○		HC7520	10	310501 3525	
		●			○		HC7530	10	310501 3526	

3147

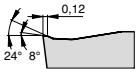
ISO	HC7520	HC7530
ISO M stainless steel	Vc = 80 - 210	Vc = 90 - 160
ISO S superalloys	Vc = 30 - 60	Vc = 20 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.25	f = 0.18 - 0.35
	ap = 0.6 - 4	

Chip breaker MM positive PHH

F finishing	M medium	R roughing
○	●	-



Medium finishing



ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
TCMT 090204-MM		●			●		PHH920	10	333551 0194	
		●			●		PHH910	10	333551 0195	
TCMT 090208-MM		●			●		PHH920	10	333551 0294	
		●			●		PHH910	10	333551 0295	
TCMT 110204-MM		●			●		PHH920	10	333551 0394	
		●			●		PHH910	10	333551 0395	
TCMT 110208-MM		●			●		PHH920	10	333551 0494	
		●			●		PHH910	10	333551 0495	
TCMT 16T304-MM		●			●		PHH920	10	333551 0794	
		●			●		PHH910	10	333551 0795	
TCMT 16T308-MM		●			●		PHH920	10	333551 0894	
		●			●		PHH910	10	333551 0895	
TCMT 16T312-MM		●			●		PHH920	10	333551 0994	
		●			●		PHH910	10	333551 0995	

3148

ISO	PHH910	PHH920
ISO M stainless steel	Vc = 100 - 230	Vc = 90 - 220
ISO S superalloys	Vc = 40 - 150	Vc = 35 - 145
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.06 - 0.60 ap = 0.21 - 3.00	

ISO indexable cutting inserts TC.. ISO K

• **60° triangular, positive 7°**

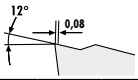
ISO K

Chip breaker MK

F finishing	M medium	R roughing
-	●	○



Medium finishing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
TCMT 110204-MK	○		●				**ACK20T**	10	366663 0230	
TCMT 16T304-MK	○		●				**ACK20T**	10	366663 0430	
TCMT 16T308-MK	○		●				**ACK20T**	10	366663 0530	
TCMT 16T308-MK										

ISO	ACK20T
ISO P steel	Vc = 150 - 350
ISO K cast iron	Vc = 150 - 550
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.18 - 0.5 ap = 0.25 - 4.0

3135

ISO indexable cutting inserts TC.. ISO N

• **60° triangular, positive 7°**

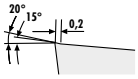
ISO N

Chip breaker MN5

F finishing	M medium	R roughing
○	○	○



Medium processing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
TCGT 110204-MN5			○	●	○		**AWN15T**	10	366662 0116	
TCGT 16T304-MN5			○	●	○		**AWN15T**	10	366662 0316	
TCGT 16T308-MN5			○	●	○		**AWN15T**	10	366662 0416	

ISO	AWN15T
ISO K cast iron	Vc = 120 - 200
ISO N Al/non-ferrous	Vc = 100 - 2000
ISO S superalloys	Vc = 18 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.1 - 0.4 ap = 0.1 - 4.5

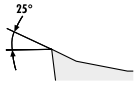
3135

Chip breaker MN

F finishing	M medium	R roughing
●	●	-



Medium finishing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
TCGT 110204-MN		○		●			**HC8310**	10	310907 1502	
TCGT 16T302-MN		○		●			**HC8310**	10	310907 3302	
TCGT 16T304-MN		○		●			**HC8310**	10	310907 3402	

ISO	HC8310
ISO M stainless steel	Vc = 120 - 200
ISO N Al/non-ferrous	Vc = 160 - 1200
Vc = [m/min] fz = [mm/Z] ap = [mm]	f = 0.04 - 0.16 ap = 0.3 - 3.5

3147

ISO indexable cutting inserts VB.. ISO P

ISO P

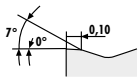
- **35° rhombic, positive 5°**

Chip breaker FP1

F finishing	M medium	R roughing
●	○	-



Smoothing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
VBMT 160404-FP1	●		○				ACP15T	10	366711 0115	
	●	○	○				ACP25T	10	366711 0125	
	●	○					ACP35T	10	366711 0135	
VBMT 160408-FP1	●		○				ACP15T	10	366711 0215	
	●	○	○				ACP25T	10	366711 0225	
	●	○					ACP35T	10	366711 0235	

3135

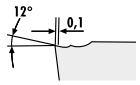
ISO	ACP15T	ACP25T	ACP35T
ISO P steel	Vc = 180 - 400	Vc = 100 - 240	Vc = 90 - 200
ISO M stainless steel		Vc = 70 - 210	Vc = 55 - 200
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.07 - 0.25 ap = 0.2 - 2.5		

Chip breaker type SP

F finishing	M medium	R roughing
●	●	-



Smoothing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
VBMT 160404-SP	●		○				HC7610	10	311563 3711	
	●		○				HC7620	10	311563 3712	
VBMT 160408-SP	●		○				HC7610	10	311563 3811	
	●		○				HC7620	10	311563 3812	
VBMT 160412-SP	●		○				HC7620	10	311563 3912	

3147

ISO	HC7610	HC7620
ISO P steel	Vc = 200 - 380	Vc = 140 - 320
ISO K cast iron	Vc = 180 - 280	Vc = 160 - 260
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.08 - 0.25 ap = 0.6 - 2.5	ap = 1 - 2.5

Chip breaker FP positive

F finishing	M medium	R roughing
●	-	-



Smoothing



palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
VBMT 110304-FP	●		○				PH2G115	10	333560 0277	
	●		○				PH2G125	10	333560 0278	
VBMT 110308-FP	●		○				PH2G115	10	333560 0377	
	●		○				PH2G125	10	333560 0378	
VBMT 160404-FP	●		○				PH2G115	10	333560 0677	
	●		○				PH2G125	10	333560 0678	
VBMT 160408-FP	●		○				PH2G115	10	333560 0777	
	●		○				PH2G125	10	333560 0778	

3148

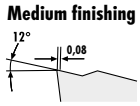
ISO	PH2G115	PH2G125
ISO P steel	Vc = 110 - 400	Vc = 100 - 340
ISO K cast iron	Vc = 110 - 400	Vc = 100 - 340
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.03 - 0.32 ap = 0.06 - 1.80	

Chip breaker MP5

F finishing	M medium	R roughing
-	●	-



Medium finishing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
VBMT 160404-MP5	●		○				ACP15T	10	366712 0115	
	●	○	○				ACP25T	10	366712 0125	
VBMT 160408-MP5	●		○				ACP15T	10	366712 0215	
	●	○	○				ACP25T	10	366712 0225	
	●	○					ACP35T	10	366712 0235	
VBMT 160404-MP5							ACP35T			

3135

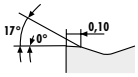
ISO	ACP15T	ACP25T	ACP35T
ISO P steel	Vc = 180 - 400	Vc = 100 - 240	Vc = 90 - 200
ISO M stainless steel		Vc = 70 - 210	Vc = 55 - 200
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.3 ap = 0.25 - 3.5		

Chip breaker MP2 universal

F finishing	M medium	R roughing
-	●	○



Smoothing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
VBMT 160404-MP2	●		○				ACP15T	10 366677 0115	
	●	○	○				ACP25T	10 366726 0114	
VBMT 160408-MP2	●		○				ACP15T	10 366677 0215	
	●	○	○				ACP25T	10 366726 0214	

3135

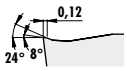
ISO	ACP15T	ACP25T
ISO P steel	Vc = 180 - 400	Vc = 100 - 240
ISO M stainless steel		Vc = 70 - 210
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.4	f = 0.07 - 0.25
	ap = 1.0 - 4.0	

Chip breaker MP positive

F finishing	M medium	R roughing
○	●	-



Medium finishing



palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
VBMT 160404-MP	●		○				PH2G115	10 333563 0177	
	●		○				PH2G125	10 333563 0178	
VBMT 160408-MP	●		○				PH2G115	10 333563 0277	
	●		○				PH2G125	10 333563 0278	
VBMT 160412-MP	●		○				PH2G115	10 333563 0377	
	●		○				PH2G125	10 333563 0378	

3148

ISO	PH2G115	PH2G125
ISO P steel	Vc = 110 - 400	Vc = 100 - 340
ISO K cast iron	Vc = 110 - 400	Vc = 100 - 340
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.07 - 0.32	
	ap = 0.23 - 2.70	

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ISO indexable cutting inserts VB.. ISO M

• 35° rhombic, positive 5°

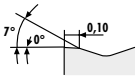
ISO M

Chip breaker FM1

F finishing	M medium	R roughing
●	○	-



Smoothing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
VBMT 160404-FM1	○	●					APM25T	10	366714 0121	
VBMT 160408-FM1	○	●					APM25T	10	366714 0221	

ISO	APM25T
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 40 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.07 - 0.25 ap = 0.2 - 2.5

3135

Chip breaker FM positive PHH

F finishing	M medium	R roughing
●	-	-



Smoothing



palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
VBMT 110302-FM		●			●		PHH920	10	333561 0194	
		●			●		PHH910	10	333561 0195	
VBMT 110304-FM		●			●		PHH920	10	333561 0294	
		●			●		PHH910	10	333561 0295	
VBMT 110308-FM		●			●		PHH920	10	333561 0394	
		●			●		PHH910	10	333561 0395	
VBMT 160402-FM		●			●		PHH920	10	333561 0494	
		●			●		PHH910	10	333561 0495	
VBMT 160404-FM		●			●		PHH920	10	333561 0594	
		●			●		PHH910	10	333561 0595	
VBMT 160408-FM		●			●		PHH920	10	333561 0694	
		●			●		PHH910	10	333561 0695	
VBMT 160412-FM		●			●		PHH920	10	333561 0794	
		●			●		PHH910	10	333561 0795	

ISO	PHH910	PHH920
ISO M stainless steel	Vc = 100 - 230	Vc = 90 - 220
ISO S superalloys	Vc = 40 - 150	Vc = 35 - 145
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.03 - 0.32 ap = 0.06 - 1.80	

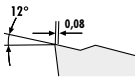
3148

Chip breaker MM3

F finishing	M medium	R roughing
○	●	-



Medium finishing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
VBMT 160404-MM3	○	●					APM25T	10	366713 0121	
VBMT 160408-MM3	○	●					APM25T	10	366713 0221	

ISO	APM25T
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 40 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.3 ap = 0.25 - 3.5

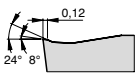
3135

Chip breaker MM positive PHH

F finishing	M medium	R roughing
○	●	-



Medium finishing



palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
VBMT 160404-MM		●			●		PHH920	10	333564 0194	
		●			●		PHH910	10	333564 0195	
VBMT 160408-MM		●			●		PHH920	10	333564 0294	
		●			●		PHH910	10	333564 0295	
VBMT 160412-MM		●			●		PHH920	10	333564 0394	
		●			●		PHH910	10	333564 0395	

ISO	PHH910	PHH920
ISO M stainless steel	Vc = 100 - 230	Vc = 90 - 220
ISO S superalloys	Vc = 40 - 150	Vc = 35 - 145
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.07 - 0.32 ap = 0.23 - 2.70	

3148

ISO indexable cutting inserts VC.. ISO P

- **35° rhombic, positive 7°**

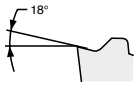
ISO P

Chip breaker FU1

F finishing	M medium	R roughing
●	-	-



Smoothing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
VCGT 110301-FU1	●	●			●		HC7820	10	311530 2712	
VCGT 110302-FU1		●			●		HC7810	10	311530 2811	
	●	●			●		HC7820	10	311530 2812	
VCGT 110304-FU1		●			●		HC7810	10	311530 2911	
	●	●			●		HC7820	10	311530 2912	
VCGT 160402-FU1		●			●		HC7810	10	311530 3011	
	●	●			●		HC7820	10	311530 3012	
VCGT 160404-FU1		●			●		HC7810	10	311530 3111	
	●	●			●		HC7820	10	311530 3112	

3147

ISO	HC7810	HC7820
ISO P steel	Vc = 80 - 160	Vc = 60 - 130
ISO M stainless steel	Vc = 130 - 220	Vc = 110 - 210
ISO S superalloys	Vc = 40 - 70	Vc = 40 - 60
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.12	f = 0.02 - 0.06
	ap = 0.2 - 2.5	

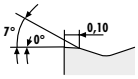
Excellent chip control

Chip breaker FP1

F finishing	M medium	R roughing
●	○	-



Smoothing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
VCMT 110302-FP1	●	○	○				ACP25T	10	366724 0114	
VCMT 110304-FP1	●		○				ACP15T	10	366679 0215	
	●	○	○				ACP25T	10	366724 0214	
VCMT 160404-FP1	●		○				ACP15T	10	366679 0315	
	●	○	○				ACP25T	10	366724 0414	
VCMT 160408-FP1	●	○	○				ACP25T	10	366724 0514	

3135

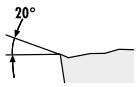
ISO	ACP15T	ACP25T
ISO P steel	Vc = 180 - 400	Vc = 100 - 240
ISO M stainless steel		Vc = 70 - 210
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.07 - 0.25	
	ap = 0.2 - 2.5	

Chip breaker type FP

F finishing	M medium	R roughing
●	-	-



Smoothing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
VCMT 110302-FP		●			○		HC7520	10	311528 0125	
	●		○				HC7610	10	311601 1611	
	●		○				HC7620	10	311601 1612	
VCMT 110304-FP		●			○		HC7520	10	311528 0225	
	●		○				HC7610	10	311601 1711	
	●		○				HC7620	10	311601 1712	
VCMT 160402-FP		●			○		HC7520	10	311528 0325	
	●		○				HC7610	10	311601 3611	
	●		○				HC7620	10	311601 3612	
VCMT 160404-FP		●			○		HC7520	10	311528 0425	
	●		○				HC7610	10	311601 3711	
	●		○				HC7620	10	311601 3712	
VCMT 160408-FP		●			○		HC7520	10	311528 0525	

3147

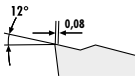
ISO	HC7520	HC7610	HC7620
ISO P steel		Vc = 160 - 380	Vc = 110 - 320
ISO M stainless steel	Vc = 130 - 220		
ISO K cast iron		Vc = 140 - 280	Vc = 140 - 260
ISO S superalloys	Vc = 30 - 60		
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.04 - 0.12		
	ap = 0.1 - 1.5		

Chip breaker MP5

F finishing	M medium	R roughing
-	●	-



Medium finishing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
VCMT 110304-MP5	●	○	○				ACP25T	10	366725 0214	
VCMT 110308-MP5	●	○	○				ACP25T	10	366725 0314	
	●	○					ACP35T	10	366682 0435	
VCMT 160404-MP5	●	○	○				ACP25T	10	366725 0414	
	●	○					ACP35T	10	366682 0635	
VCMT 160408-MP5	●	○	○				ACP25T	10	366725 0514	
	●	○					ACP35T	10	366682 0835	

3135

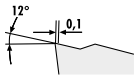
ISO	ACP25T	ACP35T
ISO P steel	Vc = 100 - 240	Vc = 90 - 200
ISO M stainless steel	Vc = 70 - 210	Vc = 55 - 200
ISO K cast iron	Vc = 120 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.4 ap = 0.25 - 3.5	

Chip breaker type MP

F finishing	M medium	R roughing
-	●	-



Medium processing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
VCMT 110304-MP	●		○				HC7610	10	311603 1711	
	●		○				HC7620	10	311603 1712	
	●						HC7630	10	311603 1713	
VCMT 110308-MP	●		○				HC7610	10	311603 1811	
	●		○				HC7620	10	311603 1812	
	●						HC7630	10	311603 1813	
VCMT 160404-MP	●		○				HC7610	10	311603 3711	
	●		○				HC7620	10	311603 3712	
	●						HC7630	10	311603 3713	
VCMT 160408-MP	●		○				HC7610	10	311603 3811	
	●		○				HC7620	10	311603 3812	
	●						HC7630	10	311603 3813	

3147

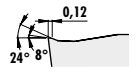
ISO	HC7610	HC7620	HC7630
ISO P steel	Vc = 160 - 380	Vc = 110 - 320	Vc = 80 - 220
ISO K cast iron	Vc = 140 - 280	Vc = 140 - 260	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.2 ap = 0.6 - 3		

Chip breaker MP positive

F finishing	M medium	R roughing
○	●	-



Medium finishing



palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
VCMT 110304-MP	●		○				PH2G115	10	333570 0177	
	●		○				PH2G125	10	333570 0178	
VCMT 110308-MP	●		○				PH2G115	10	333570 0277	
	●		○				PH2G125	10	333570 0278	
VCMT 160404-MP	●		○				PH2G115	10	333570 0377	
	●		○				PH2G125	10	333570 0378	
VCMT 160408-MP	●		○				PH2G115	10	333570 0477	
	●		○				PH2G125	10	333570 0478	
VCMT 160412-MP	●		○				PH2G115	10	333570 0577	
	●		○				PH2G125	10	333570 0578	

3148

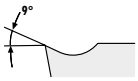
ISO	PH2G115	PH2G125
ISO P steel	Vc = 110 - 400	Vc = 100 - 340
ISO K cast iron	Vc = 110 - 400	Vc = 100 - 340
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.07 - 0.33 ap = 0.31 - 2.70	

ISO indexable cutting inserts VC.. ISO M

• **35° rhombic, positive 7°**

ISO M

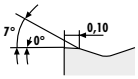
Chip breaker FFM stainless steel version

F finishing	M medium	R roughing	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	-	-											
 Fine smoothing 	VCGT 110300-FFM		●	○	○	○		**APM20T**	10	366678 0120	
	VCGT 110301-FFM		●	○	○	○		**APM20T**	10	366678 0220	
	VCGT 160400-FFM		●	○	○	○		**APM20T**	10	366678 0320	
	VCGT 160401-FFM		●	○	○	○		**APM20T**	10	366678 0420	

3135

ISO	APM20T
ISO M stainless steel	Vc = 60 - 200
ISO K cast iron	Vc = 120 - 220
ISO N Al/non-ferrous	Vc = 100 - 600
ISO S superalloys	Vc = 15 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.02 - 0.14 ap = 0.05 - 1.35

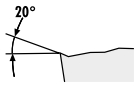
Chip breaker FM1

F finishing	M medium	R roughing	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	○	-											
 Smoothing 	VCMT 110302-FM1		○	●						**APM25T**	10	366681 0121	
	VCMT 110304-FM1		○	●						**APM25T**	10	366681 0221	
	VCMT 160404-FM1		○	●						**APM25T**	10	366681 0321	

3135

ISO	APM25T
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 40 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.07 - 0.25 ap = 0.2 - 2.5

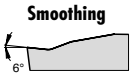
Chip breaker type FS

F finishing	M medium	R roughing	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	-	-											
 Smoothing 	VCMT 160404-FS		○	●				●		**HC7220**	10	311601 3714	

3147

ISO	HC7220
ISO M stainless steel	Vc = 120 - 190
ISO S superalloys	Vc = 30 - 60
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.16 ap = 0.1 - 1.5

Chip breaker FM positive PHH

F finishing	M medium	R roughing	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	-	-											
 Smoothing 	VCMT 110302-FM		●	●				●		**PHH920**	10	333568 0194	
			●	●				●		**PHH910**	10	333568 0195	
	VCMT 110304-FM		●	●				●		**PHH920**	10	333568 0294	
			●	●				●		**PHH910**	10	333568 0295	
	VCMT 160402-FM		●	●				●		**PHH920**	10	333568 0394	
			●	●				●		**PHH910**	10	333568 0395	
	VCMT 160404-FM		●	●				●		**PHH920**	10	333568 0494	
			●	●				●		**PHH910**	10	333568 0495	
	VCMT 160408-FM		●	●				●		**PHH920**	10	333568 0594	
			●	●				●		**PHH910**	10	333568 0595	
	VCMT 160412-FM		●	●				●		**PHH920**	10	333568 0694	
			●	●				●		**PHH910**	10	333568 0695	

3148

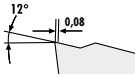
ISO	PHH910	PHH920
ISO M stainless steel	Vc = 100 - 230	Vc = 90 - 220
ISO S superalloys	Vc = 40 - 150	Vc = 35 - 145
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.03 - 0.32 ap = 0.07 - 1.80	

Chip breaker MM3

F finishing	M medium	R roughing
-	●	-



Medium finishing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
VCMT 110304-MM3	○	●					APM25T	10	366683 0121	
	○	●					APM35T	10	366683 0222	
VCMT 110308-MM3	○	●					APM25T	10	366683 0321	
	○	●					APM35T	10	366683 0422	
VCMT 160404-MM3	○	●					APM25T	10	366683 0521	
VCMT 160408-MM3	○	●					APM25T	10	366683 0621	

3135

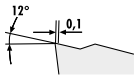
ISO	APM25T	APM35T
ISO P steel	Vc = 60 - 250	Vc = 90 - 200
ISO M stainless steel	Vc = 40 - 250	Vc = 55 - 200
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.4 ap = 0.25 - 3.5	

Chip breaker type MP, stainless steel

F finishing	M medium	R roughing
-	●	-



Medium processing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
VCMT 110304-MP		●			○		HC7520	10	310603 1725	
		●			○		HC7530	10	310603 1726	
VCMT 110308-MP		●			○		HC7520	10	310603 1825	
VCMT 160404-MP		●			○		HC7520	10	310603 3725	
		●			○		HC7530	10	310603 3726	
VCMT 160408-MP		●			○		HC7520	10	310603 3825	
		●			○		HC7530	10	310603 3826	

3147

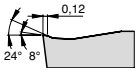
ISO	HC7520	HC7530
ISO M stainless steel	Vc = 80 - 240	Vc = 90 - 160
ISO S superalloys	Vc = 30 - 60	Vc = 20 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.3 ap = 0.6 - 3.0	

Chip breaker MM positive PHH

F finishing	M medium	R roughing
○	●	-



Medium finishing



palbit ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
VCMT 110304-MM		●			●		PHH920	10	333571 0194	
		●			●		PHH910	10	333571 0195	
VCMT 110308-MM		●			●		PHH920	10	333571 0294	
		●			●		PHH910	10	333571 0295	
VCMT 160404-MM		●			●		PHH920	10	333571 0394	
		●			●		PHH910	10	333571 0395	
VCMT 160408-MM		●			●		PHH920	10	333571 0494	
		●			●		PHH910	10	333571 0495	
VCMT 160412-MM		●			●		PHH920	10	333571 0594	
		●			●		PHH910	10	333571 0595	

3148

ISO	PHH910	PHH920
ISO M stainless steel	Vc = 100 - 230	Vc = 90 - 220
ISO S superalloys	Vc = 40 - 150	Vc = 35 - 145
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.07 - 0.33 ap = 0.23 - 2.70	

Premium partner

PALBIT is represented on five continents with an extensive sales network and serves a large number of customers in over 60 countries with state-of-the-art tool technology for a wide range of applications. Since 1 January 2019, the PALBIT brand has been exclusively distributed in Germany by SARTORIUS.

palbit® CUTTING TOOLS SOLUTIONS

ISO indexable cutting inserts VC.. ISO N

• **35° rhombic, positive 7°**

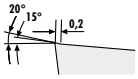
ISO N

Chip breaker MN5

F finishing	M medium	R roughing	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
○	○	○	VCGT 110302-MN5			○	●	○		**AWN15T**	10	366680 0116	
					○	○	●	○		**APN15T**	10	366680 0317	
			VCGT 110304-MN5			○	●	○		**AWN15T**	10	366680 0216	
					○	○	●	○		**APN15T**	10	366680 0417	
			VCGT 130302-MN5			○	●	○		**AWN15T**	10	366680 0616	
			VCGT 160404-MN5			○	●	○		**AWN15T**	10	366680 0717	
					○	○	●	○		**APN15T**	10	366680 0917	
			VCGT 160408-MN5			○	●	○		**AWN15T**	10	366680 1017	
					○	○	●	○		**APN15T**	10	366680 1217	
			VCGT 220530-MN5		○	○	●	○		**APN15T**	10	366680 1417	



Universal use



3135

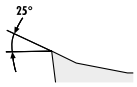
ISO	APN15T	AWN15T
ISO M stainless steel	Vc = 50 - 140	
ISO K cast iron	Vc = 120 - 200	Vc = 120 - 200
ISO N Al/non-ferrous	Vc = 100 - 3000	Vc = 100 - 2000
ISO S superalloys	Vc = 18 - 120	Vc = 20 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.1 - 0.5 ap = 0.1 - 4.5	

Chip breaker MN

F finishing	M medium	R roughing	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	●	-	VCGT 110302-MN		○		●			**HC8310**	10	310909 1602	
			VCGT 110304-MN		○		●			**HC8310**	10	310909 1702	
			VCGT 160404-MN		○		●			**HC8310**	10	310909 3702	
			VCGT 160408-MN		○		●			**HC8310**	10	310909 3802	



Medium processing



3147

ISO	HC8310
ISO M stainless steel	Vc = 120 - 200
ISO N Al/non-ferrous	Vc = 160 - 1200
Vc = [m/min] fz = [mm/Z] ap = [mm]	f = 0.04 - 0.2 ap = 0.2 - 2.5

ISO indexable cutting inserts WC.. ISO P

• **80° trigonometric, positive 7°**

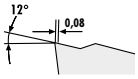
ISO P

Chip breaker MP5

F finishing	M medium	R roughing	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
-	●	-	WCMT 06T304-MP5	●	○	○				**ACP25T**	10	366727 0114	
			WCMT 06T308-MP5	●	○	○				**ACP25T**	10	366727 0214	
			WCMT 080404-MP5	●	○	○				**ACP25T**	10	366727 0314	



Medium finishing



3135

ISO	ACP25T
ISO P steel	Vc = 100 - 240
ISO M stainless steel	Vc = 70 - 210
ISO K cast iron	Vc = 120 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.4 ap = 0.25 - 3.5

ISO indexable cutting inserts WC.. ISO M

• **80° trigonometric, positive 7°**

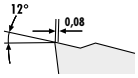
ISO M

Chip breaker MM3

F finishing	M medium	R roughing	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
-	●	-	WCMT 06T304-MM3	○	●					**APM25T**	10	366691 0321	
			WCMT 06T308-MM3	○	●					**APM25T**	10	366691 0421	
			WCMT 080408-MM3	○	●					**APM25T**	10	366691 0621	



Medium finishing



3135

ISO	APM25T
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 40 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.4 ap = 0.25 - 3.5

ISO indexable cutting inserts ceramic

Ceramic indexable cutting inserts are made of an inorganic substance.
They are die pressed and sintered using very fine pure raw material.
The ceramic indexable cutting inserts are completely compacted in this process, which means they have:

- **Resistance to breakage and wear**
- **Longer tool service life due to outstanding wear resistance**
- **Accurate cutting and exceptional surface roughness**
- **Greater cutting speed compared to carbide indexable cutting inserts**

Other geometries, edge preparations and coatings are available on request.

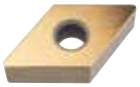
CNGA 1204..

F finishing ●	M medium -	R roughing -	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Smoothing			CNGA 120404 T02020	○		●			●	**AKH300T**	10	368100 0001	
			CNGA 120408 T02020	○		●			●	**AKH300T**	10	368100 0002	
			CNGA 120412 S02020	○		●			●	**AKH300T**	10	368100 0003	

ISO	AKH300T
ISO P steel	Vc = 200 - 800
ISO K cast iron	Vc = 50 - 1200
ISO H hard	Vc = 20 - 200
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.50 ap = 0.10 - 0.50

3163

DNGA 1506..

F finishing ●	M medium -	R roughing -	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Smoothing			DNGA 150604 T02020	○		●			●	**AKH300T**	10	368101 0001	
			DNGA 150608 T02020	○		●			●	**AKH300T**	10	368101 0002	
			DNGA 150612 S02020	○		●			●	**AKH300T**	10	368101 0003	

ISO	AKH300T
ISO P steel	Vc = 200 - 800
ISO K cast iron	Vc = 50 - 1200
ISO H hard	Vc = 40 - 200
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.50 ap = 0.10 - 0.50

3163

VNGA 1604..

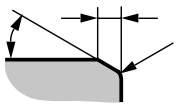
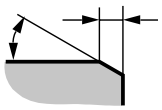
F finishing ●	M medium -	R roughing -	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Smoothing			VNGA 160404 T02020	○		●			●	**AKH300T**	10	368102 0001	
			VNGA 160408 T02020	○		●			●	**AKH300T**	10	368102 0002	
			VNGA 160412 S02020	○		●			●	**AKH300T**	10	368102 0003	

ISO	AKH300T
ISO P steel	Vc = 200 - 800
ISO K cast iron	Vc = 50 - 1200
ISO H hard	Vc = 40 - 200
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.50 ap = 0.10 - 0.50

3163

Cutting edge design of ceramic indexable cutting inserts

INFO

Symbol	Cutting edge design	Example		Shape
S	Chamfered and rounded cutting edge	CNGA 120412 **S02020**	0.20 mm x 20° chamfered and rounded cutting edge	
T	Chamfered cutting edge	CNGA 120404 **T02020**	0.20 mm x 20° chamfered cutting edge	

ATORN Technical Information CBN Indexable Cutting Inserts INFO

CBN (cubic boron nitride) is a synthetically produced material that is surpassed in hardness only by diamonds. Uniform machining is ensured as CBN can withstand very high temperatures. CBN has very high wear resistance due to its hardness, which enables long tool lives. Similarly, the good thermal conductivity enables uniform machining.

In order to generate and maintain the ideal cutting temperatures when machining with CBN, the following points must be observed:
- Select the right tool depending on the cutting material
- Determine the correct chamfer geometry

The following points should be considered when selecting the cutting material:
- What are the machining conditions, smooth, slightly or significantly interrupted cut?
- What is the cutting depth and the desired surface finish Ra in µm?
- Which material is being machined and what is the hardness in HRC?

Selecting types of cutting material when machining with PCBN

Cutting conditions Smooth cut - significantly interrupted cut	
ISO H • Hot and cold-working steels <68 HRC • Ball bearing and spring steels <62 HRC • Tempering steel <62 HRC	
• PM steel <68 HRC • Tool steel <72 HRC • Stainless steel, hardened • Stellite (cobalt-chromium alloys)	
ISO K • Grey cast iron (GG) • Spheroidal graphite cast iron (GGG)	
ISO S • Special alloys (Ni-, Co-, Fe-) • Titanium alloys	

Usage recommendations cooling/cutting

When machining with CBN indexable cutting inserts, proper cooling is the key to successful processing.

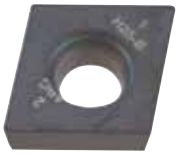
ISO		Dry	Air	Coolant emulsion	Oil
H				●	○
		○	●		
		○	●		
X				●	○
		○	●		
		○	●		
K				●	○
		○	●		
		○	●		
S				●	○
			○	●	
			○	●	

ATORN ISO indexable cutting inserts CBN

1089

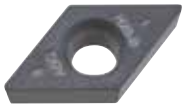
for machining e.g. hardened steel

- **Ultra-hard cutting material**
- **Cutting material types ABC H25 and ABC H40**
- **For machining hardened steels, sintered steel, chilled cast iron up to 68 HRC**



CCGW positive ABC H25-H40

ISO designation	ABC H25-B art.no.	€	ABC H25-D art.no.	€	ABC H25-G art.no.	€	ABC H40-C art.no.	€	ABC H40-F art.no.	€
CCGW 060202	390500 0001		390501 0002		390502 0003		390523 0004		390524 0005	
CCGW 060204	390500 0101		390501 0102		390502 0103		390523 0104		390524 0105	
CCGW 09T304	390500 0401		390501 0402		390502 0403		390523 0404		390524 0405	
CCGW 09T308	390500 0501		390501 0502		390502 0503		390523 0504		390524 0505	
CCGW 120404	390500 0701		390501 0702		390502 0703		390523 0704		390524 0705	
CCGW 120408	390500 0801		390501 0802		390502 0803		390523 0804		390524 0805	
	3111		3111		3111		3111		3111	



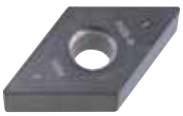
DCGW positive ABC H25-H40

ISO designation	ABC H25-B art.no.	€	ABC H25-D art.no.	€	ABC H25-G art.no.	€	ABC H40-C art.no.	€	ABC H40-F art.no.	€
DCGW 070202	390503 0001		390504 0002		390505 0003		390525 0004		390526 0005	
DCGW 070204	390503 0101		390504 0102		390505 0103		390525 0104		390526 0105	
DCGW 11T302	390503 0301		390504 0302		390505 0303		390525 0304		390526 0305	
DCGW 11T304	390503 0401		390504 0402		390505 0403		390525 0404		390526 0405	
DCGW 11T308	390503 0501		390504 0502		390505 0503		390525 0504		390526 0505	
	3111		3111		3111		3111		3111	



CNGA negative ABC H25-H40

ISO designation	ABC H25-B art.no.	€	ABC H25-D art.no.	€	ABC H25-G art.no.	€	ABC H40-C art.no.	€	ABC H40-F art.no.	€
CNGA 120404	391500 0101		391501 0102		391502 0103		391522 0104		391523 0105	
CNGA 120408	391500 0201		391501 0202		391502 0203		391522 0204		391523 0205	
	3111		3111		3111		3111		3111	



DNGA negative ABC H25-H40

ISO designation	ABC H25-B art.no.	€	ABC H25-D art.no.	€	ABC H25-G art.no.	€	ABC H40-C art.no.	€	ABC H40-F art.no.	€
DNGA 150604	391503 0101		391504 0102		391505 0103		391524 0104		391525 0105	
DNGA 150608	391503 0201		391504 0202		391505 0203		391524 0204		391525 0205	
	3111		3111		3111		3111		3111	



TNGA negative ABC H25-H40

ISO designation	ABC H25-B art.no.	€	ABC H25-D art.no.	€	ABC H25-G art.no.	€	ABC H40-C art.no.	€	ABC H40-F art.no.	€
TNGA 160404	391508 0101		391509 0102		391510 0103		391528 0104		391529 0105	
TNGA 160408	391508 0201		391509 0202		391510 0203		391528 0204		391529 0205	
	3111		3111		3111		3111		3111	

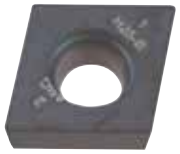
ATORN ISO indexable cutting inserts CBN

1089

- **Ultra-hard cutting material**
- **Cutting material types ABC X15 and ABC X20**
- **For machining hardened steels, PM steel, stellite and stainless steel up to 70 HRC**

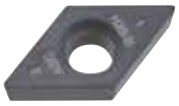
for machining e.g. hardened tool steel

CCGW positive ABC X15-X20



ISO designation	ABC X15-B art.no.	€	ABC X20-D art.no.	€
CCGW 060202	390517 0009		390535 0010	
CCGW 060204	390517 0109		390535 0110	
CCGW 09T304	390517 0409		390535 0410	
CCGW 09T308	390517 0509		390535 0510	
CCGW 120404	390517 0709		390535 0710	
CCGW 120408	390517 0809		390535 0810	
	3111		3111	

DCGW positive ABC X15-X20



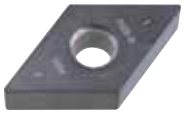
ISO designation	ABC X15-B art.no.	€	ABC X20-D art.no.	€
DCGW 070202	390518 0009		390536 0010	
DCGW 070204	390518 0109		390536 0110	
DCGW 11T302	390518 0309		390536 0310	
DCGW 11T304	390518 0409		390536 0410	
DCGW 11T308	390518 0509		390536 0510	
	3111		3111	

CNGA negative ABC X15-X20



ISO designation	ABC X15-B art.no.	€	ABC X20-D art.no.	€
CNGA 120404	391516 0109		391533 0110	
CNGA 120408	391516 0209		391533 0210	
	3111		3111	

DNGA negative ABC X15-X20



ISO designation	ABC X15-B art.no.	€	ABC X20-D art.no.	€
DNGA 150604	391517 0109		391534 0110	
DNGA 150608	391517 0209		391534 0210	
	3111		3111	

TNGA negative ABC X15-X20



ISO designation	ABC X15-B art.no.	€	ABC X20-D art.no.	€
TNGA 160404	391519 0109		391536 0110	
TNGA 160408	391519 0209		391536 0210	
	3111		3111	

ATORN ISO indexable cutting inserts CBN



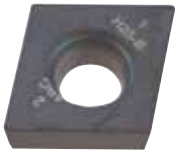
1089

- **Ultra-hard cutting material**
- **Cutting material types AB K10 and AB K15**
- **For machining cast iron (GG, GGG)**

for machining cast iron

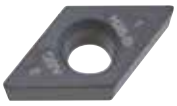
CCGW positive AB K10-K15

ISO designation	AB K10-B art.no.	€	AB K15-D art.no.	€
CCGW 060202	390541 0006		390456 0007	
CCGW 060204	390541 0106		390456 0107	
CCGW 09T304	390541 0406		390456 0407	
CCGW 09T308	390541 0506		390456 0507	
CCGW 120404	390541 0706		390456 0707	
CCGW 120408	390541 0806		390456 0807	
	3111		3111	



DCGW positive AB K10-K15

ISO designation	AB K10-B art.no.	€	AB K15-D art.no.	€
DCGW 070202	390542 0006		390457 0007	
DCGW 070204	390542 0106		390457 0107	
DCGW 11T302	390542 0306		390457 0307	
DCGW 11T304	390542 0406		390457 0407	
DCGW 11T308	390542 0506		390457 0507	
	3111		3111	



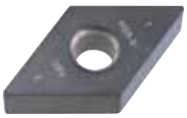
CNGA negative AB K10-K15

ISO designation	AB K10-B art.no.	€	AB K15-D art.no.	€
CNGA 120404	391538 0106		391542 0107	
CNGA 120408	391538 0206		391542 0207	
	3111		3111	



DNGA negative AB K10-K15

ISO designation	AB K10-B art.no.	€	AB K15-D art.no.	€
DNGA 150604	391539 0106		391543 0107	
DNGA 150608	391539 0206		391543 0207	
	3111		3111	



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ATORN ISO indexable cutting inserts CBN

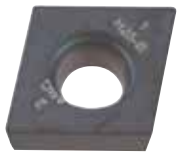


1089

- **Ultra-hard cutting material**
- **Cutting material type AB S10**
- **For machining heat-resistant special alloys, titanium, chrome and nickel alloys**

for machining e.g. special alloys

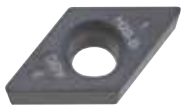
CCGW positive AB S10



ISO designation	AB S10-C art.no.	€
CCGW 060202	390461 0008	
CCGW 060204	390461 0108	
CCGW 09T304	390461 0408	
CCGW 09T308	390461 0508	
CCGW 120404	390461 0708	
CCGW 120408	390461 0808	

3111

DCGW positive AB S10



ISO designation	AB S10-C art.no.	€
DCGW 070202	390462 0008	
DCGW 070204	390462 0108	
DCGW 11T302	390462 0308	
DCGW 11T304	390462 0408	

3111

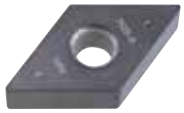
CNGA negative AB S10



ISO designation	AB S10-C art.no.	€
CNGA 120404	391546 0108	
CNGA 120408	391546 0208	

3111

DNGA negative AB S10



ISO designation	AB S10-C art.no.	€
DNGA 150604	391547 0108	
DNGA 150608	391547 0208	

3111

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palbit Technical Information CBN Indexable Cutting Inserts

INFO

CBN (polycrystalline cubic boron nitride) does not occur naturally. It is a synthetic material that is manufactured through a process of high temperature and pressure. When CBN cutting edges are soldered to a carbide insert, this creates a high-performance cutting tool.
CBN indexable cutting inserts are **brilliant for finishing and semi-finishing hardened steels (with 45 to 68 HRc)**, as well as hard cast iron and heat-resistant superalloys.

Qualities

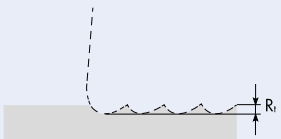
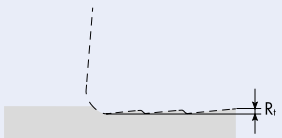
PBY 603	PBY 620
low CBN content with medium grain size and ceramic binding	minimal CBN content with medium grain size and ceramic binding
high wear/abrasion resistance	improved crater/side wear resistance with an exceptionally balanced toughness
for continuous and partially interrupted cutting of hardened steel (H01-H10)	for moderate to severely interrupted cutting of all hardened steels (H10-H20)
finishing of abrasive, high-strength cast iron	
also suitable for machining heat-resistant superalloys (S10)	

Geometry selection

The indexable insert geometry and the edge preparation is extremely important in hard turning, as it has a significant impact on the tool service life and productivity. The PALBIT product range includes standard and WIPER indexable cutting inserts.

The standard indexable insert produces the lowest cutting forces and has the lowest stability requirements, while the WIPER indexable cutting insert creates high productivity and outstanding surface quality.

A large corner radius guarantees greater edge strength and thus ensures a longer service life of the indexable cutting insert. For this reason it is advised to select the greatest permissible corner radius for the respective process requirements.

Standard (r = 0.8 mm)	WIPER (r = 0.8 mm)
	
Surface roughness Ra = 0.81 µm	Surface roughness Ra = 0.42 µm

WIPER indexable cutting inserts provide two options in process improvement:

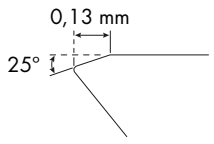
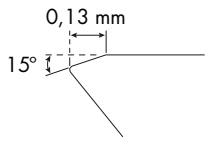
- improved surface quality with standard cutting data
- consistent surface quality with considerably higher feed rate.

Selection of cutting edge preparation

Defining the correct cutting edge preparation is the key criterion for the stability and service life of the cutting edges.
Selection is required to produce the best economic result.

Edge preparation S

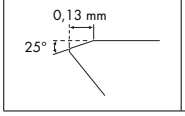
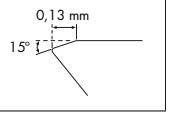
- with chamfer and edge rounding
- first choice for hard turning parts
- stronger cutting edge, with greater resistance to nicks and breaks
- generates a uniform surface quality
- critical for uninterrupted cutting and when using large cutting depths
- The feed rate must be greater than the edge rounding.

S2513	S1513
	
for general machining	for stable continuous machining

palbit CBN ISO indexable cutting inserts

1089

- **ultra-hard cutting material**

S2513	S1513
	

CNGA Z2



ISO designation	art.no.	€
CNGA 120404 -S2513 Z2	392000 0188	
CNGA 120408 -S2513 Z2	392000 0288	
CNGA 120412 -S2513 Z2	392000 0388	
	3155	

CNGA Z4



ISO designation	art.no.	€
CNGA 120404-S2513 Z4	392001 0188	
CNGA 120408-S2513 Z4	392001 0288	
	3155	

DNGA Z2



ISO designation	art.no.	€
DNGA 150404-2513 Z2	392004 0189	
DNGA 150408-2513 Z2	392004 0289	
DNGA 150604-2513 Z2	392004 0388	
DNGA 150608-2513 Z2	392004 0488	
	3155	

VNGA Z2



ISO designation	art.no.	€
VNGA 160404-S2513 Z2	392009 0188	
VNGA 160408-S2513 Z2	392009 0288	
	3155	

WNGA Z3



ISO designation	art.no.	€
WNGA 080404-S2513 Z3	392010 0188	
WNGA 080408-S2513 Z3	392010 0288	
	3155	

palbit Technical Information PKD Indexable Cutting Inserts

INFO

PKD (polycrystalline diamond) is a composite of diamond particles sintered with a metallic binding agent, which form one of the hardest and most wear-resistant materials for cutting tools.
Its development was significant for the **machining of non-ferrous materials such as aluminium with high silicon content, metal matrix composites (MMC) and carbon-fibre reinforced plastics (CFRP)**.

Quality

PDP410	
general applications	graphite and graphite composite
fine finishing	wood composite
<14% aluminium silicon alloy	raw ceramic
automotive industry	copper alloy

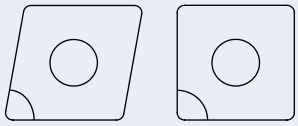
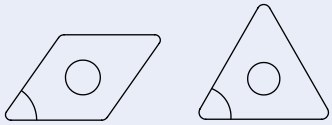
Geometry selection

Insert geometry and corner radius are crucial to service life and productivity in turning work.

The corner radius of the indexable cutting insert is an important performance parameter:

- A smaller corner radius must be selected for good chip breaking: 0.2 – 0.4 mm
- A large corner radius: 0.8 – 1.2 mm produces a greater surface quality and narrower chips, whereby the crater wear in hard turning is reduced.
- Machining with greater corner radius and smaller cutting depth results in lower entry and exit force.

In general, a greater corner radius ensures increased cutting stability and thus an increased service life. For this reason it is advisable to use the largest-possible corner radius according to the specific requirements.

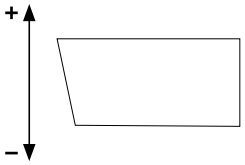
Finishing and Semi-finishing	
Special surface and tolerance requirements apply in these cases.	
Roughing	
The following formula is recommended to calculate the minimum corner radius in relation to the feed for roughing:	
Insert shape	**Formula**
	Radius >1.6 x feed per rev.
	Radius >2.5 x feed per rev.

Selection of cutting edge preparation

Choosing the correct cutting edge preparation is the key criterion for the stability and service life of the cutting edge. It determines the degree of efficiency.

Cutting edge preparation

PKD: Cutting edge preparation F-type:

Cutting forces Cutting strength 	**F-standard preparation without honing – Standard** • sharp cutting edge • standard/cutting edge preparation for aluminium or other non-ferrous materials.

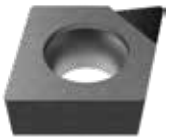
palbit PKD ISO indexable cutting inserts

1089

- **Polycrystalline diamond** (composite cutting material) with carbide base, good cutting edge sharpness and low cutting pressure with narrow tolerances. Lower wear resistance with increased toughness.

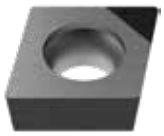
CCGT Z1

ISO designation	art.no.	€
CCGT 060202 Z1	392600 0106	
CCGT 09T308 Z1	392600 0206	
CCGT 120408 Z1	392600 0306	
	2173	



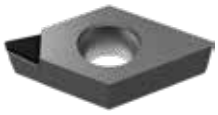
CCGW Z1

ISO designation	art.no.	€
CCGW 060202 Z1	392601 0106	
CCGW 060204 Z1	392601 0206	
CCGW 09T304 Z1	392601 0306	
CCGW 120404 Z1	392601 0406	
CCGW 120408 Z1	392601 0506	
	2173	



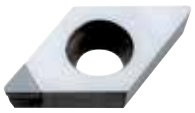
DCGT Z1

ISO designation	art.no.	€
DCGT 070202 Z1	392602 0106	
DCGT 11T304 Z1	392602 0206	
DCGT 11T308 Z1	392602 0306	
DCGT 150408 Z1	392602 0406	
	2173	



DCGW Z1

ISO designation	art.no.	€
DCGW 070202 Z1	392603 0106	
DCGW 070204 Z1	392603 0206	
DCGW 11T302 Z1	392603 0306	
DCGW 11T304 Z1	392603 0406	
DCGW 11T308 Z1	392603 0506	
DCGW 150408 Z1	392603 0606	
	2173	



TCGW Z1

ISO designation	art.no.	€
TCGW 090202 Z1	392606 0106	
TCGW 090204 Z1	392606 0206	
TCGW 110202 Z1	392606 0306	
TCGW 110204 Z1	392606 0406	
TCGW 110208 Z1	392606 0506	
TCGW 16T308 Z1	392606 0606	
	2173	



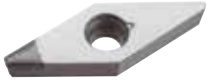
VCGT Z1

ISO designation	art.no.	€
VCGT 110302 Z1	392607 0106	
VCGT 110304 Z1	392607 0206	
VCGT 160408 Z1	392607 0306	
	2173	



VCGW Z1

ISO designation	art.no.	€
VCGW 110304 Z1	392608 0106	
VCGW 160408 Z1	392608 0206	
	2173	



Overview of tool holders and boring bars

ISO designation codes in the INFO section

INFO

Tool holders negative

ISO code	Rotational direction	for ISO indexable cutting inserts	Internal cooling	Page
PCLN R/L 95°		CN..		901
				902
DCLN R/L 95°				902
				903
MCLN R/L 95°				903
PCKN R/L 75°				904
PCBN R/L 75°				904
PDJN R/L 93°		DN..		905
				905
DDJN R/L 93°				906
				906
MDJN R/L 93°				907
PDNNN 63°				907
CKJN R/L 93°		KNUX		908
PSBN R/L 75°		SN..		908
PSKN R/L 75°				909
PSSN R/L 45°				909
				910
PSDNN 45°				910
PTFN R/L 90°		TN..		911
PTGN R/L 90°				911
DVJN R/L 93°		VN..		912
				912
MVJN R/L 93°				913
MVVNN 72,5°				913
PWLN R/L 95°		WN..		913
				914
DWLN R/L 95°				914
				915
MWLN R/L 95°				915

Tool holders positive

ISO code	Rotational direction	for ISO indexable cutting inserts	Internal cooling	Page
SCLC R/L 95°		CC..		916
				916
SCAC R/L 90°				917
SDJC R/L 93°		DC..		917
				918
SDAC R/L 90°				918
SDNCN 62,5°				919

Tool holders positive (Continued)

ISO code	Rotational direction	for ISO indexable cutting inserts	Internal cooling	Page
SRGC R/L 95°		RC..		920
SRDCN 90°				920
SSSC R/L 45°		SC..		921
SVJC R/L 93°				921
				922
SVAC R/L 90°				923
SVVCN 72,5°				923
SVJB R/L 93°		VBM.		924
SVVBN 72,5°				925



Boring bars negative

ISO code	Rotational direction	for ISO indexable cutting inserts	Internal cooling	Page
CKUN R/L 93°		KNUX		926
PCLN R/L 95°		CN..		926
				926
MCLN R/L 95°				927
PDUN R/L 93°		DN..		927
				927
MDUN R/L 93°				928
PTFN R/L 90°		TN..		928
				928
MVUN R/L 93°		VN..		929
PWLN R/L 95°		WN..		929
				929

Boring bars positive

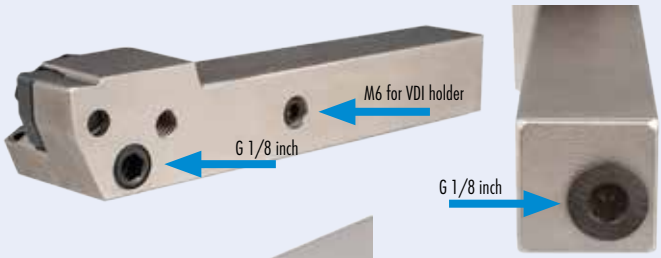
ISO code	Rotational direction	for ISO indexable cutting inserts	Internal cooling	Page
SCLC R/L 95°		CC..		930/932
SDUC R/L 93°		DC..		930/932
SDQC R/L 107,5°				930/936
SDXC R/L 93°				937
STFC R/L 90°		TC..		931/937
SVUC R/L 93°		VC..		931/938
SVJC R/L 52°				938
SVUB R/L 93°		VB..		931/939

ATORN DLOCK coolant supply and outlet

INFO

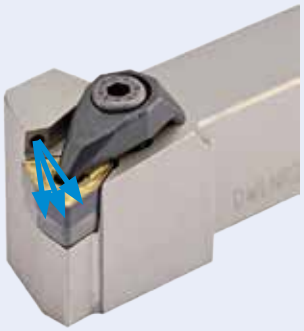
Coolant supply

The DLOCK system offers various coolant supply options. Not only are there two inlets on the underside of the holder (1x G1/8 inch and 1x M6 for transition to VDI holder), there is also another on the rear of the square (1x G1/8 inch). The coolant system can thus be connected with the greatest flexibility.



Coolant discharge

The coolant discharge is targeted at the primary cutting edge, thus guaranteeing optimum cooling without the risk of a thermal shock effect.



ATORN Tool holders, negative PCLN

- **PCLN R/L 95°**
- Setting angle 95°, for negative 0° rhombic indexable inserts, 80° point angle
- **Use:** Longitudinal turning and facing



ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts							Right art.no.	€	Left art.no.	€
PCLN R/L 1616 H12	16	16	100	26	20	CN.. 1204..	A1	B5	C5	D1	E1	F1	320140 0001		320141 0001	
PCLN R/L 2020 K12	20	20	125	28	25	CN.. 1204..	A1	B1	C1	D1	E1	F1	320140 0002		320141 0002	
PCLN R/L 2525 M12	25	25	150	28	32	CN.. 1204..	A1	B1	C1	D1	E1	F1	320140 0003		320141 0003	
PCLN R/L 3225 P12	32	25	170	28	32	CN.. 1204..	A1	B1	C1	D1	E1	F1	320140 0004		320141 0004	
PCLN R/L 3232 P12	32	32	170	28	40	CN.. 1204..	A1	B1	C1	D1	E1	F1	320140 0005		320141 0005	
PCLN R/L 2525 M16	25	25	150	34	32	CN.. 1606..	A2	B2	C2	D2	E2	F1	320140 0006		320141 0006	
PCLN R/L 3225 P16	32	25	170	34	32	CN.. 1606..	A2	B2	C2	D2	E2	F1	320140 0007		320141 0007	
PCLN R/L 3232 P16	32	32	170	34	40	CN.. 1606..	A2	B2	C2	D2	E2	F1	320140 0008		320141 0008	
PCLN R/L 4040 S16	40	40	250	34	50	CN.. 1606..	A2	B2	C2	D2	E2	F1	320140 0009		320141 0009	
PCLN R/L 2525 M19	25	25	150	42	32	CN.. 1906..	A3	B3	C3	D3	E3	F2	320140 0010		320141 0010	
PCLN R/L 3225 P19	32	25	170	42	32	CN.. 1906..	A3	B3	C3	D3	E3	F2	320140 0011		320141 0011	
PCLN R/L 3232 P19	32	32	170	42	40	CN.. 1906..	A3	B3	C3	D3	E3	F2	320140 0012		320141 0012	
PCLN R/L 4040 S19	40	40	250	45	50	CN.. 1906..	A3	B3	C3	D3	E3	F2	320140 0013		320141 0013	
PCLN R/L 4040 S25	40	40	250	45	50	CN.. 2509..	A4	B4	C4	D4	E4	F3	320140 0014		320141 0014	
PCLN R/L 5050 T25	50	50	300	50	60	CN.. 2509..	A4	B4	C4	D4	E4	F3	320140 0015		320141 0015	
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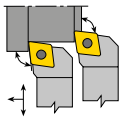
Spare parts

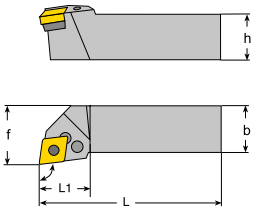
Support plate art.no.	€	Clamping lever art.no.	€	Screw art.no.	€	Hollow pin art.no.	€	Pin art.no.	€	Nickel plated art.no.	€
A1 321601 0007		B1 321601 0102		C1 321601 0202		D1 321601 0302		E1 321601 0402		F1 703005 0030	
A2 321601 0008		B2 321601 0103		C2 321601 0203		D2 321601 0303		E2 321601 0403		F2 703005 0040	
A3 321601 0009		B3 321601 0104		C3 321601 0204		D3 321601 0304		E3 321601 0404		F3 703005 0050	
A4 321601 0032		B4 321601 0105		C4 321601 0205		D4 321601 0305		E4 321601 0405			
		B5 321601 0108		C5 321601 0209							
3106		3106		3106		3106		3106		7111	

ATORN Tool holder, negative PCLN with internal cooling

- **PCLN R/L 95°**
- **Internal cooling connection 1/8"**
- Setting angle 95°, for negative 0° rhombic indexable inserts, 80° point angle
- **Material:** Longitudinal turning and facing







ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts	A1	B1	C1	D1	E1	Right art.no.	€	Left art.no.	€
PCLN R/L 1616 H12 IK	16	16	100	26.1	20	CN.. 1204..	A1	B1	C1	D1	E1	320145 1616		320146 1616	
PCLN R/L 2020 K12 IK	20	20	125	27.4	25	CN.. 1204..	A1	B1	C1	D1	E1	320145 2020		320146 2020	
PCLN R/L 2525 M12 IK	25	25	150	28	32	CN.. 1204..	A1	B1	C1	D1	E1	320145 2525		320146 2525	
												3104		3104	

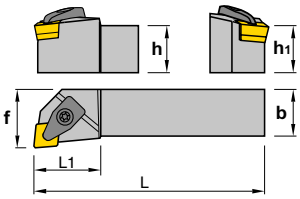
Spare parts

Clamping lever art.no.	€	Support plate art.no.	€	Screw art.no.	€	Hollow pin art.no.	€	Nickel plated art.no.	€
A1 321601 0120		B1 321601 0124		C1 321601 0125		D1 321601 0126		E1 703005 0030	
3106		3106		3106		3106		7111	

ATORN DLOCK tool holder with D clamping, DCLN for negative turning inserts

- **DCLN R/L 95°**
- **With 1/8" GAS internal cooling connection**
- Setting angle 95°, for negative 0° rhombic indexable inserts, 80° point angle
- **Use:** Longitudinal turning and facing
- 1 x blind plug and 1 x connection nipple 1/8" included
- Fits hose set Art. No. 446312 0200 and 446312 0300





ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts	A1	B1	C1	D1	E1	F1	Right-hand art.no.	€	Left-hand art.no.	€
DCLN.. 2020 K12 A	20	20	125	28	25	CN.. 1204..	A1	B1	C1	D1	E1	F1	324003 0001		324004 0001	
DCLN.. 2525 M12 A	25	25	150	28	32	CN.. 1204..	A1	B1	C1	D1	E1	F1	324003 0003		324004 0003	
DCLN.. 2525 M16 A	25	25	150	34	32	CN.. 1604..	A1	B2	C2	D1	E2	F1	324003 0004		324004 0004	
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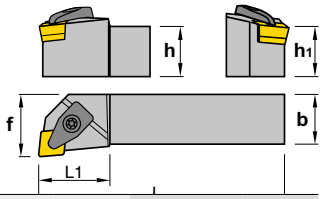
Spare parts

Screw art.no.	€	Screw for spacer art.no.	€	Clamping claw art.no.	€	Spring art.no.	€	Spacer art.no.	€	Nickel plated art.no.	€
A1 324020 0003		B1 324020 0004		C1 324020 0008		D1 324020 0012		E1 324020 0013		F1 703005 0040	
		B2 324020 0005		C2 324020 0009				E2 324020 0014			
3106		3106		3106		3106		3106		7111	

ATORN DLOCK tool holder with D clamping, DCLN for negative turning inserts

- **DCLN R/L 95°**
- Setting angle 95°, for negative 0° rhombic indexable inserts, 80° point angle
- **Use**: Longitudinal turning and facing





ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts	A1	B1	C1	D1	E1	F1	Right-hand art.no.	€	Left-hand art.no.	€
DCLN.. 2020 K12	20	20	125	28	25	CN.. 1204..	A1	B1	C1	D1	E1	F1	324001 0001		324002 0001	
DCLN.. 2525 M12	25	25	150	28	25	CN.. 1204..	A1	B1	C1	D1	E1	F1	324001 0002		324002 0002	
DCLN.. 2525 M16	25	25	150	34	32	CN.. 1604..	A1	B2	C2	D1	E2	F1	324001 0003		324002 0003	
DCLN.. 3232 P19	32	32	170	42	40	CN.. 1906..	A1	B3	C3	D1	E3	F1	324001 0004		324002 0005	
													3104		3104	

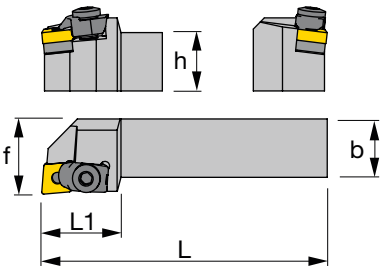
Spare parts

Screw art.no.	€	Screw for spacer art.no.	€	Clamping claw art.no.	€	Spring art.no.	€	Spacer art.no.	€	Nickel plated art.no.	€
A1 324020 0003		B1 324020 0004		C1 324020 0008		D1 324020 0012		E1 324020 0013		F1 703005 0040	
		B2 324020 0005		C2 324020 0009				E2 324020 0014			
		B3 324020 0006		C3 324020 0010				E3 324020 0018			
3106		3106		3106		3106		3106		7111	

ATORN MCLN tool holders, negative

- **MCLN R/L 95°**
- Setting angle 95°, for rhombic indexable inserts negative 0°, 80° point angle
- **Use:** Longitudinal turning and facing





ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts	A1	B1	C1	D1	E1	Right art.no.	€	Left art.no.	€
MCLN.. 2020 K12	20	20	125	34	25	CN.. 1204..	A1	B1	C1	D1	E1	320284 0001		320285 0001	
MCLN.. 2525 M12	25	25	150	34	32	CN.. 1204..	A1	B1	C1	D1	E1	320284 0002		320285 0002	
												3104		3104	

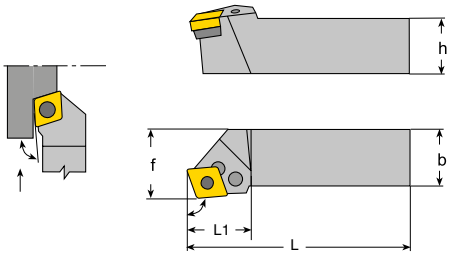
Spare parts

Screw art.no.	€	Clamping claw art.no.	€	Support plate art.no.	€	Clamping pin art.no.	€	Nickel plated art.no.	€
A1 321601 0024		B1 321601 0133		C1 321601 0134		D1 321601 0410		E1 703005 0050	
3106		3106		3106		3106		7111	

ATORN Tool holders, negative PCKN

- **PCKN R/L 75°**
- Setting angle 75°, for negative 0° rhombic indexable inserts, 80° point angle
- **Use:** Facing





ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts	A1	B1	C1	D1	E1	F1	Right art.no.	€	Left art.no.	€
PCKN R/L 2020 K12	20	20	125	28	25	CN.. 1204..	A1	B1	C1	D1	E1	F1	320135 0001		320136 0001	
PCKN R/L 2525 M12	25	25	150	28	32	CN.. 1204..	A1	B1	C1	D1	E1	F1	320135 0002		320136 0002	
PCKN R/L 3225 P12	32	25	170	28	32	CN.. 1204..	A1	B1	C1	D1	E1	F1	320135 0003		320136 0003	
PCKN R/L 3232 P19	32	32	170	34	40	CN.. 1906..	A2	B2	C2	D2	E2	F2	320135 0004		320136 0004	
PCKN R/L 4040 S19	40	40	250	45	50	CN.. 1906..	A2	B2	C2	D2	E2	F2	320135 0005		320136 0005	
PCKN R/L 4040 S25	40	40	250	45	50	CN.. 2509..	A3	B3	C3	D3	E3	F3	320135 0006		320136 0006	
													3104		3104	

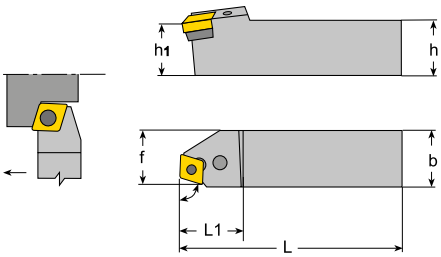
Spare parts

Support plate art.no.	€	Clamping lever art.no.	€	Screw art.no.	€	Hollow pin art.no.	€	Pin art.no.	€	Nickel plated art.no.	€
A1 321601 0007		B1 321601 0102		C1 321601 0202		D1 321601 0302		E1 321601 0402		F1 703005 0030	
A2 321601 0009		B2 321601 0104		C2 321601 0204		D2 321601 0304		E2 321601 0404		F2 703005 0040	
A3 321601 0032		B3 321601 0105		C3 321601 0205		D3 321601 0305		E3 321601 0405		F3 703005 0050	
3106		3106		3106		3106		3106		7111	

ATORN Tool holders, negative PCBN

- **PCBN R/L 75°**
- Setting angle 75°, for negative 0° rhombic indexable inserts, 80° point angle
- **Use:** Longitudinal turning





ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts	A1	B1	C1	D1	E1	F1	Right-hand art.no.	€	Left-hand art.no.	€
PCBN R/L 2525 M12	25	25	150	28	22	CN.. 1204..	A1	B1	C1	D1	E1	F1	320150 0002		320151 0002	
PCBN R/L 2525 M16	25	25	150	34	22	CN.. 1606..	A2	B2	C2	D2	E2	F1	320150 0003		320151 0003	
PCBN R/L 3232 P19	32	32	170	42	27	CN.. 1906..	A3	B3	C3	D3	E3	F2	320150 0007		320151 0007	
PCBN R/L 4040 S25	40	40	250	48	41	CN.. 2509..	A4	B4	C4	D4	E4	F3	320150 0008		320151 0008	
															3104	

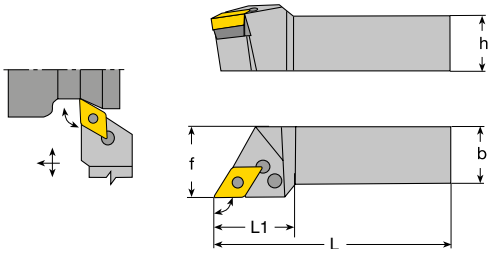
Spare parts

Support plate art.no.	€	Clamping lever art.no.	€	Screw art.no.	€	Hollow pin art.no.	€	Pin art.no.	€	Nickel plated art.no.	€
A1 321601 0007		B1 321601 0102		C1 321601 0202		D1 321601 0302		E1 321601 0402		F1 703005 0030	
A2 321601 0008		B2 321601 0103		C2 321601 0203		D2 321601 0303		E2 321601 0403		F2 703005 0040	
A3 321601 0009		B3 321601 0104		C3 321601 0204		D3 321601 0304		E3 321601 0404		F3 703005 0050	
A4 321601 0032		B4 321601 0105		C4 321601 0205		D4 321601 0305		E4 321601 0405			
3106		3106		3106		3106		3106		7111	

ATORN PDJN tool holders, negative

- **PDJN R/L 93°**
- Setting angle 93°, for negative 0° rhombic indexable inserts, 55° point angle
- **Use:** Copy turning





ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts	A2	B1	C1	D1	E1	F1	Right art.no.	€	Left art.no.	€
PDJN R/L 1616 H11	16	16	100	28	20	DN.. 1104..	A2	B1	C1	D1	E1	F1	320155 0010		320156 0010	
PDJN R/L 2020 K11	20	20	125	28	25	DN.. 1104..	A2	B1	C1	D1	E1	F1	320155 0011		320156 0011	
PDJN R/L 2525 M11	25	25	150	28	32	DN.. 1104..	A2	B1	C1	D1	E1	F1	320155 0012		320156 0012	
PDJN R/L 2020 K15	20	20	125	34	25	DN.. 1506..	A1	B2	C2	D2	E2	F2	320155 0001		320156 0001	
PDJN R/L 2525 M15	25	25	150	34	32	DN.. 1506..	A1	B2	C2	D2	E2	F2	320155 0002		320156 0002	
PDJN R/L 3225 P15	32	25	170	34	32	DN.. 1506..	A1	B2	C2	D2	E2	F2	320155 0003		320156 0003	
PDJN R/L 3232 P15	32	32	170	34	40	DN.. 1506..	A1	B2	C2	D2	E2	F2	320155 0004		320156 0004	
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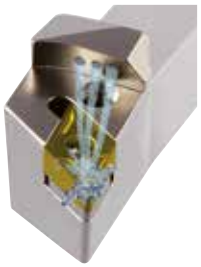
Spare parts

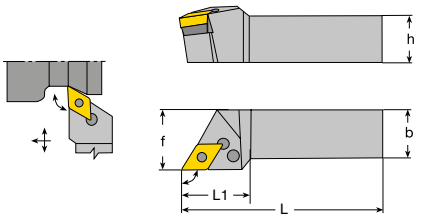
Support plate			Clamping lever			Screw			Hollow pin			Pin			Nickel plated		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	321601 0010		B1	321601 0101		C1	321601 0201		D1	321601 0301		E1	321601 0401		F1	703005 0025	
A2	321601 0012		B2	321601 0107		C2	321601 0206		D2	321601 0302		E2	321601 0402		F2	703005 0030	
	3106			3106			3106			3106			3106			7111	

ATORN Tool holder, negative PDJN with internal cooling



- **PDJN R/L 93°**
- **Internal cooling connection 1/8"**
- Setting angle 93°, for negative 0° rhombic indexable inserts, 55° point angle
- **Material:** Copy turning





ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts	A1	B1	C1	D1	E1	Right art.no.	€	Left art.no.	€
PDJN R/L 2020 K15 IK	20	20	125	34	25	DN.. 1506..	A1	B1	C1	D1	E1	320161 2020		320162 2020	
PDJN R/L 2525 M15 IK	25	25	150	42	32	DN.. 1506..	A1	B1	C1	D1	E1	320161 2525		320162 2525	
												3104		3104	

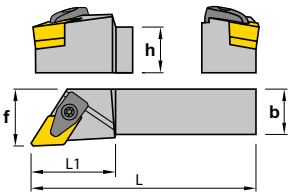
Spare parts

Clamping lever			Screw			Hollow pin			Support plate			Nickel plated		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	321601 0122		B1	321601 0125		C1	321601 0126		D1	321601 0129		E1	703005 0030	
	3106			3106			3106			3106			7111	

ATORN DLOCK tool holder with D clamping, DDJN for negative turning inserts

- **DDJN R/L 93°**
- **With 1/8" GAS internal cooling connection**
- Setting angle 93°, for rhombic indexable inserts negative 0°, 55° point angle
- **Use:** Copy turning
- 1 x blind plug and 1 x connection nipple 1/8" included
- Fits hose set Art. No. 446312 0200 and 446312 0300





ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts	A1	B1	C1	D1	E1	F1	Right art.no.	€	Left art.no.	€
DDJN.. 2020 K11 A	20	20	125	28	25	DN.. 1104..	A1	B1	C1	D1	E1	F1	324007 0001		324008 0001	
DDJN.. 2020 K15 A	20	20	125	34	25	DN.. 1506..	A2	B2	C2	D2	E2	F1	324007 0002		324008 0002	
DDJN.. 2525 M15 A	25	32	150	42	40	DN.. 1506..	A2	B2	C2	D2	E2	F1	324007 0003		324008 0003	
													3104		3104	

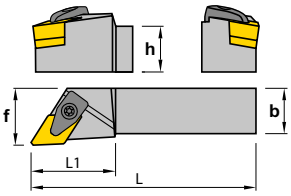
Spare parts

Screw for spacer art.no.	€	Screw art.no.	€	Clamping claw art.no.	€	Spring art.no.	€	Spacer art.no.	€	Nickel plated art.no.	€
A1 324020 0001		B1 324020 0002		C1 324020 0007		D1 324020 0011		E1 324020 0015		F1 703005 0040	
A2 324020 0004		B2 324020 0003		C2 324020 0008		D2 324020 0012		E2 324020 0016			
3106		3106		3106		3106		3106		7111	

ATORN DLOCK tool holder with D clamping, DDJN for negative turning inserts

- **DDJN R/L 93°**
- Setting angle 93°, for negative 0° rhombic indexable inserts, 55° point angle
- **Use:** Copy turning





ISO designation	Shank height mm	Shank width mm	L mm	l4 mm	suitable indexable inserts	A1	B1	C1	D1	E1	F1	Right-hand art.no.	€	Left-hand art.no.	€
DDJN.. 2020 K11	20	20	125	34	DN.. 1104..	A1	B1	C1	D1	E1	F1	324005 0001		324006 0001	
DDJN.. 2020 K15	20	20	125	34	DN.. 1506..	A2	B2	C2	D2	E2	F1	324005 0002		324006 0002	
DDJN.. 2525 M15	25	25	150	34	DN.. 1506..	A2	B2	C2	D2	E2	F1	324005 0003		324006 0003	
												3104		3104	

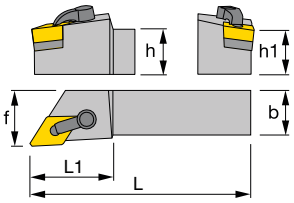
Spare parts

Screw for spacer art.no.	€	Screw art.no.	€	Clamping claw art.no.	€	Spring art.no.	€	Spacer art.no.	€	Nickel plated art.no.	€
A1 324020 0001		B1 324020 0002		C1 324020 0007		D1 324020 0011		E1 324020 0015		F1 703005 0040	
A2 324020 0004		B2 324020 0003		C2 324020 0008		D2 324020 0012		E2 324020 0016			
3106		3106		3106		3106		3106		7111	

ATORN MDJN tool holders, negative

- **MDJN R/L 93°**
- Setting angle 93°, for rhombic indexable inserts negative 0°, 55° point angle
- **Use:** Copy turning





ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts	A1	B1	C1	D1	E2	Right art.no.	€	Left art.no.	€
MDJN.. 2020 K15	20	20	125	42	25	DN.. 1506..	A1	B1	C1	D1	E2	320286 0001		320287 0001	
MDJN.. 2525 M15	25	25	150	42	32	DN.. 1506..	A1	B1	C1	D1	E2	320286 0002		320287 0002	
												3104		3104	

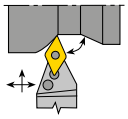
Spare parts

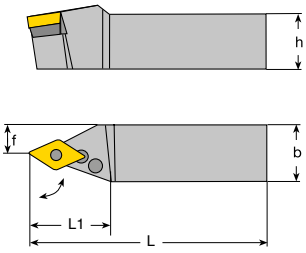
Clamping lever art.no.	€	Clamping pin art.no.	€	Screw art.no.	€	Spacer art.no.	€	Nickel plated art.no.	€
A1 321601 0118		B1 321601 0135		C1 321601 0212		D1 324020 0016		E1 703005 0025	
								E2 703005 0030	
3106		3106		3106		3106		7111	

ATORN Tool holders, negative PDNNN

- **PDNNN 63°**
- Setting angle 63°, for negative 0° rhombic indexable inserts, 55° point angle
- **Use:** Longitudinal and copy turning







ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts	A1	B1	C1	D1	E1	F1	Neutral art.no.	€
PDNN N 2020 K15	20	20	125	34	10	DN.. 1506..	A1	B1	C1	D1	E1	F1	320160 0001	
PDNN N 2525 M15	25	25	150	34	12.5	DN.. 1506..	A1	B1	C1	D1	E1	F1	320160 0002	
PDNN N 3232 P15	32	32	170	34	16	DN.. 1506..	A1	B1	C1	D1	E1	F1	320160 0004	
PDNN N 4025 S15	40	25	250	34	12.5	DN.. 1506..	A1	B1	C1	D1	E1	F1	320160 0006	
PDNN N 5032 S15	50	32	250	34	16	DN.. 1506..	A1	B1	C1	D1	E1	F1	320160 0007	
													3104	

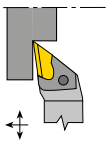
Spare parts

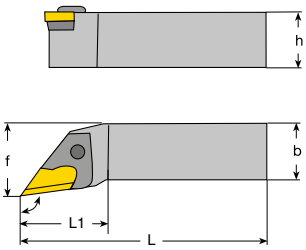
Support plate art.no.	€	Clamping lever art.no.	€	Screw art.no.	€	Hollow pin art.no.	€	Pin art.no.	€	Nickel plated art.no.	€
A1 321601 0010		B1 321601 0107		C1 321601 0206		D1 321601 0302		E1 321601 0402		F1 703005 0030	
3106		3106		3106		3106		3106		7111	

ATORN Tool holders, negative CKJN

- **CKJN R/L 93°**
- Setting angle 93°, for negative 0° KNUX indexable inserts, 55° point angle
- **Use:** Longitudinal and copy turning







Designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts	A1	B1	C1	D1	E1	F1	G1	Right art.no.	€	Left art.no.	€
CKJN R 2020 K16	20	20	125	34	30	KNUX 1604..	A1	B1	C1	D1	E1	F1	G1	320179 0001			
CKJN L 2020 K16	20	20	125	34	30	KNUX 1604..	A2	B2	C1	D1	E1	F1	G1			320181 0001	
CKJN R 2525 M16	25	25	150	34	32	KNUX 1604..	A1	B1	C1	D1	E1	F2	G1	320179 0002			
CKJN L 2525 M16	25	25	150	34	32	KNUX 1604..	A2	B2	C1	D1	E1	F2	G1			320181 0002	
CKJN R 3225 P16	32	25	170	34	32	KNUX 1604..	A1	B1	C1	D1	E1	F2	G1	320179 0003			
CKJN L 3225 P16	32	25	170	34	32	KNUX 1604..	A2	B2	C1	D1	E1	F2	G1			320181 0003	
CKJN R 3232 P16	32	32	170	34	40	KNUX 1604..	A1	B1	C1	D1	E1	F2	G1	320179 0004			
CKJN L 3232 P16	32	32	170	34	40	KNUX 1604..	A2	B2	C1	D1	E1	F2	G1			320181 0004	
														3104		3104	

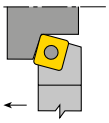
Spare parts

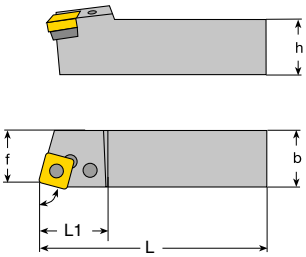
Support plate			Clamping lever			Screw			Pin			Spring			Spring pin			Nickel plated		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	321601 0018		B1	321601 0114		C1	321601 0215		D1	321601 0408		E1	321601 0901		F1	321601 0902		G1	703005 0040	
A2	321601 0019		B2	321601 0115											F2	321601 0903				
3106			3106			3106			3106			3106			3106			7111		

ATORN Tool holders, negative PSBN

- **PSBN R/L 75°**
- Setting angle 75°, for negative 0° square indexable inserts, 90° point angle
- **Use:** Longitudinal turning







ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts	A1	B1	C1	D1	E1	F1	Right art.no.	€	Left art.no.	€
PSBN..2020 K12	20	20	125	28	17	SN.. 1204..	A1	B1	C1	D1	E1	F1	320115 0001		320116 0001	
PSBN..2525 M12	25	25	150	28	22	SN.. 1204..	A1	B1	C1	D1	E1	F1	320115 0002		320116 0002	
PSBN..3225 P12	32	25	170	28	22	SN.. 1204..	A1	B1	C1	D1	E1	F1	320115 0003		320116 0003	
PSBN..3232 P19	32	32	170	42	27	SN.. 1906..	A2	B2	C2	D2	E2	F2	320115 0006		320116 0006	
PSBN..4040 S25	40	40	250	45	35	SN.. 2507..	A3	B3	C3	D3	E3	F3	320115 0008		320116 0008	
													3104		3104	

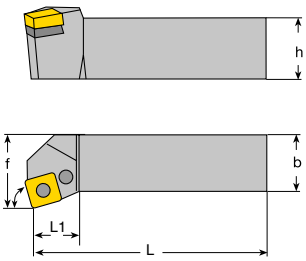
Spare parts

Support plate			Clamping lever			Screw			Hollow pin			Pin			Nickel plated		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	321601 0003		B1	321601 0102		C1	321601 0202		D1	321601 0302		E1	321601 0402		F1	703005 0030	
A2	321601 0005		B2	321601 0104		C2	321601 0204		D2	321601 0304		E2	321601 0404		F2	703005 0040	
A3	321601 0006		B3	321601 0105		C3	321601 0205		D3	321601 0305		E3	321601 0405		F3	703005 0050	
3106			3106			3106			3106			3106			7111		

ATORN Tool holders, negative PSKN

- **PSKN R/L 75°**
- Setting angle 75°, for negative 0° square indexable inserts, 90° point angle
- **Use:** Facing





ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts	A1	B1	C1	D1	E1	F1	Right art.no.	€
PSKN..2020 K12	20	20	125	28	25	SN.. 1204..	A1	B1	C1	D1	E1	F1	320120 0001	
PSKN..2525 M12	25	25	150	28	32	SN.. 1204..	A1	B1	C1	D1	E1	F1	320120 0002	
PSKN..3225 P12	32	25	170	28	32	SN.. 1204..	A1	B1	C1	D1	E1	F1	320120 0003	
PSKN..3232 P19	32	32	170	42	40	SN.. 1906..	A2	B2	C2	D2	E2	F2	320120 0006	
													3104	

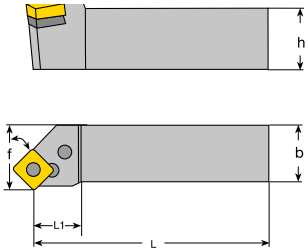
Spare parts

Support plate art.no.	€	Clamping lever art.no.	€	Screw art.no.	€	Hollow pin art.no.	€	Pin art.no.	€	Nickel plated art.no.	€
A1 321601 0003		B1 321601 0102		C1 321601 0202		D1 321601 0302		E1 321601 0402		F1 703005 0030	
A2 321601 0005		B2 321601 0104		C2 321601 0204		D2 321601 0304		E2 321601 0404		F2 703005 0040	
3106		3106		3106		3106		3106		7111	

ATORN Tool holders, negative PSSN

- **PSSN R/L 45°**
- Setting angle 45°, for negative 0° square indexable inserts, 90° point angle
- **Use:** Longitudinal turning and facing





ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts	A1	B1	C1	D1	E1	F1	Right art.no.	€	Left art.no.	€
PSSN R/L 2020 K12	20	20	125	28	25	SN.. 1204..	A1	B1	C1	D1	E1	F1	320125 0001		320126 0001	
PSSN R/L 2525 M12	25	25	150	28	32	SN.. 1204..	A1	B1	C1	D1	E1	F1	320125 0002		320126 0002	
PSSN R/L 3232 P19	32	32	170	42	40	SN.. 1906..	A2	B2	C2	D2	E2	F2	320125 0006		320126 0006	
													3104		3104	

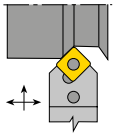
Spare parts

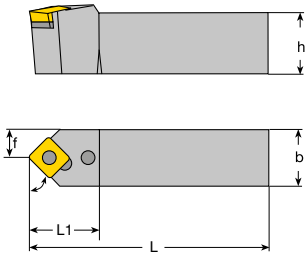
Support plate art.no.	€	Clamping lever art.no.	€	Screw art.no.	€	Hollow pin art.no.	€	Pin art.no.	€	Nickel plated art.no.	€
A1 321601 0003		B1 321601 0102		C1 321601 0202		D1 321601 0302		E1 321601 0402		F1 703005 0030	
A2 321601 0005		B2 321601 0104		C2 321601 0204		D2 321601 0304		E2 321601 0404		F2 703005 0040	
3106		3106		3106		3106		3106		7111	

ATORN Tool holders, negative PSDNN

- **PSDNN 45°**
- Setting angle 45°, for negative 0° square indexable inserts, 90° point angle
- **Use:** Longitudinal turning and chamfering







ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts	A1	B1	C1	D1	E1	F1	Neutral art.no.	€
PSDN N 2020 K12	20	20	125	28	10	SN.. 1204..	A1	B1	C1	D1	E1	F1	320130 0001	
PSDN N 2525 M12	25	25	150	28	12.5	SN.. 1204..	A1	B1	C1	D1	E1	F1	320130 0002	
PSDN N 3232 P12	32	32	170	28	16	SN.. 1204..	A1	B1	C1	D1	E1	F1	320130 0003	

3104

Spare parts

Support plate art.no.	€
A1 321601 0003	

3106

Clamping lever art.no.	€
B1 321601 0102	

3106

Screw art.no.	€
C1 321601 0202	

3106

Hollow pin art.no.	€
D1 321601 0302	

3106

Pin art.no.	€
E1 321601 0402	

3106

Nickel plated art.no.	€
F1 703005 0030	

7111

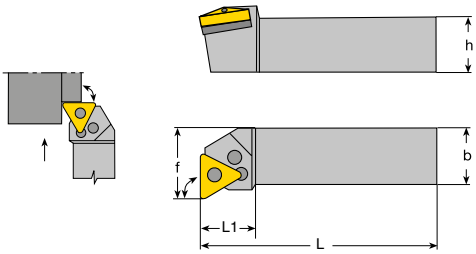
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ATORN Tool holders, negative PTFN

- **PTFN R/L 90°**
- Setting angle 90°, for negative 0° triangular indexable inserts, 60° point angle
- **Use:** Facing





ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts	A1	B1	C1	D1	E1	F1	Right art.no.	€	Left-hand art.no.	€
PTFN..1616 H16	16	16	100	22	20	TN.. 1604..	A1	B1	C1	D1	E1	F1	320105 0001		320106 0001	
PTFN..2020 K16	20	20	125	22	25	TN.. 1604..	A1	B1	C1	D1	E1	F1	320105 0002		320106 0002	
PTFN..2525 M16	25	25	150	22	32	TN.. 1604..	A1	B1	C1	D1	E1	F1	320105 0003		320106 0003	
PTFN..2525 M22	25	25	150	28	32	TN.. 2204..	A2	B2	C2	D2	E2	F2	320105 0004		320106 0004	
PTFN..3232 P22	32	32	170	28	40	TN.. 2204..	A2	B2	C2	D2	E2	F2	320105 0005		320106 0005	
													3104		3104	

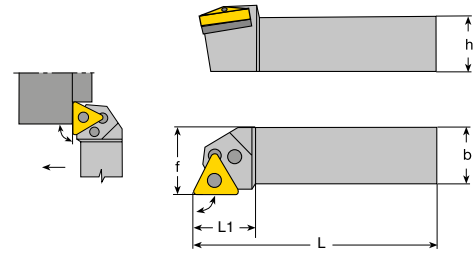
Spare parts

Support plate art.no.	€	Clamping lever art.no.	€	Screw art.no.	€	Hollow pin art.no.	€	Pin art.no.	€	Nickel plated art.no.	€
A1 321601 0001		B1 321601 0101		C1 321601 0201		D1 321601 0301		E1 321601 0401		F1 703005 0025	
A2 321601 0002		B2 321601 0102		C2 321601 0202		D2 321601 0302		E2 321601 0402		F2 703005 0030	
3106		3106		3106		3106		3106		7111	

ATORN Tool holders, negative PTGN

- **PTGN R/L 90°**
- Setting angle 90°, for negative 0° triangular indexable inserts, 60° point angle
- **Use:** Longitudinal turning





ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts	A1	B1	C1	D1	E1	F1	Right art.no.	€	Left art.no.	€
PTGN R/L 1616 H16	16	16	100	22	20	TN.. 1604..	A1	B1	C1	D1	E1	F1	320101 0001		320102 0001	
PTGN R/L 2020 K16	20	20	125	22	25	TN.. 1604..	A1	B1	C1	D1	E1	F1	320101 0002		320102 0002	
PTGN R/L 2525 M16	25	25	150	22	32	TN.. 1604..	A1	B1	C1	D1	E1	F1	320101 0003		320102 0003	
PTGN R/L 2525 M22	25	25	150	28	32	TN.. 2204..	A2	B2	C2	D2	E2	F2	320101 0005		320102 0005	
PTGN R/L 3232 P22	32	32	170	28	40	TN.. 2204..	A2	B2	C2	D2	E2	F2	320101 0007		320102 0007	
													3104		3104	

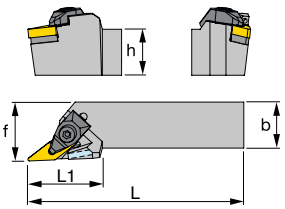
Spare parts

Support plate art.no.	€	Clamping lever art.no.	€	Screw art.no.	€	Hollow pin art.no.	€	Pin art.no.	€	Nickel plated art.no.	€
A1 321601 0001		B1 321601 0101		C1 321601 0201		D1 321601 0301		E1 321601 0401		F1 703005 0025	
A2 321601 0002		B2 321601 0102		C2 321601 0202		D2 321601 0302		E2 321601 0402		F2 703005 0030	
3106		3106		3106		3106		3106		7111	

ATORN DLOCK tool holder with D-clamp DVJN for negative turning inserts

- **DVJN R/L 93°**
- **connection for internal cooling 1/8" GAS**
- Setting angle 93°, for rhombic indexable inserts negative 0°, 35° point angle
- **Use:** Copy turning
- suitable hose set art. no 446312 0200 and 446312 0300





ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts	A1	B1	C1	D1	E1	F1	Right art.no.	€	Left art.no.	€
DVJN.. 2020 K16-A	20	20	125	44	25	VN.. 1604..	A1	B1	C1	D1	E1	F1	320280 0001		320281 0001	
DVJN.. 2525 M16-A	25	25	150	44	32	VN.. 1604..	A1	B1	C1	D1	E1	F1	320280 0002		320281 0002	
													3104		3104	

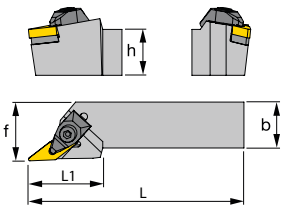
Spare parts

Screw for spacer art.no.	€	Screw art.no.	€	Clamping claw art.no.	€	Spring art.no.	€	Spacer art.no.	€	Nickel plated art.no.	€
A1 324020 0001		B1 324020 0002		C1 324020 0007		D1 324020 0011		E1 324020 0020		F1 703005 0040	
3106		3106		3106		3106		3106		7111	

ATORN DLOCK tool holder with D-clamp DVJN for negative turning inserts

- **DVJN R/L 93°**
- Setting angle 93°, for rhombic indexable inserts negative 0°, 35° point angle
- **Use:**: Copy turning





ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts	A1	B1	C1	D1	E1	F1	Right art.no.	€	Left art.no.	€
DVJN.. 2020 K16	20	20	125	44	25	VN.. 1604..	A1	B1	C1	D1	E1	F1	320282 0001		320283 0001	
DVJN.. 2525 M16	25	25	150	44	32	VN.. 1604..	A1	B1	C1	D1	E1	F1	320282 0002		320283 0002	
													3104		3104	

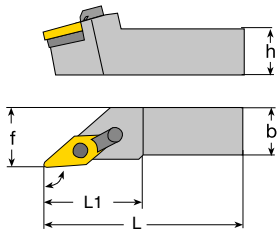
Spare parts

Screw for spacer art.no.	€	Screw art.no.	€	Clamping claw art.no.	€	Spring art.no.	€	Spacer art.no.	€	Nickel plated art.no.	€
A1 324020 0001		B1 324020 0002		C1 324020 0007		D1 324020 0011		E1 324020 0020		F1 703005 0040	
3106		3106		3106		3106		3106		7111	

ATORN Tool holders, negative MVJN

- **MVJN R/L 93°**
- Setting angle 93°, for negative 0° rhombic indexable inserts, 35° point angle
- **Use:** Longitudinal turning and facing





ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts	A1	B1	C1	D1	E1	Right art.no.	€	Left art.no.	€
MVJN R/L 2020 K16	20	20	125	42	25	VN.. 1604..	A1	B1	C1	D1	E1	320175 0020		320176 0020	
MVJN R/L 2525 M16	25	25	150	42	32	VN.. 1604..	A1	B1	C1	D1	E1	320175 0025		320176 0025	
MVJN R/L 3225 P16	32	25	170	42	32	VN.. 1604..	A1	B1	C1	D1	E1	320175 0032		320176 0032	
												3104		3104	

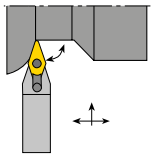
Spare parts

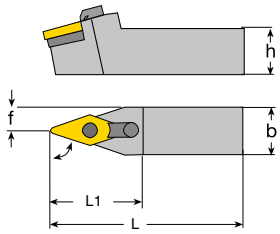
Support plate art.no.	€	Clamping claw art.no.	€	Screw art.no.	€	Clamping pin art.no.	€	Nickel plated art.no.	€
A1 321601 0017		B1 321601 0111		C1 321601 0212		D1 321601 0407		E1 703005 0030	
3106		3106		3106		3106		7111	

ATORN Tool holders, negative MVVNN

- **MVVNN 72.5°**
- Setting angle 72.5°, for negative 0° rhombic indexable inserts, 35° point angle
- **Use:** Longitudinal and copy turning







ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts	A1	B1	C1	D1	E1	Neutral art.no.	€
MVVN N 2020 K16	20	20	125	43	10.0	VN.. 1604..	A1	B1	C1	D1	E1	320177 0001	
MVVN N 2525 M16	25	25	150	43	12.5	VN.. 1604..	A1	B1	C1	D1	E1	320177 0002	
												3104	

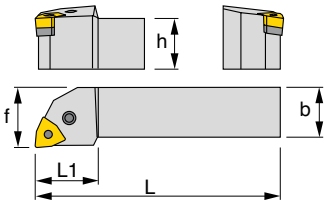
Spare parts

Support plate art.no.	€	Clamping claw art.no.	€	Screw art.no.	€	Clamping pin art.no.	€	Nickel plated art.no.	€
A1 321601 0017		B1 321601 0111		C1 321601 0212		D1 321601 0407		E1 703005 0030	
3106		3106		3106		3106		7111	

ATORN Tool holder, negative PWLN

- **PWLN R/L 95°**
- Setting angle 95°, for trigometric indexable inserts negative 0°, 80° point angle
- **Material:** Longitudinal turning and facing





ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts	A2	B2	C1	D1	E1	F1	Right art.no.	€	Left art.no.	€
PWLN. 1616 H06	16	16	100	22	20	WN.. 0604..	A2	B2	C1	D1	E1	F1	320172 1606		320173 1606	
PWLN. 2020 K06	20	20	125	25	25	WN.. 0604..	A2	B2	C1	D1	E1	F1	320172 2006		320173 2006	
PWLN. 2525 M06	25	25	150	25	32	WN.. 0604..	A2	B2	C1	D1	E1	F1	320172 2506		320173 2506	
PWLN. 2020 K08	20	20	125	28	25	WN.. 0804..	A1	B1	C2	D2	E2	F2	320172 2008		320173 2008	
PWLN. 2525 M08	25	25	150	28	32	WN.. 0804..	A1	B1	C2	D2	E2	F2	320172 2508		320173 2508	
PWLN. 3232 P08	32	32	170	34	40	WN.. 0804..	A1	B1	C2	D2	E2	F2	320172 3208		320173 3208	
													3104		3104	

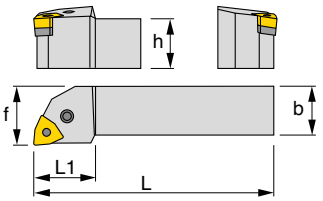
Spare parts

Support plate art.no.	€	Clamping lever art.no.	€	Screw art.no.	€	Hollow pin art.no.	€	Pin art.no.	€	Nickel plated art.no.	€
A1 321601 0016		B1 321601 0102		C1 321601 0201		D1 321601 0301		E1 321601 0401		F1 703005 0025	
A2 321601 0031		B2 321601 0119		C2 321601 0202		D2 321601 0302		E2 321601 0402		F2 703005 0030	
3106		3106		3106		3106		3106		7111	

ATORN Tool holder, negative PWLN with internal cooling

- **PWLN R/L 95°**
- **Internal cooling connection 1/8"**
- Setting angle 95°, for negative 0° trigonometric indexable inserts, 80° point angle
- **Material:** Longitudinal turning and facing





ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts	A1	B1	C1	D1	E1	Right art.no.	€	Left art.no.	€
PWLN.. 2020 K08	20	20	125	28	25	WN.. 0804..	A1	B1	C1	D1	E1	320133 2008		320134 2008	
PWLN.. 2525 M08	25	25	150	28	32	WN.. 0804..	A1	B1	C1	D1	E1	320133 2508		320134 2508	
												3104		3104	

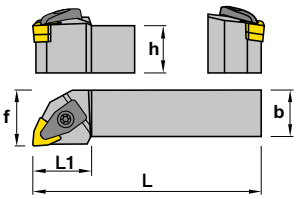
Spare parts

Clamping lever art.no.	€	Screw art.no.	€	Hollow pin art.no.	€	Support plate art.no.	€	Nickel plated art.no.	€
A1 321601 0120		B1 321601 0125		C1 321601 0126		D1 321601 0132		E1 703005 0030	
3106		3106		3106		3106		7111	

ATORN DLOCK tool holder with D clamping, DWLN for negative turning inserts

- **DWLN R/L 95°**
- **With 1/8" GAS internal cooling connection**
- Setting angle 95°, for negative 0° trigonometric indexable inserts, 80° point angle
- **Use:** Longitudinal turning and facing
- 1 x blind plug and 1 x connection nipple 1/8" included
- Fits hose set Art. No. 446312 0200 and 446312 0300





ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts	A1	B1	C1	D1	E1	F1	Right art.no.	€	Left art.no.	€
DWLN.. 2020 K06 A	20	20	125	34	25	WN.. 0604..	A1	B1	C1	D1	E1	F1	324011 0001		324012 0001	
DWLN.. 2020 K08 A	20	20	125	34	25	WN.. 0804..	A2	B2	C2	D2	E2	F1	324011 0002		324012 0002	
DWLN.. 2525 M08 A	25	25	150	34	32	WN.. 0804..	A2	B2	C2	D2	E2	F1	324011 0003		324012 0003	
													3104		3104	

Spare parts

Screw for spacer art.no.	€	Screw art.no.	€	Clamping claw art.no.	€	Spring art.no.	€	Spacer art.no.	€	Nickel plated art.no.	€
A1 324020 0001		B1 324020 0002		C1 324020 0007		D1 324020 0011		E1 324020 0021		F1 703005 0040	
A2 324020 0004		B2 324020 0003		C2 324020 0008		D2 324020 0012		E2 324020 0022			
3106		3106		3106		3106		3106		7111	

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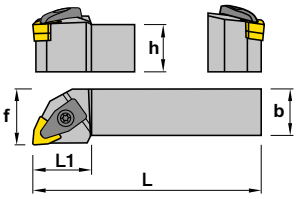
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ATORN DLOCK tool holder with D clamping, DWLN for negative turning inserts

- **DWLN R/L 95°**
- Setting angle 95°, for negative 0° trigonometric indexable inserts, 80° point angle
- **Use:** Longitudinal turning and facing





ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts							Right art.no.	€	Left art.no.	€
DWLN.. 2020 K06	20	20	125	34	25	WN.. 0604..	A1	B1	C1	D1	E1	F1	324009 0001		324010 0001	
DWLN.. 2020 K08	20	20	125	34	25	WN.. 0804..	A2	B2	C2	D2	E2	F1	324009 0002		324010 0002	
DWLN.. 2525 M08	25	25	150	34	32	WN.. 0804..	A2	B2	C2	D2	E2	F1	324009 0003		324010 0003	
													3104		3104	

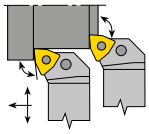
Spare parts

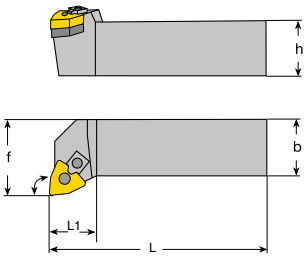
Screw for spacer			Screw			Clamping claw			Spring			Spacer			Nickel plated		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	324020 0001		B1	324020 0002		C1	324020 0007		D1	324020 0011		E1	324020 0021		F1	703005 0040	
A2	324020 0004		B2	324020 0003		C2	324020 0008		D2	324020 0012		E2	324020 0022				
	3106			3106			3106			3106			3106			7111	

ATORN MWLN tool holders, negative

- **MWLN R/L 95°**
- Setting angle 95°, for negative 0° trigonometric indexable inserts, 80° point angle
- **Use:** Longitudinal turning and facing







ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts						Right art.no.	€	Left art.no.	€
MWLN R/L 2020 K06	20	20	125	25	25	WN.. 0604..	A2	B1	C2	D2	E1	320170 0620		320171 0620	
MWLN R/L 2525 M06	25	25	150	25	32	WN.. 0604..	A2	B1	C2	D2	E1	320170 0625		320171 0625	
MWLN R/L 2020 K08	20	20	125	34	25	WN.. 0804..	A1	B2	C1	D1	E2	320170 0001		320171 0001	
MWLN R/L 2525 M08	25	25	150	34	32	WN.. 0804..	A1	B2	C1	D1	E2	320170 0002		320171 0002	
MWLN R/L 3232 P08	32	32	170	35	40	WN.. 0804..	A1	B2	C1	D1	E2	320170 0003		320171 0003	
												3104		3104	

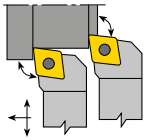
Spare parts

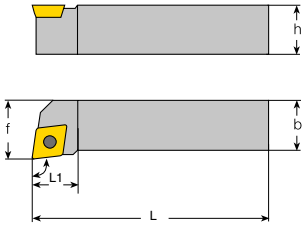
Screw			Support plate			Clamping pin			Clamping claw			Nickel plated		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	321601 0024		B1	321601 0025		C1	321601 0410		D1	321601 0503		E1	703005 0030	
A2	321601 0026		B2	324020 0022		C2	321601 0414		D2	321601 0504		E2	703005 0050	
	3106			3106			3106			3106			7111	

ATORN Tool holders, positive SCLC

- **SCLC R/L 95°**
- Setting angle 95°, for positive 7° rhombic indexable inserts, 80° point angle
- **Use:** Longitudinal turning and facing







ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts					art.no.	€	art.no.	€
SCLC R/L 0808 D06	8	8	60	9	10	CC.. 0602..		B3		D1	320400 0000		320401 0000	
SCLC R/L 1010 E06	10	10	70	10	12	CC.. 0602..		B3		D1	320400 0001		320401 0001	
SCLC R/L 1212 F09	12	12	80	17	16	CC.. 09T3..		B3		D1	320400 0002		320401 0002	
SCLC R/L 1616 H09	16	16	100	17	20	CC.. 09T3..	A2	B2	C2	D2	320400 0003		320401 0003	
SCLC R/L 2020 K09	20	20	125	18	25	CC.. 09T3..	A2	B2	C2	D2	320400 0004		320401 0004	
SCLC R/L 2525 M09	25	25	150	19	32	CC.. 09T3..	A2	B2	C2	D2	320400 0005		320401 0005	
SCLC R/L 1616 H12	16	16	100	20	20	CC.. 1204..	A1	B1	C1	D2	320400 0006		320401 0006	
SCLC R/L 2020 K12	20	20	125	20	25	CC.. 1204..	A1	B1	C1	D2	320400 0007		320401 0007	
SCLC R/L 2525 M12	25	25	150	20	32	CC.. 1204..	A1	B1	C1	D2	320400 0008		320401 0008	
											3104		3104	

Spare parts

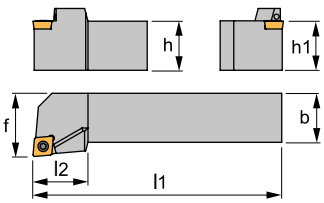
Support plate			Screw			Screw			TORX		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	321611 0001		B1	321611 0010		C1	321611 0012		D1	703053 0080	
A2	321611 0014		B2	321611 0011		C2	321611 0013		D2	703053 0150	
			B3	321701 0102							
	3106			3106			3106			7114	

ATORN Tool holder, positive SCLC with internal cooling



- **SCLC R/L 95°**
- **With 1/8"** internal cooling connection
- Setting angle 95°, for positive 7° rhombic indexable inserts, 80° point angle
- **Use:** Longitudinal turning and facing
- 1 x blind plug and 1 x connection nipple 1/8" included
- Fits hose set Art. No. 446312 0200 and 446312 0300





ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts			**Right-hand** art.no.	€	**Left-hand** art.no.	€
SCLC.. 2020 K09 A	20	20	125	22	25	CC.. 09T3..	A1	B1	324013 0002		324014 0002	
SCLC.. 2525 M09 A	25	25	125	25	25	CC.. 09T3..	A1	B1	324013 0003		324014 0003	
									3104		3104	

Spare parts

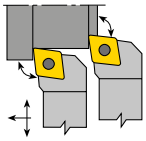
Screw			TORX		
	art.no.	€		art.no.	€
A1	321601 0216		B1	703053 0150	
	3106			7114	

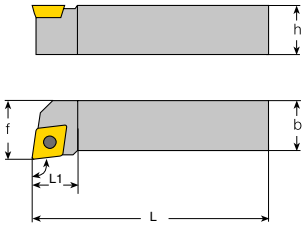
ATORN Tool holders, positive SCAC

for long automatic lathes

- **SCAC R/L 90°**
- Setting angle 90°, for rhombic indexable inserts positive 7°, 80° point angle
- **Use:** for long automatic lathes







ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
SCAC R/L 0808 X06-A	8	8	115	10	8	CC.. 0602..	A2	B1	320270 0001		320271 0001	
SCAC R/L 1010 X06-A	10	10	115	10	10	CC.. 0602..	A2	B1	320270 0002		320271 0002	
SCAC R/L 1212 X06-A	12	12	130	12	12	CC.. 0602..	A2	B1	320270 0003		320271 0003	
SCAC R/L 1212 X09-A	12	12	130	15	12	CC.. 09T3..	A1	B2	320270 0004		320271 0004	
SCAC R/L 1616 X09-A	16	16	130	15	16	CC.. 09T3..	A1	B2	320270 0005		320271 0005	
									3104		3104	

Spare parts

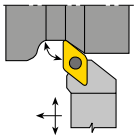
	Screw art.no.	€
A1	320901 2516	
A2	321701 0102	
	3106	

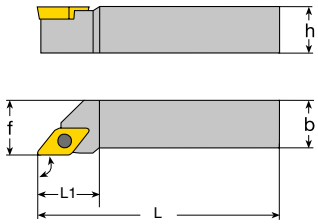
	TORX art.no.	€
B1	703053 0080	
B2	703053 0150	
	7114	

ATORN Tool holders, positive SDJC

- **SDJC R/L 93°**
- Setting angle 93°, for positive 7° rhombic indexable inserts, 55° point angle
- **Use:** Copy turning







ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts					art.no.	€	art.no.	€
SDJC R/L 0808 D07	8	8	60	12.8	10	DC.. 0702..		B2		D1	320406 0000		320407 0000	
SDJC R/L 1010 E07	10	10	70	12.8	12	DC.. 0702..		B2		D1	320406 0001		320407 0001	
SDJC R/L 1212 F07	12	12	80	17	16	DC.. 0702..		B2		D1	320406 0002		320407 0002	
SDJC R/L 1616 H07	16	16	100	22	20	DC.. 0702..		B2		D1	320406 0003		320407 0003	
SDJC R/L 2020 K07	20	20	125	24	25	DC.. 0702..		B2		D1	320406 0004		320407 0004	
SDJC R/L 1616 H11	16	16	100	20	20	DC.. 11T3..	A1	B1	C1	D2	320406 0005		320407 0005	
SDJC R/L 2020 K11	20	20	125	24	25	DC.. 11T3..	A1	B1	C1	D2	320406 0006		320407 0006	
SDJC R/L 2525 M11	25	25	150	27	32	DC.. 11T3..	A1	B1	C1	D2	320406 0007		320407 0007	
											3104		3104	

Spare parts

	Support plate art.no.	€
A1	321611 0003	
	3106	

	Screw art.no.	€
B1	321611 0011	
B2	321701 0102	
	3106	

	Screw art.no.	€
C1	321611 0013	
	3106	

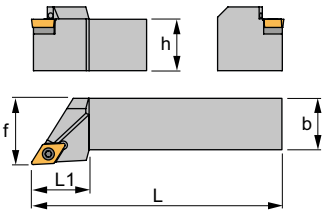
	TORX art.no.	€
D1	703053 0080	
D2	703053 0150	
	7114	

ATORN Tool holder, positive SDJC with internal cooling



- **SDJC R/L 93°**
- **With 1/8" internal cooling connection**
- Setting angle 93°, for rhombic indexable inserts positive 7°, 55° point angle
- **Use:** Copy turning
- 1 x blind plug and 1 x connection nipple 1/8" included
- Fits hose set Art. No. 446312 0200 and 446312 0300





ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts	A1	B1	C1	D1	Right art.no.	€	Left art.no.	€
SDJC.. 2020 K11 A	20	20	125	22	25	DC.. 11T3..	A1	B1	C1	D1	324015 0001		324016 0001	
SDJC.. 2525 M11 A	25	25	150	22	32	DC.. 11T3..	A1	B1	C1	D1	324015 0002		324016 0002	
											3104		3104	

Spare parts

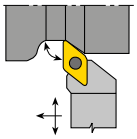
	Screw art.no.	€		Support plate art.no.	€		Screw art.no.	€		TORX art.no.	€
A1	321601 0021		B1	321601 0022		C1	321601 0754		D1	703053 0070	
	3106			3106			3106			7114	

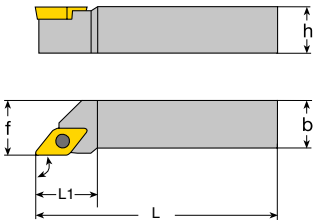
ATORN Tool holders, positive SDAC

- **SDJC R/L 90°**
- Setting angle 90°, for rhombic indexable inserts positive 7°, 55° point angle
- **Use:** for long automatic lathes

for long automatic lathes







ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts	A2	B1	Right art.no.	€	Left art.no.	€
SDAC R/L 0808 X07-A	8	8	115	15	8	DC.. 0702..	A2	B1	320272 0001		320273 0001	
SDAC R/L 1010 X07-A	10	10	115	15	10	DC.. 0702..	A2	B1	320272 0002		320273 0002	
SDAC R/L 1212 X07-A	12	12	130	15	12	DC.. 0702..	A2	B1	320272 0003		320273 0003	
SDAC R/L 1616 X07-A	16	16	130	15	16	DC.. 0702..	A2	B1	320272 0004		320273 0004	
SDAC R/L 1212 X11-A	12	12	130	20	12	DC.. 11T3..	A1	B2	320272 0005		320273 0005	
SDAC R/L 1616 X11-A	16	16	130	20	16	DC.. 11T3..	A1	B2	320272 0006		320273 0006	
									3104		3104	

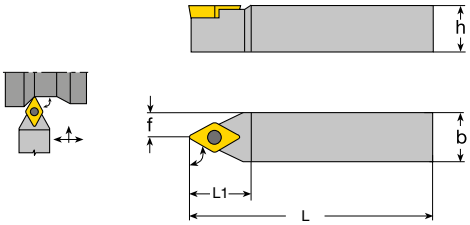
Spare parts

	Screw art.no.	€		TORX art.no.	€
A1	320901 2516		B1	703053 0080	
A2	321701 0102		B2	703053 0150	
	3106			7114	

ATORN Tool holders, positive SDNCN

- **SDNCN 62.5°**
- Setting angle 62.5°, for positive 7° rhombic indexable inserts, 55° point angle
- **Use:** Copy turning





ISO designation	Shank height mm	Shank width mm	L mm	f mm	suitable indexable inserts					art.no.	€
SDNC-N 0808 D07	8	8	60	4	DC.. 0702..		B2		D1	320408 0000	
SDNC-N 1010 E07	10	10	70	5	DC.. 0702..		B2		D1	320408 0001	
SDNC-N 1212 F07	12	12	80	6	DC.. 0702..		B2		D1	320408 0002	
SDNC-N 1616 H11	16	16	100	8	DC.. 11T3..	A1	B1	C1	D2	320408 0003	
SDNC-N 2020 K11	20	20	125	10	DC.. 11T3..	A1	B1	C1	D2	320408 0004	
SDNC-N 2525 M11	25	25	150	12.5	DC.. 11T3..	A1	B1	C1	D2	320408 0005	

3104

Spare parts

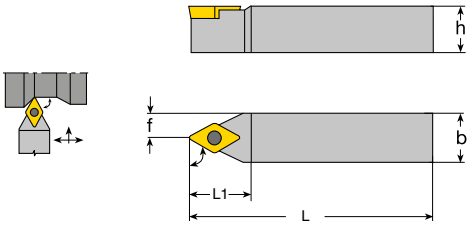
Support plate			Screw			Screw			TORX		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	321611 0003		B1	321611 0011		C1	321611 0013		D1	703053 0080	
			B2	321701 0102					D2	703053 0150	
3106			3106			3106			7114		

ATORN Tool holders, positive SDNCN

for long automatic lathes

- **SDNCN 62.5°**
- Setting angle 62.5°, for rhombic indexable inserts positive 7°, 55° point angle
- **Use:** for long automatic lathes





ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts			art.no.	€
SDNC N 1010 X07-A	10	10	115	12	10	DC.. 0702..	A2	B1	320274 0001	
SDNC N 1212 X11-A	12	12	130	21	12	DC.. 11T3..	A1	B2	320274 0002	
SDNC N 1616 X11-A	16	16	130	22	16	DC.. 11T3..	A1	B2	320274 0003	

3104

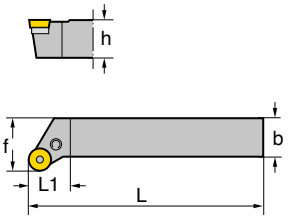
Spare parts

Screw			TORX		
	art.no.	€		art.no.	€
A1	320901 2516		B1	703053 0080	
A2	321701 0102		B2	703053 0150	
3106			7114		

ATORN Tool holders, positive SRGC

- **SRGC R/L 95°**
- Setting angle 95°, for round indexable inserts positive 7°
- **Use:** Longitudinal turning, copy turning and facing





ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts					Right art.no.	€	Left art.no.	€
SRGC R/L 1616 H08	16	16	100	14.7	20	RC.. 0803..		B2		D1	320250 1608		320251 1608	
SRGC R/L 2020 K08	20	20	125	16.4	25	RC.. 0803..		B2		D1	320250 2008		320251 2008	
SRGC R/L 2525 M08	25	25	150	19.8	32	RC.. 0803..		B2		D1	320250 2508		320251 2508	
SRGC R/L 1616 H10	16	16	100	15.5	20	RC.. 1003..	A1	B1	C1	D2	320250 1610		320251 1610	
SRGC R/L 2020 K10	20	20	125	17.2	25	RC.. 1003..	A1	B1	C1	D2	320250 2010		320251 2010	
SRGC R/L 2525 M10	25	25	150	20.7	32	RC.. 1003..	A1	B1	C1	D2	320250 2510		320251 2510	
											3104		3104	

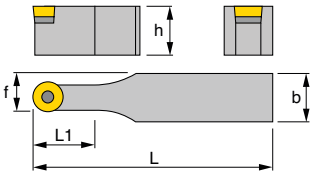
Spare parts

Support plate art.no.	€	Screw art.no.	€	Screw art.no.	€	TORX art.no.	€
A1 321601 0123		B1 321611 0011		C1 321611 0013		D1 703053 0080	
		B2 321701 0112				D2 703053 0150	
3106		3106		3106		7114	

ATORN Tool holders, positive SRDCN

- **SRDCN 90°**
- Setting angle 90°, for positive 7° round indexable inserts
- **Use:** Copy turning





ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts					art.no.	€
SRDC N 1616 H08	16	16	100	16.4	8	RC.. 0803..		B2		D1	320249 1608	
SRDC N 2020 K08	20	20	125	16.4	10	RC.. 0803..		B2		D1	320249 2008	
SRDC N 2525 M08	25	25	150	16.4	12.5	RC.. 0803..		B2		D1	320249 2508	
SRDC N 1616 H10	16	16	100	20.3	8	RC.. 1003..	A1	B1	C1	D2	320249 1610	
SRDC N 2020 K10	20	20	125	20.3	10	RC.. 1003..	A1	B1	C1	D2	320249 2010	
SRDC N 2525 M10	25	25	150	20.3	12.5	RC.. 1003..	A1	B1	C1	D2	320249 2510	
SRDC N 2020 K12	20	20	125	20.3	10	RC.. 1204..	A2	B1	C1	D2	320249 2012	
SRDC N 2525 M12	25	25	150	20.3	12.5	RC.. 1204..	A2	B1	C1	D2	320249 2512	
											3104	

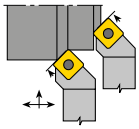
Spare parts

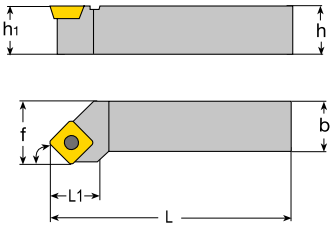
Support plate art.no.	€	Screw art.no.	€	Screw art.no.	€	TORX art.no.	€
A1 321601 0123		B1 321611 0011		C1 321611 0013		D1 703053 0080	
A2 321601 0139		B2 321701 0112				D2 703053 0150	
3106		3106		3106		7114	

ATORN Tool holders, positive SSSC

- **SSSC R/L 45°**
- Setting angle 45°, for positive 7° square indexable inserts, 90° point angle
- **Use:** Longitudinal turning and facing, chamfering







ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts				art.no.	€	art.no.	€
SSSC R/L 0808 D09	8	8	60	21	13	SC.. 09T3..	A1		C1	320414 0000		320415 0000	
SSSC R/L 1010 E09	10	10	70	21	14	SC.. 09T3..	A1		C1	320414 0001		320415 0001	
SSSC R/L 1212 F09	12	12	80	17	16	SC.. 09T3..	A3		C1	320414 0002		320415 0002	
SSSC R/L 1616 H09	16	16	100	20	20	SC.. 09T3..	A3	B2	C1	320414 0003		320415 0003	
SSSC R/L 2020 K09	20	20	125	20	25	SC.. 09T3..	A3	B2	C1	320414 0004		320415 0004	
SSSC R/L 1616 H12	16	16	100	18	20	SC.. 1204..	A2	B1	C1	320414 0005		320415 0005	
SSSC R/L 2020 K12	20	20	125	26.7	25	SC.. 1204..	A2	B1	C1	320414 0006		320415 0006	
SSSC R/L 2525 M12	25	25	150	25	32	SC.. 1204..	A2	B1	C1	320414 0007		320415 0007	
										3104		3104	

Spare parts

	Screw art.no.	€
A1	320901 2517	
A2	321611 0010	
A3	321611 0011	
	3106	

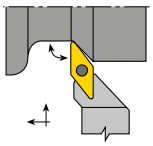
	Screw art.no.	€
B1	321611 0012	
B2	321611 0013	
	3106	

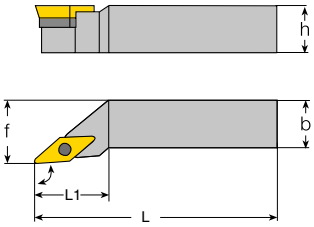
	TORX art.no.	€
C1	703053 0150	
	7114	

ATORN Tool holders, positive SVJC

- **SVJC R/L 93°**
- Setting angle 93°, for positive 7° rhombic indexable inserts, 35° point angle
- **Use:** Longitudinal and copy turning







ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts					art.no.	€	art.no.	€
SVJC R/L 1212 F11	12	12	80	21.5	16	VC.. 1103..	A2			D1	320420 0000		320421 0000	
SVJC R/L 1616 H11	16	16	100	21.5	20	VC.. 1103..	A2			D1	320420 0001		320421 0001	
SVJC R/L 2020 K11	20	20	125	24	25	VC.. 1103..	A2			D1	320420 0002		320421 0002	
SVJC R/L 2525 M11	25	25	150	26	32	VC.. 1103..	A2			D1	320420 0003		320421 0003	
SVJC R/L 2020 K16	20	20	125	29.5	25	VC.. 1604..	A1	B1	C1	D2	320420 0004		320421 0004	
SVJC R/L 2525 M16	25	25	150	32.5	32	VC.. 1604..	A1	B1	C1	D2	320420 0005		320421 0005	
											3104		3104	

Spare parts

	Screw art.no.	€
A1	321611 0011	
A2	321701 0102	
	3106	

	Screw art.no.	€
B1	321611 0013	
	3106	

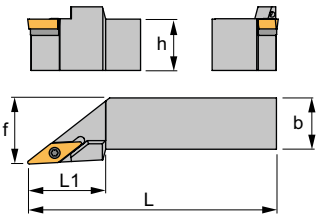
	Support plate art.no.	€
C1	322201 0210	
	3106	

	TORX art.no.	€
D1	703053 0080	
D2	703053 0150	
	7114	

ATORN Tool holder, positive SVJC with internal cooling

- **SVJC R/L 93°**
- **With 1/8" internal cooling connection**
- Setting angle 93°, for positive 7° rhombic indexable inserts, 35° point angle
- **Use:** Longitudinal turning and copy turning
- 1 x blind plug and 1 x connection nipple 1/8" included
- Fits hose set Art. No. 446312 0200 and 446312 0300





ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts					Right art.no.	€	Left art.no.	€
SVJC.. 2020 K11 A	20	20	125	25	25	VC.. 1103..			C1	D1	324017 0001		324018 0001	
SVJC.. 2020 K16 A	20	20	125	37	25	VC.. 1604..	A1	B1	C2	D2	324017 0002		324018 0002	
											3104		3104	

Spare parts

	Screw art.no.	€
A1	321601 0021	
	3106	

	Support plate art.no.	€
B1	321601 0027	
	3106	

	Screw art.no.	€
C1	321601 0210	
C2	321601 0754	
	3106	

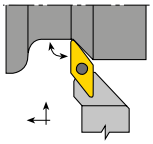
	TORX art.no.	€
D1	703053 0070	
D2	703053 0150	
	7114	

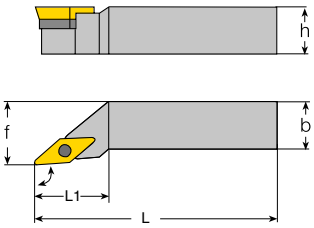
ATORN Tool holders, positive SVJC

- **SVJC R/L 93°**
- Setting angle 93°, for rhombic indexable inserts positive 7°, 35° point angle
- **Use:** for long automatic lathes

for long automatic lathes







ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
SVJC R/L 0808 X11-A	8	8	115	21	8	VC.. 1103..	A2	B1	320277 0001		320278 0001	
SVJC R/L 1010 X11-A	10	10	115	21	10	VC.. 1103..	A2	B1	320277 0002		320278 0002	
SVJC R/L 1212 X11-A	12	12	130	21	12	VC.. 1103..	A2	B1	320277 0003		320278 0003	
SVJC R/L 1616 X11-A	16	16	130	21	16	VC.. 1103..	A2	B1	320277 0004		320278 0004	
SVJC R/L 1212 X16-A	12	12	130	30	12	VC.. 1604..	A1	B2	320277 0005		320278 0005	
SVJC R/L 1616 X16-A	16	16	130	30	16	VC.. 1604..	A1	B2	320277 0006		320278 0006	
									3104		3104	

Spare parts

	Screw art.no.	€
A1	320901 2516	
A2	321701 0102	
	3106	

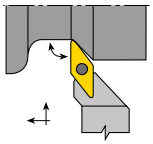
	TORX art.no.	€
B1	703053 0080	
B2	703053 0150	
	7114	

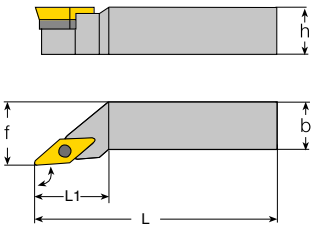
ATORN Tool holders, positive SVAC

for long automatic lathes

- **SVAC R/L 90°**
- Setting angle 90°, for rhombic indexable inserts positive 7°, 35° point angle
- **Use:** for long automatic lathes







ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
SVAC R/L 0808 X11-A	8	8	115	21	8	VC.. 1103..	A2	B1	320275 0001		320276 0001	
SVAC R/L 1010 X11-A	10	10	115	21	10	VC.. 1103..	A2	B1	320275 0002		320276 0002	
SVAC R/L 1212 X11-A	12	12	130	21	12	VC.. 1103..	A2	B1	320275 0003		320276 0003	
SVAC R/L 1616 X11-A	16	16	130	21	16	VC.. 1103..	A2	B1	320275 0004		320276 0004	
SVAC R/L 1212 X16-A	12	12	130	35	12	VC.. 1604..	A1	B2	320275 0005		320276 0005	
SVAC R/L 1616 X16-A	16	16	130	35	16	VC.. 1604..	A1	B2	320275 0006		320276 0006	
									3104		3104	

Spare parts

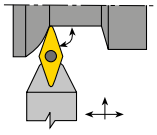
	Screw art.no.	€
A1	320901 2516	
A2	321701 0102	
	3106	

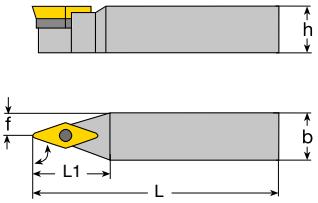
	TORX art.no.	€
B1	703053 0080	
B2	703053 0150	
	7114	

ATORN Tool holder, positive SVVC

- **SVVC 72,5°**
- Setting angle 72.5°, for positive 7° rhombic indexable inserts, 35° point angle
- **Use:** Copy turning







ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts					art.no.	€
SVVC N 1616 H11	16	16	100	25	8	VC.. 1103..	A2			D1	322606 1616	
SVVC N 2020 K11	20	20	125	32	10	VC.. 1103..	A2			D1	322606 2011	
SVVC N 2525 M11	25	25	150	40	12.5	VC.. 1103..	A2			D1	322606 2511	
SVVC N 2020 K16	20	20	125	32	10	VC.. 1604..	A1	B1	C1	D2	322606 2016	
SVVC N 2525 M16	25	25	150	40	12.5	VC.. 1604..	A1	B1	C1	D2	322606 2516	
											3104	

Spare parts

	Screw art.no.	€
A1	321611 0011	
A2	321701 0102	
	3106	

	Screw art.no.	€
B1	321611 0013	
	3106	

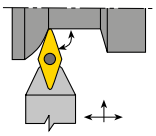
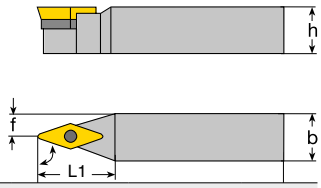
	Support plate art.no.	€
C1	322201 0210	
	3106	

	TORX art.no.	€
D1	703053 0080	
D2	703053 0150	
	7114	

ATORN Tool holders, positive SVVC

- **SVVC R/L 72.5°**
- Setting angle 72.5°, for rhombic indexable inserts positive 7°, 35° point angle
- **Use:** for long automatic lathes

for long automatic lathes

ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts			art.no.	€
SVVC N 1010 X11-A	10	10	115	21	10	VC.. 1103..	A2	B1	320279 0001	
SVVC N 1212 X11-A	12	12	130	21	12	VC.. 1103..	A2	B1	320279 0002	
SVVC N 1616 X11-A	16	16	130	22	16	VC.. 1103..	A2	B1	320279 0003	
SVVC N 1212 X16-A	12	12	130	32	12	VC.. 1604..	A1	B2	320279 0004	
SVVC N 1616 X16-A	16	16	130	32	16	VC.. 1604..	A1	B2	320279 0005	
									3104	

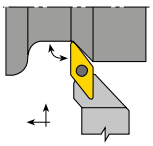
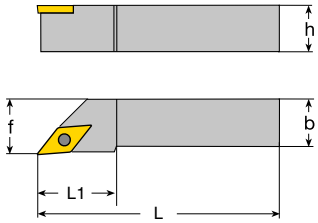
Spare parts

	Screw art.no.	€
A1	320901 2516	
A2	321701 0102	
	3106	

	TORX art.no.	€
B1	703053 0080	
B2	703053 0150	
	7114	

ATORN Tool holders, positive SVJB

- **SVJB R/L 93°**
- Setting angle 93°, for positive 5° rhombic indexable inserts, 35° point angle
- **Use:** Longitudinal and copy turning

ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts					art.no.	€	art.no.	€
SVJB R/L 1212 F11	12	12	80	21.5	16	VB.. 1103..	A2			D1	320418 0000		320419 0000	
SVJB R/L 1616 H11	16	16	100	21.5	20	VB.. 1103..	A2			D1	320418 0001		320419 0001	
SVJB R/L 2020 K11	20	20	125	23	25	VB.. 1103..	A2			D1	320418 0002		320419 0002	
SVJB R/L 2020 K16	20	20	125	29.5	25	VB.. 1604..	A1	B1	C1	D2	320418 0003		320419 0003	
SVJB R/L 2525 M16	25	25	150	33	32	VB.. 1604..	A1	B1	C1	D2	320418 0004		320419 0004	
											3104		3104	

Spare parts

	Screw art.no.	€
A1	321611 0011	
A2	321701 0102	
	3106	

	Screw art.no.	€
B1	321611 0013	
	3106	

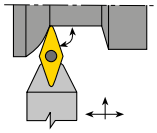
	Support plate art.no.	€
C1	322201 0210	
	3106	

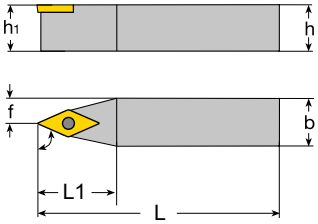
	TORX art.no.	€
D1	703053 0080	
D2	703053 0150	
	7114	

ATORN Tool holder, positive SVVB

- **SVVB 72,5°**
- Setting angle 72.5°, for positive 5° rhombic indexable inserts, 35° point angle
- **Use:** Longitudinal and copy turning







ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts					art.no.	€
SVVB-N 1212 F11	12	12	80	18.5	6	VB.. 1103..	A2			D1	320422 0000	
SVVB-N 1616 H11	16	16	100	24.7	8	VB.. 1103..	A2			D1	320422 0001	
SVVB-N 2020 K11	20	20	125	32	10	VB.. 1103..	A2			D1	320422 0002	
SVVB-N 2525 M11	25	25	150	38.9	12.5	VB.. 1103..	A2			D1	320422 0003	
SVVB N 2020 K16	20	20	125	30.7	10	VB.. 1604..	A1	B1	C1	D2	320422 0004	
SVVB N 2525 M16	25	25	150	38.8	12.5	VB.. 1604..	A1	B1	C1	D2	320422 0005	

3104

Spare parts

Screw			Screw			Support plate			TORX		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	321611 0011		B1	321611 0013		C1	322201 0210		D1	703053 0080	
A2	321701 0102								D2	703053 0150	
3106			3106			3106			7114		

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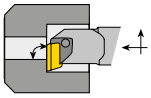
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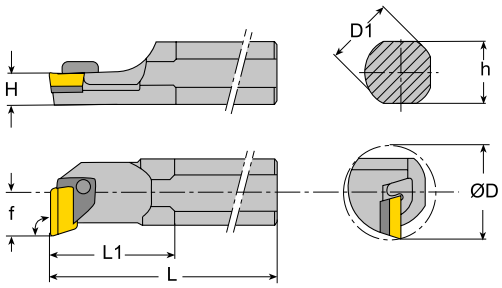
ATORN Boring bar, negative CKUN

- **CKUN R/L 93°**
- Setting angle 93°, for negative 0° KNUX indexable inserts
- **Use:** Longitudinal turning
- Note: right-hand boring bar = left-hand indexable insert, left-hand boring bar = right-hand indexable insert



Figure shows right-hand boring bar, left-hand boring bar is mirror image





Designation	D1 mm	h mm	L mm	L1 mm	H mm	f mm	D min. mm	suitable indexable inserts							Right art.no.	€	Left-hand art.no.	€
S 25 T CKUN L 16	25	23	300	50	11.5	20.5	37	KNUX 1604..		B1	C1		E1	F2	G1			321504 0025	
S 25 T CKUN R 16	25	23	300	50	11.5	20.5	37	KNUX 1604..		B2	C1		E1	F2	G1	321503 0025			
S 32 U CKUN L 16	32	30	350	54	15	22	39	KNUX 1604..	A2	B1	C1	D1	E1	F3	G1			321504 0032	
S 32 U CKUN R 16	32	30	350	50	15	22	39	KNUX 1604..	A1	B2	C1	D1	E1	F3	G1	321503 0032			
S 40 V CKUN R 16	40	37	400	50	18.5	27	48	KNUX 1604..	A1	B2	C1	D1	E1	F1	G1	321503 0040			
																3104		3104	

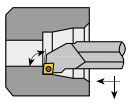
Spare parts

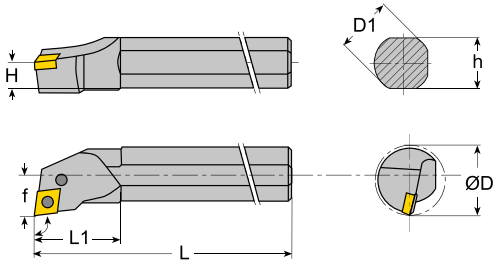
Support plate art.no.	€	Clamping lever art.no.	€	Screw art.no.	€	Pin art.no.	€	Spring art.no.	€	Spring pin art.no.	€	Nickel plated art.no.	€
A1 321601 0018		B1 321601 0114		C1 321601 0215		D1 321601 0408		E1 321601 0901		F1 321601 0903		G1 703005 0040	
A2 321601 0019		B2 321601 0115								F2 321601 0904			
										F3 321601 0905			
3106		3106		3106		3106		3106		3106		7111	

ATORN Boring bar, negative PCLN

- **PCLN R/L 95°**
- Setting angle 95°, for negative 0° rhombic indexable inserts, 80° point angle
- **Use:** Longitudinal turning







ISO designation	D1 mm	h mm	L mm	L1 mm	H mm	f mm	D min. mm	suitable indexable inserts						Right art.no.	€	Left art.no.	€
S 25 T PCLN R/L 12	25	23	300	40	11.5	17	31	CN.. 1204..		B5	C5			F1	321515 0025		321516 0025	
S 32 U PCLN R/L 12	32	30	350	50	15	22	39	CN.. 1204..	A1	B3	C4	D1	E1	F2	321515 0032		321516 0032	
S 40 V PCLN R/L 12	40	37	400	60	18.5	27	48	CN.. 1204..	A1	B1	C1	D1	E1	F2	321515 0040		321516 0040	
S 40 V PCLN R/L 16	40	37	400	50	18.5	27	48	CN.. 1606..	A2	B2	C2	D2	E2	F2	321515 0001		321516 0001	
S 50 W PCLN R/L 16	50	47	450	65	23.5	35	61	CN.. 1606..	A2	B2	C2	D2	E2	F2	321515 0050		321516 0050	
S 50 W PCLN R/L 19	50	47	450	60	23.5	35	61	CN.. 1906..	A3	B4	C3	D3	E3	F3	321515 0002		321516 0002	
															3104		3104	

With internal cooling

- one clamping surface from above

ISO designation	D1 mm	h mm	L mm	L1 mm	H mm	f mm	D min. mm	suitable indexable inserts	Right art.no.	€	Left art.no.	€
A 25 R PCLN R/L 12	25	23	200	40	11.5	17	32	CN.. 1204..	321515 0125		321516 0125	
A 32 S PCLN R/L 12	32	30	250	50	15	22	40	CN.. 1204..	321515 0132		321516 0132	
									3104		3104	

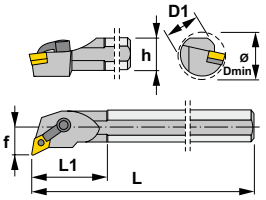
Spare parts

Support plate art.no.	€	Clamping lever art.no.	€	Screw art.no.	€	Hollow pin art.no.	€	Pin art.no.	€	Nickel plated art.no.	€
A1 321601 0007		B1 321601 0102		C1 321601 0202		D1 321601 0302		E1 321601 0402		F1 703005 0025	
A2 321601 0008		B2 321601 0103		C2 321601 0203		D2 321601 0303		E2 321601 0403		F2 703005 0030	
A3 321601 0009		B3 321601 0108		C3 321601 0204		D3 321601 0309		E3 321601 0404		F3 703005 0040	
		B4 321601 0110		C4 321601 0209							
		B5 321601 0112		C5 321601 0217							
3106		3106		3106		3106		3106		7111	

ATORN Boring bar, negative MCLN

- **MCLN R/L 95°**
- Setting angle 95°, for rhombic indexable inserts negative 0°, 80° point angle
- **Use:** Longitudinal turning





ISO designation	D1 mm	h mm	L mm	L1 mm	f mm	D min. mm	suitable indexable inserts								Right art.no.	€	Left art.no.	€
S25T MCLN.. 12-K	25	23	300	40	17	31	CN.. 1204..		B1		D1	E2	F1	G1	321570 0025		321571 0025	
S32U MCLN.. 12-K	32	30	350	45	22	39	CN.. 1204..	A1		C1	D1	E1	F1	G1	321570 0032		321571 0032	
S40V MCLN.. 12-K	40	37	400	50	27	48	CN.. 1204..	A1		C1	D1	E1	F1	G1	321570 0040		321571 0040	
															3104		3104	

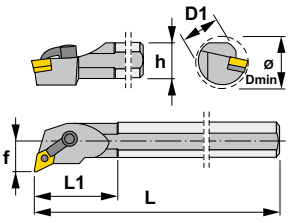
Spare parts

Support plate			Clamping pin			Clamping pin			Clamping claw			Screw			Black, oiled			Nickel plated		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	321601 0134		B1	321601 0136		C1	321601 0137		D1	321601 0138		E1	321601 0212		F1	703001 0025		G1	703005 0030	
												E2	321601 0219							
	3106			3106			3106			3106			3106			7111			7111	

ATORN Boring bar, negative PDUN

- **PDUN R/L 93°**
- Setting angle 93°, for negative 0° rhombic indexable inserts, 55° point angle
- **Use:** Longitudinal turning





ISO designation	D1 mm	h mm	L mm	L1 mm	H mm	f mm	D min. mm	suitable indexable inserts							Right art.no.	€	Left art.no.	€
S 20 S PDUN R/L 11	20	18	250	29	9	13	25	DN.. 1104..	A2	B1	C4	D1	E1	F1	321501 0020		321502 0020	
S 25 T PDUN R/L 11	25	23	300	40	11.5	17	32	DN.. 1104..	A2	B1	C1	D1	E1	F1	321501 0025		321502 0025	
S 32 U PDUN R/L 11	32	30	350	45	15	22	39	DN.. 1104..	A2	B1	C1	D1	E1	F1	321501 0001		321502 0001	
S 32 U PDUN R/L 15	32	30	350	50	15	22	39	DN.. 1506..	A1	B2	C3	D2	E2	F2	321501 0032		321502 0032	
S 40 V PDUN R/L 15	40	37	400	60	18.5	27	48	DN.. 1506..	A1	B2	C2	D2	E2	F2	321501 0040		321502 0040	
S 50 W PDUN R/L 15	50	47	450	65	23.5	35	61	DN.. 1506..	A1	B2	C2	D2	E2	F2	321501 0050		321502 0050	
															3104		3104	

With internal cooling

- one clamping surface from above

ISO designation	D1 mm	h mm	L mm	L1 mm	H mm	f mm	D min. mm	suitable indexable inserts							Right art.no.	€	Left art.no.	€
A 25 R PDUN R/L 11	25	23	200	40	11.5	40	32	DN.. 1104..	A2	B1	C1	D1	E1	F1	321501 0125		321502 0125	
A 32 S PDUN R/L 15	32	30	250	50	15	22	40	DN.. 1506..	A1	B2	C3	D2	E2	F2	321501 0132		321502 0132	
A 40 T PDUN R/L 15	40	37	300	60	18.5	27	50	DN.. 1506..	A1	B2	C2	D2	E2	F2	321501 0140		321502 0140	
															3104		3104	

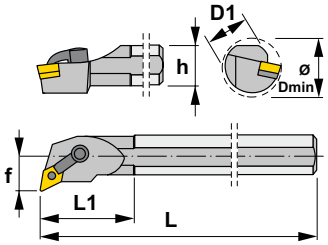
Spare parts

Support plate			Clamping lever			Screw			Hollow pin			Pin			Nickel plated		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	321601 0010		B1	321601 0101		C1	321601 0201		D1	321601 0301		E1	321601 0401		F1	703005 0025	
A2	321601 0012		B2	321601 0107		C2	321601 0206		D2	321601 0302		E2	321601 0402		F2	703005 0030	
						C3	321601 0209										
						C4	321601 0213										
	3106			3106			3106			3106			3106			7111	

ATORN Boring bar, negative MDUN

- **MDUN R/L 93°**
- Setting angle 93°, for rhombic indexable inserts negative 0°, 55° point angle
- **Use:** Longitudinal turning





ISO designation	D1 mm	h mm	L mm	L1 mm	f mm	D min. mm	suitable indexable inserts								Right art.no.	€	Left art.no.	€
S25T MDUN.. 15-K	25	23	300	40	17	31	DN.. 1506..	A1		C1	D2		F1	G1	321572 0025		321573 0025	
S32U MDUN.. 15-K	32	30	350	45	22	39	DN.. 1506..	A1	B1		D1	E1	F1	G1	321572 0032		321573 0032	
S40V MDUN.. 15-K	40	37	400	50	27	48	DN.. 1506..	A1	B1		D1	E1	F1	G1	321572 0040		321573 0040	
															3104		3104	

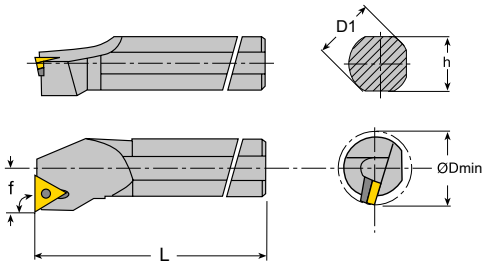
Spare parts

Clamping lever		Clamping pin		Clamping pin		Screw		Spacer		Black, oiled		Nickel plated	
art.no.	€	art.no.	€	art.no.	€	art.no.	€	art.no.	€	art.no.	€	art.no.	€
A1 321601 0118		B1 321601 0135		C1 321601 0136		D1 321601 0212		E1 324020 0016		F1 703001 0025		G1 703005 0030	
						D2 321601 0219							
3106		3106		3106		3106		3106		7111		7111	

ATORN Boring bar, negative PTFN

- **PTFN R/L 90°**
- Setting angle 90°, for negative 0° triangular indexable inserts, 90° point angle
- **Use:** Longitudinal turning





ISO designation	D1 mm	h mm	L mm	H mm	f mm	D min. mm	suitable indexable inserts							Right art.no.	€	Left art.no.	€
S 25 T PTFN R/L 16	25	23	300	11.5	17	31	TN.. 1604..		B3	C3			F1	321510 0025		321511 0025	
S 32 U PTFN R/L 16	32	30	350	15	22	39	TN.. 1604..	A1	B1	C1	D2	E1	F2	321510 0032		321511 0032	
S 40 V PTFN R/L 22	40	37	400	18.5	27	48	TN.. 2204..	A2	B2	C2	D1	E2	F3	321510 0040		321511 0040	
S 50 W PTFN R/L 22	50	47	450	23.5	35	61	TN.. 2204..	A2	B2	C2	D1	E2	F3	321510 0050		321511 0050	
														3104		3104	

With internal cooling

- one clamping surface from above

ISO designation	D1 mm	h mm	L mm	H mm	f mm	D min. mm	suitable indexable inserts							Right art.no.	€	Left art.no.	€
A 25 R PTFN R/L 16	25	23	200	11.5	17	32	TN.. 1604..		B3	C3			F1	321510 0125		321511 0125	
A 32 S PTFN R/L 16	32	15	250	15	22	40	TN.. 1604..	A1	B1	C1	D2	E1	F2	321510 0132		321511 0132	
														3104		3104	

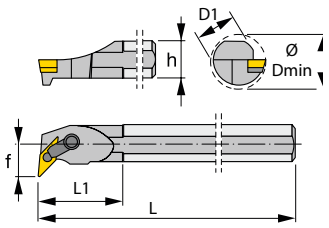
Spare parts

Support plate		Clamping lever		Screw		Hollow pin		Pin		Nickel plated	
art.no.	€	art.no.	€	art.no.	€	art.no.	€	art.no.	€	art.no.	€
A1 321601 0001		B1 321601 0101		C1 321601 0201		D1 321601 0302		E1 321601 0401		F1 703005 0020	
A2 321601 0002		B2 321601 0102		C2 321601 0202		D2 321601 0308		E2 321601 0402		F2 703005 0025	
		B3 321601 0113		C3 321601 0213						F3 703005 0030	
3106		3106		3106		3106		3106		7111	

ATORN Boring bar, negative MVUN

- **MVUN R/L 93°**
- Setting angle 93°, for negative 0° rhombic indexable inserts, 35° point angle
- **Use:** Longitudinal and copy turning





ISO designation	D1 mm	h mm	L mm	L1 mm	f mm	D min. mm	suitable indexable inserts							Right art.no.	€	Left art.no.	€
S25T MVUN.. 16-K	25	23	300	40	17	31	VN.. 1604..	A1	B2	C1	D1	E1	F1	321574 0025		321575 0025	
S32U MVUN.. 16-K	32	30	350	45	22	39	VN.. 1604..	A1	B1	C1	D1	E1	F1	321574 0032		321575 0032	
S40V MVUN.. 16-K	40	37	400	50	27	48	VN.. 1604..	A1	B1	C1	D1	E1	F1	321574 0040		321575 0040	
														3104		3104	

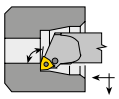
Spare parts

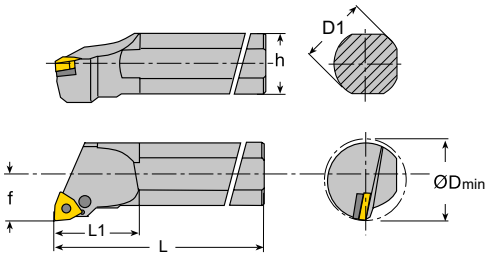
Clamping lever			Screw			Clamping pin			Spacer			Black, oiled			Nickel plated		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	321601 0118		B1	321601 0212		C1	321601 0407		D1	324020 0020		E1	703001 0025		F1	703005 0030	
			B2	321601 0219													
	3106			3106			3106			3106			7111			7111	

ATORN Boring bar, negative PWLN

- **PWLN R/L 95°**
- Setting angle 95°, for negative 0° trigonometric indexable inserts, 80° point angle
- **Use:** Longitudinal turning







ISO designation	D1 mm	h mm	L mm	L1 mm	f mm	D min. mm	suitable indexable inserts							Right art.no.	€	Left art.no.	€
S16R PWLN..06	16	14	200	24	11	20	WN.. 0604..		B4	C4			F1	321531 0616		321532 0616	
S20S PWLN..06	20	18	250	36	13	27	WN.. 0604..		B4	C4			F1	321531 0620		321532 0620	
S25T PWLN..06	25	23	300	40	17	31	WN.. 0604..	A2	B1	C1	D1	E1	F1	321531 0625		321532 0625	
S25T PWLN..08	25	23	300	40	17	31	WN.. 0804..		B3	C3			F2	321531 0825		321532 0825	
S32U PWLN..08	32	30	350	50	22	39	WN.. 0804..	A1	B2	C2	D2	E2	F2	321531 0832		321532 0832	
S40V PWLN..08	40	37	400	60	27	48	WN.. 0804..	A1	B2	C2	D2	E2	F2	321531 0840		321532 0840	
														3104		3104	



With internal cooling

- With one clamping surface from above

ISO designation	D1 mm	h mm	L mm	L1 mm	f mm	D min. mm	suitable indexable inserts							Right art.no.	€	Left-hand art.no.	€
A 16 M PWLN R/L 06	16	14	150	30	11	20	WN.. 0604..		B4	C4			F1	321533 0616		321534 0616	
A 20 Q PWLN R/L 06	20	18	180	35	13	27	WN.. 0604..		B4	C4			F1	321533 0620		321534 0620	
A 25 R PWLN R/L 08	25	23	200	40	17	31	WN.. 0804..		B3	C3			F2	321533 0825		321534 0825	
A 32 S PWLN R/L 08	32	30	250	45	22	39	WN.. 0804..	A1	B2	C2	D2	E2	F2	321533 0832		321534 0832	
														3104		3104	

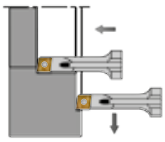
Spare parts

Support plate			Clamping lever			Screw			Hollow pin			Pin			Nickel plated		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	321601 0016		B1	321601 0101		C1	321601 0201		D1	321601 0301		E1	321601 0401		F1	703005 0025	
A2	321601 0031		B2	321601 0102		C2	321601 0202		D2	321601 0302		E2	321601 0402		F2	703005 0030	
			B3	321601 0108		C3	321601 0209										
			B4	321601 0113		C4	321601 0213										
	3106			3106			3106			3106			3106			7111	

ATORN Boring bar, positive SCLC



- **SCLC R/L 95°**
- Setting angle 95°, for rhombic indexable inserts positive 7°, 80° point angle
- **With internal cooling**
- **Use:** longitudinal turning, **very well suited to machining tight bores**







Boring bar, individual

ISO designation	D1 mm	L mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left-hand art.no.	€
A08H SCLC R/L 06	8	100	5	10	CC.. 0602..	A1	B1	321130 0001		321131 0001	
A10K SCLC R/L 06	10	125	6	12	CC.. 0602..	A1	B1	321130 0002		321131 0002	
A12L SCLC R/L 06	12	140	7	14	CC.. 0602..	A1	B1	321130 0003		321131 0003	
A16Q SCLC R/L 09	16	180	9	18	CC.. 09T3..	A2	B2	321130 0004		321131 0004	
A20R SCLC R/L 09	20	200	11	22	CC.. 09T3..	A2	B2	321130 0005		321131 0005	
A25R SCLC R/L 09	25	200	13.5	27	CC.. 09T3..	A2	B2	321130 0006		321131 0006	
A25R SCLC R/L 12	25	200	13.5	27	CC.. 1204..	A3	B3	321130 0007		321131 0007	
								3104		3104	

Spare parts

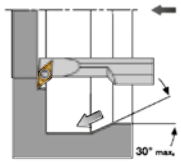
	Screw art.no.	€
A1	320901 2513	
A2	320901 2516	
A3	321701 0108	
	3106	

	TORX art.no.	€
B1	703053 0080	
B2	703053 0150	
B3	703053 0200	
	7114	

ATORN Boring bar, positive SDUC



- **SDUC R/L 93°**
- Setting angle 93°, for rhombic indexable inserts positive 7°, 55° point angle
- **With internal cooling**
- **Use:** longitudinal turning, **very well suited to machining tight bores**







Boring bar, individual

ISO designation	D1 mm	L mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left-hand art.no.	€
A10K SDUC R/L 07	10	125	7	13	DC.. 0702..	A1	B1	321132 0001		321133 0001	
A12L SDUC R/L 07	12	140	8	15	DC.. 0702..	A1	B1	321132 0002		321133 0002	
A16Q SDUC R/L 07	16	180	10	19	DC.. 0702..	A1	B1	321132 0003		321133 0003	
A16Q SDUC R/L 11	16	180	14	23	DC.. 11T3..	A2	B2	321132 0004		321133 0004	
A20R SDUC R/L 11	20	200	13	25	DC.. 11T3..	A2	B2	321132 0005		321133 0005	
A25R SDUC R/L 11	25	200	16	31	DC.. 11T3..	A2	B2	321132 0006		321133 0006	
								3104		3104	

Spare parts

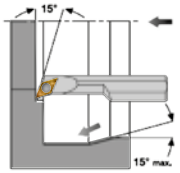
	Screw art.no.	€
A1	320901 2513	
A2	320901 2516	
	3106	

	TORX art.no.	€
B1	703053 0080	
B2	703053 0150	
	7114	

ATORN Boring bar, positive SDQC



- **SDQC R/L 107.5°**
- Setting angle 107.5°, for rhombic indexable inserts positive 7°, 55° point angle
- **With internal cooling**
- **Use:** longitudinal turning, **very well suited to machining tight bores**







Boring bar, individual

ISO designation	D1 mm	L mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left-hand art.no.	€
A10K SDQC R/L 07	10	125	7	13	DC.. 0702..	A1	B1	321134 0001		321135 0001	
A12L SDQC R/L 07	12	140	8	15	DC.. 0702..	A1	B1	321134 0002		321135 0002	
A16Q SDQC R/L 07	16	180	10	19	DC.. 0702..	A1	B1	321134 0003		321135 0003	
A16Q SDQC R/L 11	16	180	14	23	DC.. 11T3..	A2	B2	321134 0004		321135 0004	
A20R SDQC R/L 11	20	200	13	25	DC.. 11T3..	A2	B2	321134 0005		321135 0005	
A25R SDQC R/L 11	25	200	16	31	DC.. 11T3..	A2	B2	321134 0006		321135 0006	
								3104		3104	

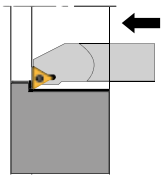
Spare parts

	Screw art.no.	€
A1	320901 2513	
A2	320901 2516	
	3106	

	TORX art.no.	€
B1	703053 0080	
B2	703053 0150	
	7114	

ATORN Boring bar, positive STFC

- **STFC R/L 91°**
- Setting angle 91°, for triangular indexable inserts positive 7°, 60° point angle
- **With internal cooling**
- **Use:** longitudinal turning, **very well suited to machining tight bores**







Boring bar, individual

ISO designation	D1 mm	L mm	f mm	D min. mm	suitable indexable inserts			Left-hand art.no.	€
A10K STFC R/L 11	10	125	6	12	TC.. 1102..	A1	B1	321136 0001	321137 0001
A12L STFC R/L 11	12	140	7	14	TC.. 1102..	A1	B1	321136 0002	321137 0002
A16Q STFC R/L 11	16	180	9	18	TC.. 1102..	A1	B1	321136 0003	321137 0003
A20R STFC R/L 11	20	200	11	22	TC.. 1102..	A1	B1	321136 0004	321137 0004
								3104	3104

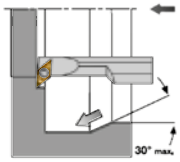
Spare parts

	Screw art.no.	€
A1	320901 2513	
	3106	

	TORX art.no.	€
B1	703053 0080	
	7114	

ATORN Boring bar, positive SVUB

- **SVUB R/L 93°**
- Setting angle 93°, for rhombic indexable inserts positive 7°, 35° point angle
- **with internal cooling**
- **Use:** longitudinal turning and copy turning, **very well suited to machining tight**







Boring bar, individual

ISO designation	D1 mm	L mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left-hand art.no.	€
A16Q SVUB R/L 11	16	180	11	20	VB.. 1103..	A1	B1	321138 0001		321139 0001	
A20R SVUB R/L 11	20	200	13	24	VB.. 1103..	A1	B1	321138 0002		321139 0002	
A25R SVUB R/L 16	25	200	17	31	VB.. 1604..	A2	B2	321138 0003		321139 0003	
								3104		3104	

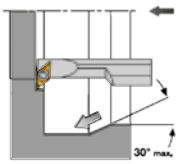
Spare parts

	Screw art.no.	€
A1	320901 2513	
A2	320901 2516	
	3106	

	TORX art.no.	€
B1	703053 0080	
B2	703053 0150	
	7114	

ATORN Boring bar, positive SVUC

- **SVUC R/L 93°**
- Setting angle 93°, for rhombic indexable inserts positive 7°, 35° point angle
- **with internal cooling**
- **Use:** longitudinal turning and copy turning, **very well suited to machining tight**







Boring bar, individual

ISO designation	D1 mm	L mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left-hand art.no.	€
A16Q SVUC R/L 11	16	180	11	20	VC.. 1103..	A1	B1	321140 0001		321141 0001	
A20R SVUC R/L 11	20	200	13	24	VC.. 1103..	A1	B1	321140 0002		321141 0002	
A25R SVUC R/L 16	25	200	17	31	VC.. 1604..	A2	B2	321140 0003		321141 0003	
								3104		3104	

Spare parts

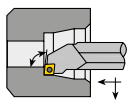
	Screw art.no.	€
A1	320901 2513	
A2	320901 2516	
	3106	

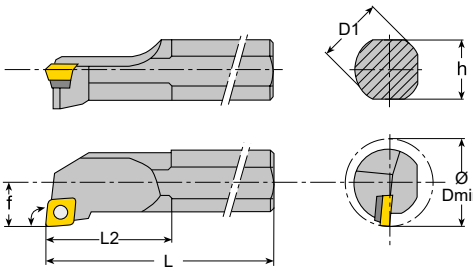
	TORX art.no.	€
B1	703053 0080	
B2	703053 0150	
	7114	

ATORN Boring bar, positive SCLC

- **SCLC R/L 95°**
- Setting angle 95°, for positive 7° rhombic indexable inserts, 80° point angle
- **Use:** Longitudinal turning







Standard version with internal cooling

ISO designation	D1 mm	h mm	L mm	L1 mm	f mm	D min. mm	suitable indexable inserts					Right art.no.	€	Left art.no.	€
A 08 H SCLC R/L 06	8	7	100	17.8	6	12	CC.. 0602..	A1			D1	321001 0108		321002 0108	
A 10 K SCLC R/L 06	10	9	125	17.7	7	14	CC.. 0602..	A1			D1	321001 0110		321002 0110	
A 12 R SCLC R/L 06	12	11	140	24.2	9	18	CC.. 0602..	A1			D1	321001 0112		321002 0112	
A 16 Q SCLC R/L 09	16	15	180	26.7	11	22	CC.. 09T3..	A2			D2	321001 0116		321002 0116	
A 20 R SCLC R/L 09	20	18	200	36.7	13	26	CC.. 09T3..	A2			D2	321001 0120		321002 0120	
A 25 R SCLC R/L 12	25	23	200	40	17	34	CC.. 1204..	A4			D3	321001 0126		321002 0126	
A 32 S SCLC R/L 12	32	30	250	30	22	40	CC.. 1204..	A3	B1	C1	D2	321001 0132		321002 0132	
A 40 T SCLC R/L 12	40	37	300	31	27	50	CC.. 1204..	A3	B1	C1	D2	321001 0140		321002 0140	
												3104		3104	

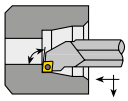
Spare parts

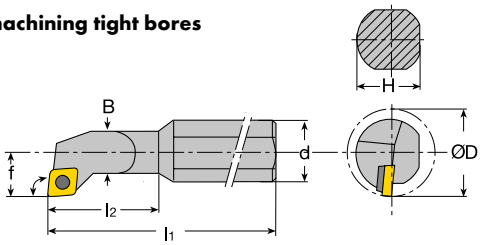
Screw			Support plate			Screw			TORX		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	320901 2513		B1	321611 0001		C1	321611 0012		D1	703053 0080	
A2	320901 2516								D2	703053 0150	
A3	321611 0010								D3	703053 0200	
A4	321701 0108										
	3106			3106			3106			7114	

ATORN Boring bar, positive SCLC



- **SCLC R/L 95°**
- Setting angle 95°, for positive 7° rhombic indexable inserts, 80° point angle
- **With internal cooling**
- **Use:** Longitudinal turning, **very well suited to machining tight bores**





Boring bar, individual

ISO designation	D1 mm	h mm	L mm	L1 mm	f mm	d2 mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
A 0608 H SCLC R/L 06	8	7	100	21.5	4	6	8	CC.. 06..	A1	B1	321003 0008		321004 0008	
A 0810 J SCLC R/L 06	10	9	110	27	6	8	12	CC.. 06..	A1	B1	321003 0010		321004 0010	
A 1012 K SCLC R/L 06	12	11	125	32.5	7	10	14	CC.. 06..	A1	B1	321003 0012		321004 0012	
A 1216 M SCLC R/L 06	16	15	150	42	9	12	18	CC.. 06..	A1	B1	321003 0016		321004 0016	
											3104		3104	

Set

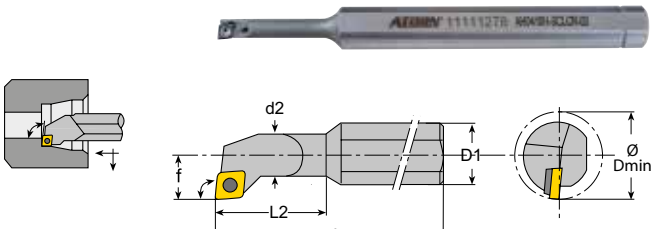
Contents	suitable indexable inserts			Right art.no.	€	Left art.no.	€
1 piece each 17846 168-174 (A0608H, A0810J, A1012K, A1216M)	CC.. 0602..	A1	B1	321003 1004		321004 1004	
				3104		3104	

Spare parts

Screw			TORX		
	art.no.	€		art.no.	€
A1	320901 2513		B1	703053 0080	
	3106			7114	

ATORN SCLC HSS boring bars

- **SCLC R/L 95°**
- Setting angle 95°, for positive 7° rhombic indexable inserts, 80° point angle
- **With internal cooling**
- **Use:** Longitudinal turning, very well suited to machining tight bores
- Low-vibration boring bars
- Indexable inserts with longer service life
- HSS boring bars with longer service life





Boring bar, individual

ISO designation	d2 mm	D1 mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
AH 0608 H SCLC R/L 06	6	8	100	25	4	8	CC.. 06..	A1	B1	321103 0008		321104 0008	
AH 0810 J SCLC R/L 06	8	10	110	32	6	12	CC.. 06..	A1	B1	321103 0010		321104 0010	
AH 1012 J SCLC R/L 06	10	12	110	38	7	14	CC.. 06..	A1	B1	321103 0012		321104 0012	
AH 1216 M SCLC R/L 06	12	16	150	50	9	18	CC.. 06..	A1	B1	321103 0016		321104 0016	
										3104		3104	

Set

Contents	suitable indexable inserts			Right art.no.	€	Left art.no.	€
1 piece each 17846 184-190 (AH0608H, AH0810J, AH1012K, AH1216M	CC.. 0602..	A1	B1	321103 1004		321104 1004	
				3104		3104	

Spare parts

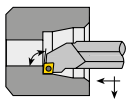
	Screw art.no.	€
A1	320901 2513	
	3106	

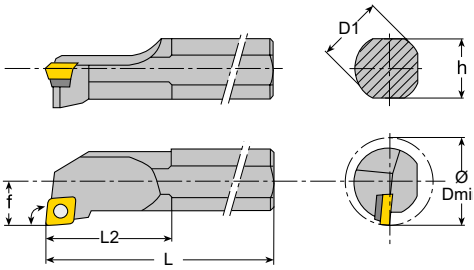
	TORX art.no.	€
B1	703053 0080	
	7114	

ATORN SCLC solid carbide boring bars

- **SCLC R/L 95°**
- 95° setting angle
- For rhombic indexable inserts, 7° positive, 80° point angle
- **Internal coolant supply**
- Low-vibration
- **Use:** Longitudinal turning







Boring bar, individual

ISO designation	D1 mm	h mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
E08K-SCLC R/L 06	8	7	125	10	5	10	CC.. 0602..	A1	B1	321101 0108		321102 0108	
E10K-SCLC R/L 06	10	9	125	10	6	12	CC.. 0602..	A1	B1	321101 0110		321102 0110	
E12M-SCLC R/L 06	12	11	150	10	7	14	CC.. 0602..	A1	B1	321101 0112		321102 0112	
E16R-SCLC R/L 09	16	15	200	16	9	18	CC.. 09T3..	A2	B2	321101 0116		321102 0116	
E20S-SCLC R/L 09	20	18	250	16	11.5	23	CC.. 09T3..	A2	B2	321101 0120		321102 0120	
E25S-SCLC R/L 12	25	23	250	16	13	30	CC.. 1204..	A3	B3	321101 0125		321102 0125	
										3104		3104	

Set

Contents	suitable indexable inserts			Right art.no.	€	Left art.no.	€
1 piece each 17846 112-132 (E08K, E10K, E12M)	CC.. 0602..	A1	B1	321101 0003		321102 0003	
				3104		3104	



Spare parts

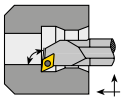
	Screw art.no.	€
A1	320901 2513	
A2	320901 2516	
A3	321701 0108	
	3106	

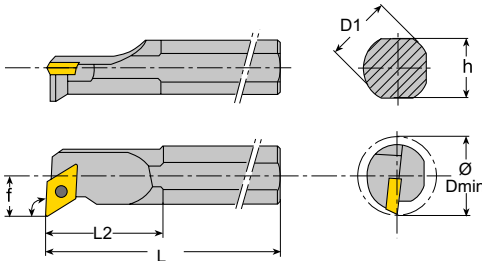
	TORX art.no.	€
B1	703053 0080	
B2	703053 0150	
B3	703053 0200	
	7114	

ATORN Boring bar, positive SDUC

- **SDUC R/L 93°**
- Setting angle 93°, for positive 7° rhombic indexable inserts, 55° point angle
- **Use:** Longitudinal turning







Standard version with internal cooling

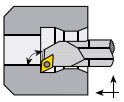
ISO designation	D1 mm	h mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts			Right-hand art.no.	€	Left-hand art.no.	€
A 10 K SDUC R/L 07	10	9	100	8	7	14	DC.. 0702..	A1	B1	321008 0110		321009 0110	
A 12 L SDUC R/L 07	12	11	140	20	9	18	DC.. 0702..	A1	B1	321008 0112		321009 0112	
A 16 Q SDUC R/L 07	16	15	180	25	11	22	DC.. 0702..	A1	B1	321008 0116		321009 0116	
A 20 R SDUC R/L 11	20	18	200	32	13	26	DC.. 11T3..	A2	B2	321008 0120		321009 0120	
A 25 R SDUC R/L 11	25	23	200	40	17	34	DC.. 11T3..	A2	B2	321008 0125		321009 0125	
										3104		3104	

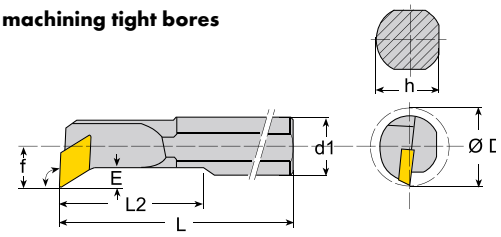
Spare parts

	Screw art.no.	€		TORX art.no.	€
A1	320901 2513		B1	703053 0080	
A2	320901 2516		B2	703053 0150	
	3106			7114	

ATORN Boring bars, positive SDUC

- **SDUC R/L 93°**
- Setting angle 93°, for positive 7° rhombic indexable inserts, 55° point angle
- **With internal cooling**
- **Use:** Longitudinal turning, **very well suited to machining tight bores**







Boring bar, individual

ISO designation	D1 mm	h mm	L mm	L2 mm	f mm	E mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
A 0408 F SDUC R/L 04	8	7	80	15	3	1.5	5.6	DC.. 04..	A2	B1	321013 0008		321014 0408	
A 0810 H SDUC R/L 07	10	9	100	22	7	4.4	12.5	DC.. 0702..	A1	B2	321013 0010		321014 0010	
A 1012 H SDUC R/L 07	12	11	125	28	9	5.9	15.5	DC.. 0702..	A1	B2	321013 0012		321014 0012	
A 1216 M SDUC R/L 07	16	15	150	36	11	4.9	19.5	DC.. 0702..	A1	B2	321013 0016		321014 0016	
											3104		3104	

Set

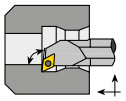
Contents	suitable indexable inserts			Right art.no.	€	Left art.no.	€
1 of each A0810H, A1012K, A1216M	DC.. 0702..	A1	B2	321013 1003		321014 1003	
				3104		3104	

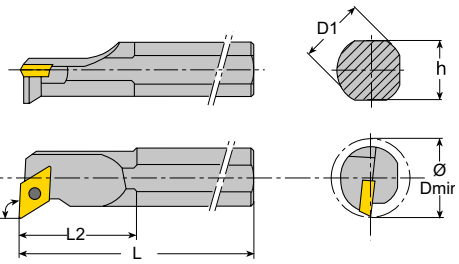
Spare parts

	Screw art.no.	€		TORX art.no.	€
A1	320901 2513		B1	703053 0050	
A2	322201 0130		B2	703053 0080	
	3106			7114	

ATORN SDUC HSS boring bars, positive

- **SDUC R/L 93°**
- Setting angle 93°, for positive 7° rhombic indexable inserts, 55° point angle
- **With internal cooling**
- **Use:** Longitudinal turning, very well suited to machining tight bores
- Low-vibration boring bars
- Indexable inserts with longer service life
- HSS boring bars with longer service life







Boring bar, individual

ISO designation	d1 mm	D1 mm	h mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
AH 0810 H SDUC R/L 07	8	10	9	100	22	7	12.5	DC.. 0702..	A1	B1	321113 0010		321114 0010	
AH 1012 K SDUC R/L 07	10	12	11	125	28	9	15.5	DC.. 0702..	A1	B1	321113 0012		321114 0012	
AH 1216 M SDUC R/L 07	12	16	15	150	36	11	19.5	DC.. 0702..	A1	B1	321113 0016		321114 0016	
											3104		3104	

Set

Contents	suitable indexable inserts			Right art.no.	€	Left art.no.	€
1 of each AH0810HK, AH1012H, AH1216H	DC.. 0702..	A1	B1	321113 1003		321114 1003	
				3104		3104	

Spare parts

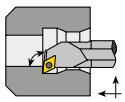
	Screw art.no.	€
A1	320901 2513	
	3106	

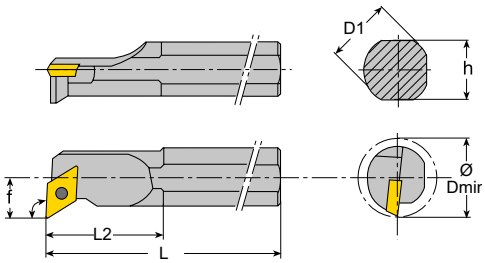
	TORX art.no.	€
B1	703053 0080	
	7114	

ATORN SDUC solid carbide boring bars

- **SDUC R/L 93°**
- 93° setting angle
- For rhombic indexable inserts, 7° positive, 55° point angle
- **Internal coolant supply**
- Low-vibration
- **Use:** Longitudinal turning







Boring bar, individual

ISO designation	D1 mm	h mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
E08K-SDUC R/L 07	8	7	125	10	7.5	13.5	DC.. 0702..	A1	B1	321108 0108		321109 0108	
E10K-SDUC R/L 07	10	9	125	10	7.5	13.5	DC.. 0702..	A1	B1	321108 0110		321109 0110	
E12M-SDUC R/L 07	12	11	150	12.5	7.5	15	DC.. 0702..	A1	B1	321108 0112		321109 0112	
E16R-SDUC R/L 07	16	15	200	16.5	9.5	19	DC.. 0702..	A1	B1	321108 0116		321109 0116	
E20S-SDUC R/L 11	20	18	250	20.5	14	25	DC.. 11T3..	A2	B2	321108 0120		321109 0120	
E25S-SDUC R/L 11	25	23	250	26	16	27	DC.. 11T3..	A2	B2	321108 0125		321109 0125	
										3104		3104	

Set

Contents	suitable indexable inserts			Right art.no.	€	Left art.no.	€
1 piece each 17847 240-242 (E10K, E12M)	DC.. 0702..	A1	B1	321108 0002		321109 0002	
				3104		3104	



Spare parts

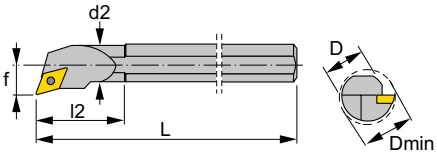
	Screw art.no.	€
A1	320901 2513	
A2	320901 2516	
	3106	

	TORX art.no.	€
B1	703053 0080	
B2	703053 0150	
	7114	

ATORN Boring bar, positive SDQC

- **SDQC R/L 107.5°**
- Setting angle 107.5°, for rhombic indexable inserts, positive 7°, 55° point angle
- **With internal cooling**
- **Material:** Longitudinal turning





Boring bar, individual, offset with internal cooling

ISO designation	d2 mm	D1 mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
A 0810 H SDQC R/L 07	8	10	100	22	7	12.5	DC.. 0702..	A1	D1	322545 0810		322546 0810	
A 1012 K SDQC R/L 07	10	12	125	28	9	15.5	DC.. 0702..	A1	D1	322545 1012		322546 1012	
A 1216 M SDQC R/L 07	12	16	150	36	11	19.5	DC.. 0702..	A1	D1	322545 1216		322546 1216	
										3104		3104	



Boring bar, with internal cooling

ISO designation	D1 mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts					Right art.no.	€	Left art.no.	€
A 10 K SDQC R/L 07	10	125	16	7	14	DC.. 0702..	A1			D1	322545 0010		322546 0010	
A 12 L SDQC R/L 07	12	125	20	9	18	DC.. 0702..	A1			D1	322545 0012		322546 0012	
A 16 Q SDQC R/L 07	16	150	25	11	22	DC.. 0702..	A1			D1	322545 0016		322546 0016	
A 20 R SDQC R/L 11	20	200	32	13	26	DC.. 11T3..	A2			D2	322545 0020		322546 0020	
A 25 R SDQC R/L 11	25	200	40	17	34.5	DC.. 11T3..	A2			D2	322545 0025		322546 0025	
A 32 S SDQC R/L 11	32	250	33.5	22	44	DC.. 11T3..	A3	B1	C1	D2	322545 0032		322546 0032	
											3104		3104	

Solid carbide boring bar, individual, with internal cooling

ISO designation	D1 mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
E10K-SDQC R/L 07	10	125	10	7	13	DC.. 0702..	A1	D1	322547 0010		322548 0010	
E12M-SDQC R/L 07	12	150	12.5	8.5	16	DC.. 0702..	A1	D1	322547 0012		322548 0012	
E16R-SDQC R/L 07	16	200	16.5	10	20	DC.. 0702..	A1	D1	322547 0016		322548 0016	
E20S-SDQC R/L 11	20	250	13	12.5	25	DC.. 11T3..	A2	D2	322547 0020		322548 0020	
E25S-SDQC R/L 11	25	250	17	16	32	DC.. 11T3..	A2	D2	322547 0025		322548 0025	
									3104		3104	



Set with internal cooling

Contents	suitable indexable inserts			Right art.no.	€	Left art.no.	€
1 piece each 17848 210-218 (A0810H, A1012K, A1216M)	DC.. 0702..	A1	D1	322545 1003		322546 1003	
				3104		3104	

Spare parts

	Screw art.no.	€
A1	320901 2513	
A2	320901 2516	
A3	321611 0011	
	3106	

	Support plate art.no.	€
B1	321611 0003	
	3106	

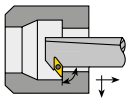
	Screw art.no.	€
C1	321611 0013	
	3106	

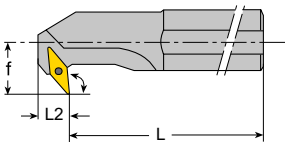
	TORX art.no.	€
D1	703053 0080	
D2	703053 0150	
	7114	

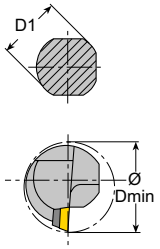
ATORN Boring bar, positive SDXC

- **SDXC R/L 93°**
- Setting angle 93°, for rhombic indexable inserts, positive 7°, 55° point angle
- **With internal cooling**
- **Material:** Longitudinal turning









ISO designation	D1 mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
A08F SDXC R/L 04	8	80	15	5	9.2	DC.. 04..	A2	B1	322549 0008		322550 0008	
A10H SDXC R/L 04	10	100	22	7	12.5	DC.. 04..	A2	B1	322549 0010		322550 0010	
A12L SDXC R/L 07	12	140	25	9	17	DC.. 07..	A1	B2	322549 0012		322550 0012	
A16Q SDXC R/L 07	16	180	33	11	21	DC.. 07..	A1	B2	322549 0016		322550 0016	
									3104		3104	

Spare parts

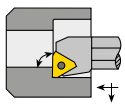
	Screw art.no.	€
A1	320901 2513	
A2	322201 0130	
	3106	

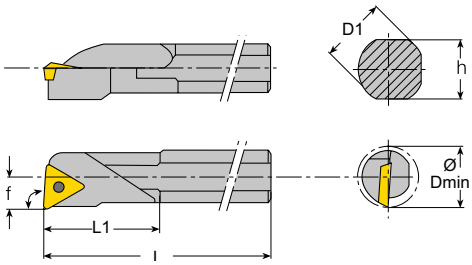
	TORX art.no.	€
B1	703053 0050	
B2	703053 0080	
	7114	

ATORN Boring bar, positive STFC

- **STFC R/L 90°**
- Setting angle 90°, for positive 7° triangular indexable inserts, 60° point angle
- **Use:** Longitudinal turning







Standard version with internal cooling

ISO designation	D1 mm	h mm	L mm	L1 mm	f mm	D min. mm	suitable indexable inserts				Right art.no.	€
A 10 K STFC R/L 11	10	9	125	22.8	7	14	TC.. 1102..	A1		D1	321005 0110	
A 12 R STFC R/L 11	12	11	140	26.5	9	18	TC.. 1102..	A1		D1	321005 0112	
A 16 Q STFC R/L 11	16	15	180	26.7	11	22	TC.. 1102..	A1		D1	321005 0116	
A 20 R STFC R/L 16	20	18	200	36.6	13	26	TC.. 16T3..	A2		D2	321005 0120	
A 25 R STFC R/L 16	25	23	200	41	17	34	TC.. 16T3..	A2		D2	321005 0125	
A 32 S STFC R/L 16	32	30	250	34.6	22	40	TC.. 16T3..	A3	B1 C1	D2	321005 0132	
A 40 T STFC R/L 16	40	37	300	37.5	27	49	TC.. 16T3..	A3	B1 C1	D2	321005 0140	
											3104	

Spare parts

	Screw art.no.	€
A1	320901 2513	
A2	320901 2516	
A3	321611 0011	
	3106	

	Support plate art.no.	€
B1	321611 0004	
	3106	

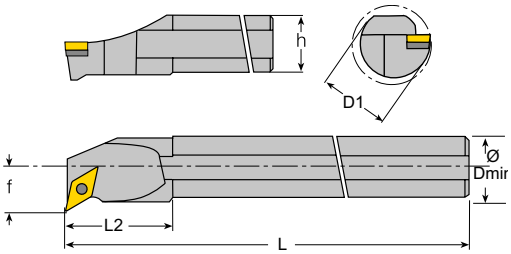
	Screw art.no.	€
C1	321611 0013	
	3106	

	TORX art.no.	€
D1	703053 0080	
D2	703053 0150	
	7114	

ATORN Boring bar, positive SVUC

- **SVUC R/L 93°**
- Setting angle 93°, for positive 7° rhombic indexable inserts, 35° point angle
- **Internal coolant supply**
- **Use:** Longitudinal and copy turning
- Solid carbide version available on request





ISO designation	D1 mm	h mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
A 20 R SVUC R/L 11	20	18	200	20.5	13	25	VC.. 1103..	A1	B1	321527 0120		321528 0120	
A 25 R SVUC R/L 16	25	23	200	25.5	17	31.5	VC.. 1604..	A2	B2	321527 0125		321528 0125	
										3104		3104	

Spare parts

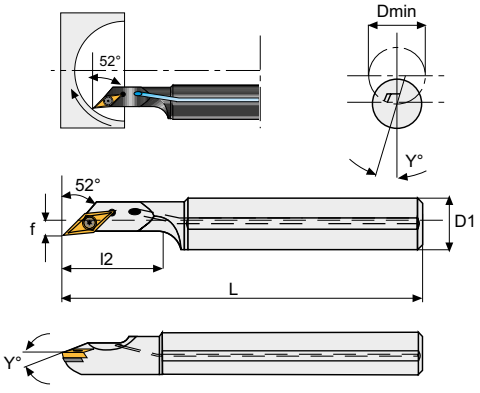
	Screw art.no.	€
A1	320901 2513	
A2	320901 2516	
	3106	

	TORX art.no.	€
B1	703053 0080	
B2	703053 0150	
	7114	

ATORN Boring bar, positive SVJC

- **SVJC R/L 52°**
- Setting angle 52°, for positive 7° rhombic indexable inserts, 35° point angle
- **Internal coolant supply**
- **Use:** Longitudinal and copy turning, ball turning





ISO designation	D1 mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
A 16 M SVJC R/L 11	16	150	31.4	2	22	VC.. 1103..	A1	B1	321529 1116		321530 1116	
A 20 Q SVJC R/L 11	20	180	38	2	24	VC.. 1103..	A1	B1	321529 1120		321530 1120	
A 25 R SVJC R/L 16	25	200	44	4.6	28	VC.. 1604..	A2	B2	321529 1625		321530 1625	
									3104		3104	

Spare parts

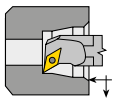
	Screw art.no.	€
A1	320901 2513	
A2	320901 2516	
	3106	

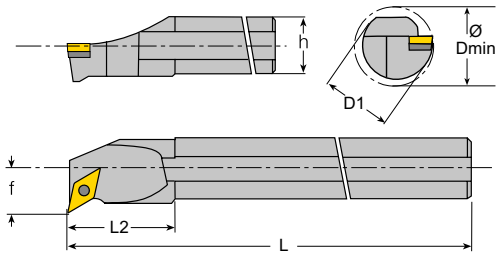
	TORX art.no.	€
B1	703053 0080	
B2	703053 0150	
	7114	

ATORN Boring bar, positive SVUB

- **SVUB R/L 93°**
- Setting angle 93°, for positive 5° rhombic indexable inserts, 35° point angle
- **Use:** Longitudinal and copy turning







ISO designation	D1 mm	h mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts	A1	B1	C1	D1	Right art.no.	€	Left art.no.	€
S 25 T SVUB R/L 16	25	23	300	40	17	31	VB.. 1604..	A1	B1	C1	D1	321525 1625		321526 1625	
S 32 U SVUB R/L 16	32	30	350	50	22	39	VB.. 1604..	A1	B1	C1	D1	321525 1632		321526 1632	
S 40 V SVUB R/L 16	40	37	400	60	27	48	VB.. 1604..	A1	B1	C1	D1	321525 1640		321526 1640	
												3104		3104	

Spare parts

	Screw art.no.	€
A1	321601 0021	
	3106	

	Support plate art.no.	€
B1	321601 0027	
	3106	

	Screw art.no.	€
C1	321601 0754	
	3106	

	TORX art.no.	€
D1	703053 0150	
	7114	

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ATORN Miniature turning range

INFO

Application:
For miniature turning from diameter 4.8 mm with CD.., CP.., DC.., WC.., VC.. Indexable cutting inserts

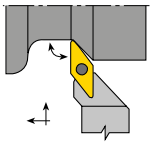
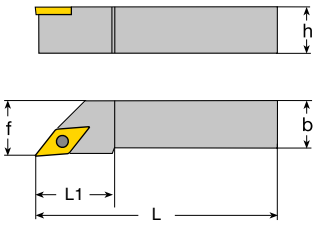
- Wide range of holders in steel and carbide design
- Innovative range of cutting materials carbide, CVD thick-film diamond and CBN covers the machining of all materials **ISO P, M, K, N, S, H**
- Wide range of applications is covered by the various holder shapes



Designation	Figure	Page
SVGC tool holder Positive for VC.. indexable cutting insert		941
SVLC tool holder Positive for VC.. indexable cutting insert		941
SVVCN tool holder Positive for VC.. indexable cutting insert		941
SVXC tool holder Positive for VC.. indexable cutting insert		941
SCLD boring bar offset Positive for CD.. indexable cutting insert		943
SCUP boring bar offset Positive for CP.. indexable cutting insert		944
SCXP boring bar offset Positive for DC.. indexable cutting insert		944
SVJC boring bar offset Positive for VC.. indexable cutting insert		944
SVLC boring bar offset Positive for VC.. indexable cutting insert		945
SVVC boring bar offset Positive for VC.. indexable cutting insert		945
SVXC boring bar offset Positive for VC.. indexable cutting insert		946
SV95C boring bar offset Positive for VC.. indexable cutting insert		946
SWUC boring bar offset Positive for WC.. indexable cutting insert		947
SWUC boring bar offset Positive for WC.. indexable cutting insert		947

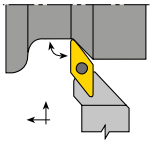
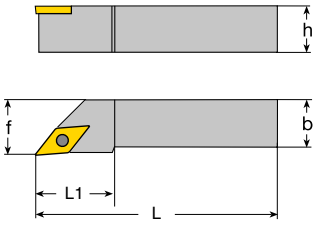
ATORN Miniature turning range with indexable cutting inserts, positive

Tool holder, positive SVGC
- **SVGC R/L 90°**
- Setting angle 90°, for rhombic indexable inserts positive 7°, 35° point angle
- **Material:** Longitudinal turning

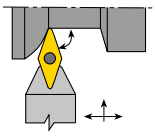
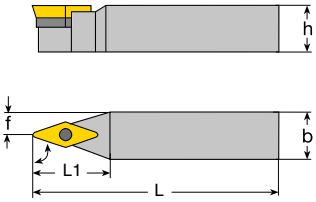
ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
SVGC R/L 0808 K07	8	8	125	15	8.5	VC.. 0702..	A1	B1	322600 0808		322601 0808	
SVGC R/L 1010 M07	10	10	150	15	10.5	VC.. 0702..	A1	B1	322600 1010		322601 1010	
SVGC R/L 1212 M07	12	12	150	18	12.5	VC.. 0702..	A1	B1	322600 1212		322601 1212	
									3104		3104	

Tool holder, positive SVLC
- **SVLC R/L 95°**
- Setting angle 95°, for rhombic indexable inserts positive 7°, 35° point angle
- **Material:** Longitudinal turning and facing

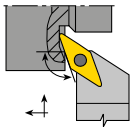
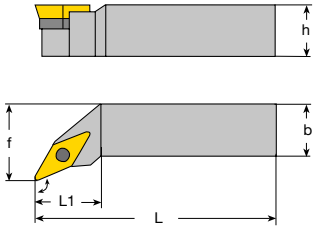
ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
SVLC R/L 0808 D07	8	8	60	15	10	VC.. 0702..	A1	B1	322602 0808		322603 0808	
SVLC R/L 1010 E07	10	10	70	15	12	VC.. 0702..	A1	B1	322602 1010		322603 1010	
SVLC R/L 1212 F07	12	12	80	18	16	VC.. 0702..	A1	B1	322602 1212		322603 1212	
									3104		3104	

Tool holder, positive SVVCN
- **SVVCN 72.5°**
- Setting angle 72.5°, for rhombic indexable inserts positive 7°, 35° point angle
- **Material:** Copy turning

ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts			art.no.	€
SVVC N 0808 K07	8	8	125	15	4	VC.. 0702..	A1	B1	322606 0808	
SVVC N 1010 M07	10	10	150	15	5	VC.. 0702..	A1	B1	322606 1010	
SVVC N 1212 M07	12	12	150	18	6	VC.. 0702..	A1	B1	322606 1207	
SVVC N 1212 F11	12	12	80	19	6	VC.. 1103..	A2	B2	322606 1211	
									3104	

Tool holder, positive SVXC
- **SVXC R/L 113°**
- Setting angle 113°, for rhombic indexable inserts positive 7°, 35° point angle
- **Material:** Longitudinal turning and facing

ISO designation	Shank height mm	Shank width mm	L mm	L1 mm	f mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
SVXC R/L 0808 D07	8	8	60	15	10	VC.. 0702..	A1	B1	322604 0808		322605 0808	
SVXC R/L 1010 E07	10	10	70	15	12	VC.. 0702..	A1	B1	322604 1010		322605 1010	
SVXC R/L 1212 F07	12	12	80	18	16	VC.. 0702..	A1	B1	322604 1212		322605 1212	
									3104		3104	

Spare parts

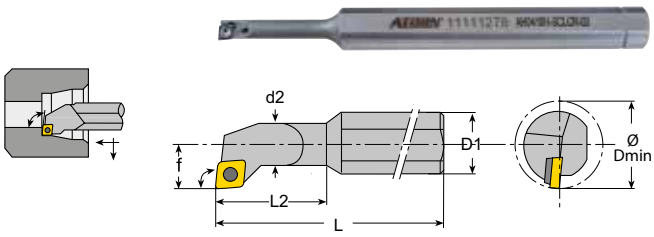
	Screw art.no.	€
A1	262551 0020	
A2	321701 0102	
	3106	

	TORX art.no.	€
B1	703053 0060	
B2	703053 0080	
	7114	

ATORN Boring bar, positive SCLC

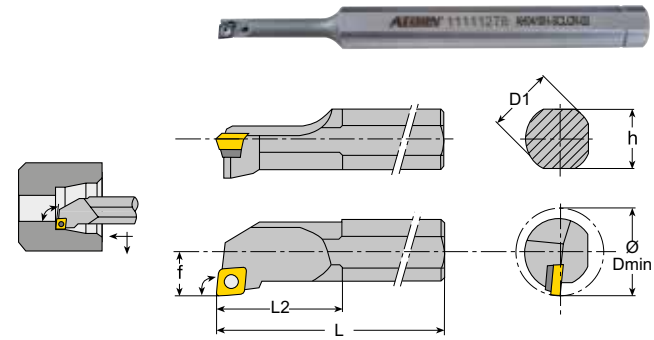
HM

- **SCLC R/L 95°**
- Setting angle 95°, for rhombic indexable insert positive 7°, 80° point angle
- Used for longitudinal turning, **very well suited for small holes**
- **With internal cooling**
- **D min from 5.0 mm**
- Note: right boring bar = left WP, left boring bar = right WP



HSS version, offset

ISO designation	D1 mm	d2 mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts	Right art.no.	€	Left art.no.	€
AH 0410 H SCLC R/L 03	10	4	100	24	2.5	5	CC.. 03..	321103 0004		321104 0004	
AH 0610 H SCLC R/L 03	10	6	100	24	2.5	7	CC.. 03..	321103 0006		321104 0006	
								3104		3104	



Solid carbide version

ISO designation	D1 mm	h mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts	Right art.no.	€	Left art.no.	€
E 04 G SCLC R/L 03	4	3	90	10	2.5	5	CC.. 0301..	321101 0104		321102 0104	
E 05 H SCLC R/L 03	5	4	100	10	3	6	CC.. 0301..	321101 0105		321102 0105	
E 06 J SCLC R/L 03	6	5	110	10	3.5	7	CC.. 0301..	321101 0106		321102 0106	
								3104		3104	

Suitable ISO P/K indexable inserts



ISO designation	Quality	Machining type	ISO P M K N	Right art.no.	€	ISO P M K N	Left art.no.	€
CCGT 030102 L-F	HC4625	Medium processing - Universal geometry with wide service range				10	321265 0165	
CCGT 030102 R-F	HC4625	Medium processing - Universal geometry with wide service range	10	321266 0165				
				3143			3143	

Spare parts

	Screw art.no.	€
A1	124170 0404	
A2	262551 0016	
	3106	

	TORX art.no.	€
B1	703053 0060	
	7114	

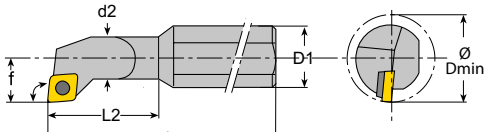
ATORN Miniature turning range with indexable cutting inserts, positive



Miniature turning range with indexable cutting inserts

- **Application:** for miniature turning from Ø 4.8 mm with CD.. - CP.. - WC.. - VC.. Indexable cutting inserts
- Wide range of boring bars in various materials: **steel, HSS, solid carbide**
- **ISO ultra-small indexable cutting inserts** of the latest generation





Boring bar, positive SCLD offset

- **SCLD R/L 95°**
- Setting angle 95°, for rhombic indexable inserts positive 7°, 80° point angle
- **Material:** Longitudinal turning

ISO designation	d2 mm	D1 mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
A 0408H SCLD R/L 04	4	8	100	16	2.4	4.8	CD.. 0401	A4	B2	322501 0004		322502 0004	
A 0508H SCLD R/L 04	5	8	100	20	2.9	5.8	CD.. 0401	A4	B2	322501 0005		322502 0005	
A 0608H SCLD R/L 04	6	8	100	24	3.4	6.8	CD.. 0401	A4	B2	322501 0006		322502 0006	
										3142		3142	

Boring bar, positive SCLD

- **SCLD R/L 95°**
- Setting angle 95°, for rhombic indexable inserts positive 7°, 80° point angle
- **Material:** Longitudinal turning

ISO designation	D1 mm	L mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
A 04E SCLD R/L 04	4	70	2.4	4.8	CD.. 0401	A4	B2	322519 0004		322520 0004	
A 05E SCLD R/L 04	5	70	2.9	5.8	CD.. 0401	A4	B2	322519 0005		322520 0005	
A 06F SCLD R/L 04	6	80	3.4	6.8	CD.. 0401	A4	B2	322519 0006		322520 0006	
								3142		3142	

Solid carbide boring bar, positive SCLD offset

- **SCLD R/L 95°**
- Setting angle 95°, for rhombic indexable inserts positive 7°, 80° point angle
- **Material:** Longitudinal turning

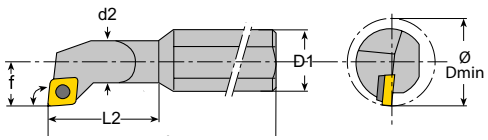
ISO designation	d2 mm	D1 mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
E0408H-SCLD R/L 04	4	8	100	24	2.4	4.8	CD.. 0401	A4	B2	322503 0104		322504 0104	
E0508H-SCLD R/L 04	5	8	100	30	2.9	5.8	CD.. 0401	A4	B2	322503 0105		322504 0105	
E0608H-SCLD R/L 04	6	8	100	36	3.4	6.8	CD.. 0401	A4	B2	322503 0106		322504 0106	
										3142		3142	

Solid carbide boring bar, positive SCLD

- **SCLD R/L 95°**
- Setting angle 95°, for rhombic indexable inserts positive 7°, 80° point angle
- **Material:** Longitudinal turning

ISO designation	D1 mm	L mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
E04F-SCLD R/L 04	4	80	2.4	4.8	CD.. 0401	A4	B2	322521 0104		322522 0104	
E05F-SCLD R/L 04	5	80	2.9	5.8	CD.. 0401	A4	B2	322521 0105		322522 0105	
E06G-SCLD R/L 04	6	95	3.4	6.8	CD.. 0401	A4	B2	322521 0106		322522 0106	
								3142		3142	





Boring bar, positive SCUP offset

- **SCUP R/L 95°**
- Setting angle 95°, for rhombic indexable inserts positive 7°, 80° point angle
- **Material:** Longitudinal turning

ISO designation	d2 mm	D1 mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
A 0608H SCUP R/L 05	6	8	100	20	4.5	8	CP.. 05T1..	A1	B2	322505 0006		322506 0006	
A 0810J SCUP R/L 05	8	10	110	26	6	11	CP.. 05T1..	A1	B2	322505 0008		322506 0008	
A 1012K SCUP R/L 05	10	12	125	32	7	13	CP.. 05T1..	A1	B2	322505 0010		322506 0010	
A 1216M SCUP R/L 05	12	16	150	40	9	16	CP.. 05T1..	A1	B2	322505 0012		322506 0012	
										3142		3142	

Solid carbide boring bar, positive SCUP offset

- **SCLD R/L 95°**
- Setting angle 95°, for rhombic indexable inserts positive 7°, 80° point angle
- **Material:** Longitudinal turning

ISO designation	d2 mm	D1 mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
E0608H-SCUP R/L 05	6	8	100	28	4.5	8	CP.. 05T1..	A1	B2	322507 0106		322508 0106	
E0810J-SCUP R/L 05	8	10	110	36	6	11	CP.. 05T1..	A1	B2	322507 0108		322508 0108	
E1012K-SCUP R/L 05	10	12	125	44	7	13	CP.. 05T1..	A1	B2	322507 0110		322508 0110	
E1216M-SCUP R/L 05	12	16	150	55	9	16	CP.. 05T1..	A1	B2	322507 0112		322508 0112	
										3142		3142	

Boring bar, positive SCXP offset

- **SCXP R/L 95°**
- Setting angle 95°, for rhombic indexable inserts positive 7°, 80° point angle
- **Material:** Longitudinal turning

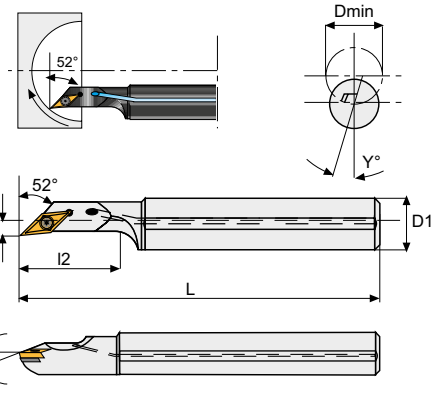
ISO designation	d2 mm	D1 mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
A 0608H SCXP R/L 05	6	8	100	20	4.5	8.5	CP.. 05T1..	A1	B2	322509 0006		322510 0006	
A 0810J SCXP R/L 05	8	10	110	26	6	11	CP.. 05T1..	A1	B2	322509 0008		322510 0008	
A 1012K SCXP R/L 05	10	12	125	32	7	13	CP.. 05T1..	A1	B2	322509 0010		322510 0010	
A 1216M SCXP R/L 05	12	16	150	40	9	16	CP.. 05T1..	A1	B2	322509 0012		322510 0012	
										3142		3142	

Solid carbide boring bar, positive SCXP offset

- **SCXP R/L 95°**
- Setting angle 95°, for rhombic indexable inserts positive 7°, 80° point angle
- **Material:** Longitudinal turning

ISO designation	d2 mm	D1 mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
E0608H-SCXP R/L 05	6	8	100	28	4.5	8.5	CP.. 05T1..	A1	B2	322511 0106		322512 0106	
E0810J-SCXP R/L 05	8	10	110	36	6	11	CP.. 05T1..	A1	B2	322511 0108		322512 0108	
E1012K-SCXP R/L 05	10	12	125	44	7	13	CP.. 05T1..	A1	B2	322511 0110		322512 0110	
E1216M-SCXP R/L 05	12	16	150	55	9	16	CP.. 05T1..	A1	B2	322511 0112		322512 0112	
										3142		3142	





Boring bar, positive SVJC

- **SVJC R/L 52°**
- Setting angle 52°, for rhombic indexable inserts positive 7°, 35° point angle
- **Material:** Longitudinal turning and copy turning, sphere turning

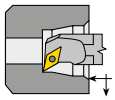
ISO designation	D1 mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts			Right-hand art.no.	€	Left-hand art.no.	€
A 08F SVJC R/L 05	8	80	15	1	8	VC.. 0501..	A6	B1	322537 0008		322538 0008	
A 10K SVJC R/L 07	10	125	18	1.5	13	VC.. 0702..	A2	B2	322537 0010		322538 0010	
A 12L SVJC R/L 07	12	140	18	1.5	13	VC.. 0702..	A2	B2	322537 0012		322538 0012	
									3142		3142	

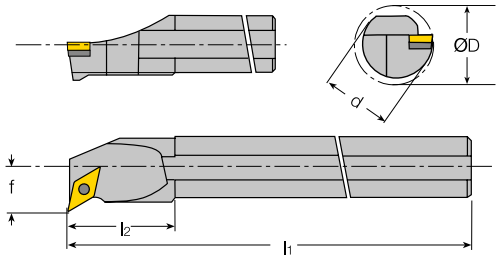


Solid carbide boring bar, positive SVJC

ISO designation	D1 mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
E08F-SVJC R/L 05	8	80	15	1	8	VC.. 0501..	A6	B1	322539 0108		322540 0108	
E10K-SVJC R/L 07	10	125	18	1.5	13	VC.. 0702..	A2	B2	322539 0110		322540 0110	
E12M-SVJC R/L 07	12	140	18	1.5	13	VC.. 0702..	A2	B2	322539 0112		322540 0112	
									3142		3142	







Boring bar, positive SVLC

- **SVLC R/L 95°**
- Setting angle 95°, for rhombic indexable inserts positive 7°, 35° point angle
- **Material:** Longitudinal turning

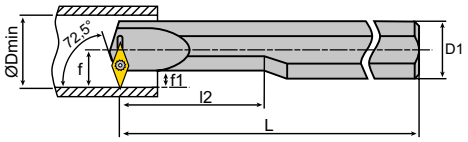
ISO designation	D1 mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
A 08F SVLC R/L 05	8	80	15	3	9.2	VC.. 0501..	A6	B1	322523 0008		322524 0008	
A 10H SVLC R/L 07	10	100	22	7	12.5	VC.. 0702..	A2	B2	322523 0010		322524 0010	
A 12K SVLC R/L 07	12	125	28	9	15.5	VC.. 0702..	A2	B2	322523 0012		322524 0012	
A 16M SVLC R/L 07	16	150	36	11	19.5	VC.. 0702..	A2	B2	322523 0016		322524 0016	
									3142		3142	

Solid carbide boring bar, positive SVLC

- **SVLC R/L 95°**
- Setting angle 95°, for rhombic indexable inserts positive 7°, 35° point angle
- **Material:** Longitudinal turning

ISO designation	D1 mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
E08F-SVLC R/L 05	8	80	26	3	9.2	VC.. 0501..	A6	B1	322525 0108		322526 0108	
E10H-SVLC R/L 07	10	100	32	7	12.5	VC.. 0702..	A2	B2	322525 0110		322526 0110	
E12K-SVLC R/L 07	12	125	40	9	15.5	VC.. 0702..	A2	B2	322525 0112		322526 0112	
E16M-SVLC R/L 07	16	150	55	11	19.5	VC.. 0702..	A2	B2	322525 0116		322526 0116	
									3142		3142	





Boring bar, positive SVVC

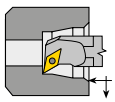
- **SVVC R/L 72.5°**
- Setting angle 72.5°, for rhombic indexable inserts positive 7°, 35° point angle
- **Material:** Longitudinal turning

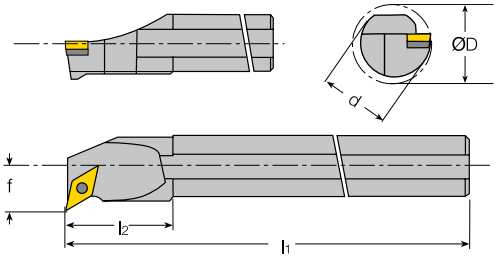
ISO designation	D1 mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
A 08F SVVC R/L 05	8	80	15	3.5	9.7	VC.. 0501..	A6	B1	322527 0008		322528 0008	
A 10H SVVC R/L 07	10	100	22	8	13.5	VC.. 0702..	A2	B2	322527 0010		322528 0010	
A 12K SVVC R/L 07	12	125	28	9	15.5	VC.. 0702..	A2	B2	322527 0012		322528 0012	
A 16M SVVC R/L 07	16	150	36	11	17.5	VC.. 0702..	A2	B2	322527 0016		322528 0016	
A 16M SVVC R/L 11	16	150	40	13.9	23	VC.. 1103..	A3	B3	322527 0116		322528 0116	
									3142		3142	

Solid carbide boring bar, positive SVVC

ISO designation	D1 mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
E08F-SVVC R/L 05	8	80	26	3.5	9.7	VC.. 0501..	A6	B1	322529 0008		322530 0008	
E10H-SVVC R/L 07	10	100	32	8	13.5	VC.. 0702..	A2	B2	322529 0010		322530 0010	
E12K-SVVC R/L 07	12	125	40	9	15.5	VC.. 0702..	A2	B2	322529 0012		322530 0012	
E16M-SVVC R/L 07	16	150	55	11	17.5	VC.. 0702..	A2	B2	322529 0016		322530 0016	
									3142		3142	







Boring bar, positive SVXC

- **SVXC R/L 113°**
- Setting angle 113°, for rhombic indexable inserts positive 7°, 35° point angle
- **Material:** Longitudinal turning

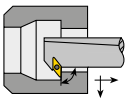
ISO designation	D1 mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
A 08F SVXC R/L 05	8	80	15	3	9.2	VC.. 0501..	A6	B1	322531 0008		322532 0008	
A 10H SVXC R/L 07	10	100	22	7	12.5	VC.. 0702..	A2	B2	322531 0010		322532 0010	
A 12K SVXC R/L 07	12	125	28	9	15.5	VC.. 0702..	A2	B2	322531 0012		322532 0012	
A 16M SVXC R/L 07	16	150	36	11	19.5	VC.. 0702..	A2	B2	322531 0016		322532 0016	
									3142		3142	

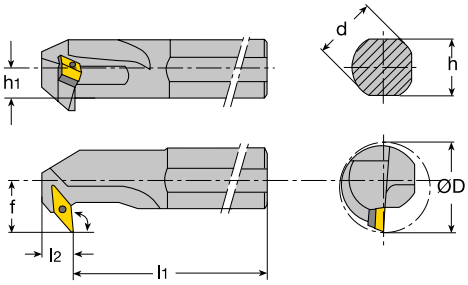
Solid carbide boring bar, positive SVXC

- **SVXC R/L 113°**
- Setting angle 113°, for rhombic indexable inserts positive 7°, 35° point angle
- **Material:** Longitudinal turning

ISO designation	D1 mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
E08F-SVXC R/L 05	8	80	26	3	9.2	VC.. 0501..	A6	B1	322533 0108		322534 0108	
E10H-SVXC R/L 07	10	100	32	7	12.5	VC.. 0702..	A2	B2	322533 0110		322534 0110	
E12K-SVXC R/L 07	12	125	40	9	15.5	VC.. 0702..	A2	B2	322533 0112		322534 0112	
E16M-SVXC R/L 07	16	150	55	11	19.5	VC.. 0702..	A2	B2	322533 0116		322534 0116	
									3142		3142	







Boring bar, positive SV95C

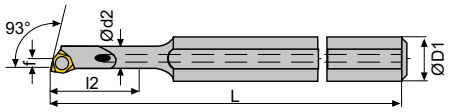
- **SV95C R/L 95°**
- Setting angle 95°, for rhombic indexable inserts positive 7°, 35° point angle
- **Material:** Longitudinal and copy turning, reverse turning

ISO designation	D1 mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
A 08F SV95C R/L 05	8	80	15	3	9.2	VC.. 0501..	A6	B1	322541 0008		322542 0008	
A 10H SV95C R/L 07	10	100	22	7	12.5	VC.. 0702..	A2	B2	322541 0010		322542 0010	
A 12K SV95C R/L 07	12	125	28	9	15.5	VC.. 0702..	A2	B2	322541 0012		322542 0012	
A 16M SV95C R/L 07	16	150	36	11	17.5	VC.. 0702..	A2	B2	322541 0016		322542 0016	
									3142		3142	

Solid carbide boring bar, positive SV95C

ISO designation	D1 mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
E08F-SV95C R/L 05	8	80	26	3	9.2	VC.. 0501..	A6	B1	322543 0108		322544 0108	
E10H-SV95C R/L 07	10	100	32	7	12.5	VC.. 0702..	A2	B2	322543 0110		322544 0110	
E12K-SV95C R/L 07	12	125	40	9	15.5	VC.. 0702..	A2	B2	322543 0112		322544 0112	
E16M-SV95C R/L 07	16	150	55	11	17.5	VC.. 0702..	A2	B2	322543 0116		322544 0116	
									3142		3142	



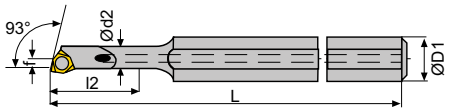


Boring bar, positive SWUC offset

- **SWUC R/L 93°**
- Setting angle 93°, for trigonometric indexable inserts positive 7°, 80° point angle
- **Material:** Longitudinal turning

ISO designation	D1 mm	L mm	L2 mm	f mm	d2 mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
A 0508H SWUC R/L 02	8	100	18	2.9	5	5.8	WC.. 0201..	A5	B2	322513 0005		322514 0005	
A 0608H SWUC R/L 02	8	100	24	3.9	6	7.8	WC.. 0201..	A5	B2	322513 0006		322514 0006	
										3142		3142	

HSS boring bar, positive SWUC offset



- **SWUC R/L 93°**
- Setting angle 93°, for trigonometric indexable inserts positive 7°, 80° point angle
- **Material:** Longitudinal turning

ISO designation	D1 mm	L mm	L1 mm	f mm	d1 mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
AH0508H SWUC. 02	8	100	18	2.9	5	5.8	WC.. 0201..	A5	B2	322515 0005		322516 0005	
AH0608H SWUC. 02	8	100	24	3.9	6	7.8	WC.. 0201..	A5	B2	322515 0006		322516 0006	
										3142		3142	

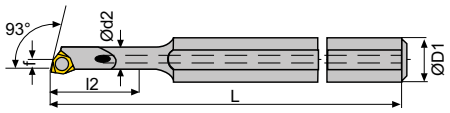
Solid carbide boring bar, positive SWUC offset

- **SWUC R/L 93°**
- Setting angle 93°, for trigonometric indexable inserts positive 7°, 80° point angle
- **Material:** Longitudinal turning

ISO designation	D1 mm	L mm	L2 mm	f mm	d2 mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
E0508H-SWUC R/L 02	8	100	18	2.9	5	5.8	WC.. 0201..	A5	B2	322517 0105		322518 0105	
E0608H-SWUC R/L 02	8	100	24	3.9	6	7.8	WC.. 0201..	A5	B2	322517 0106		322518 0106	
										3142		3142	

Solid carbide boring bar, positive SWUC





- **SWUC R/L 93°**
- Setting angle 93°, for trigonometric indexable inserts positive 7°, 80° point angle
- **Material:** Longitudinal turning

ISO designation	D1 mm	L mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
E05F-SWUC R/L 02	5	85	2.9	5.8	WC.. 0201..	A5	B2	322535 0105		322536 0105	
E06G-SWUC R/L 02	6	95	3.9	7.8	WC.. 0201..	A5	B2	322535 0106		322536 0106	
								3142		3142	

Spare parts

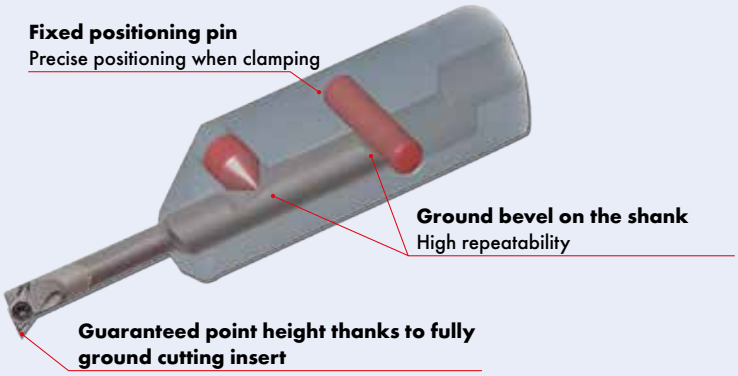
	Screw art.no.	€
A1	152599 0001	
A2	262551 0020	
A3	320901 2513	
A4	321701 0115	
A5	322201 0120	
A6	322201 0130	
	3106	

	TORX art.no.	€
B1	703053 0050	
B2	703053 0060	
B3	703053 0080	
	7114	

ATORN Solid carbide miniature boring bars

INFO

- Miniature boring bar quick-change system
- For miniature internal turning from Ø 4.8 mm
- Suitable for a wide range of users thanks to the many different holder shapes
- Easy exchange of indexable inserts outside the machine is made possible by the quick-change function.

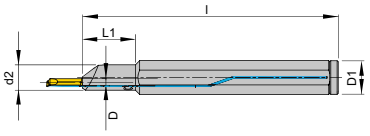


ATORN Miniature boring bars holder

- Miniature turning from Ø 4.8mm
- for CD.., DC.., WC.. and VC.. Indexable cutting inserts
- high flexibility thanks to quick-change system
- **internal coolant supply**
- incl. stop/fixing pin

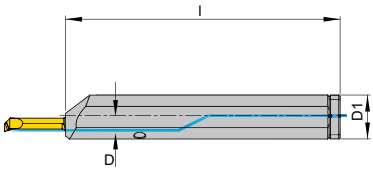


Design A





Version B



Designation	D mm	D1 mm	d2 mm	L mm	L1 mm	L4 mm	Design			Right art.no.	€	Left art.no.	€
IK 1604.	4	16	12	120	25	95	A	A1	B1	322555 1604		322556 1604	
IK 1606.	6	16	-	120	-	-	B	A2	B2	322555 1606		322556 1606	
IK 1608.	8	16	-	120	-	-	B	A2	B2	322555 1608		322556 1608	
										3142		3142	

Spare parts

	Screw art.no.	€
A1	321701 0113	
A2	321701 0114	
	3106	

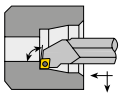
	Nickel plated art.no.	€
B1	703005 0025	
B2	703005 0030	
	7111	

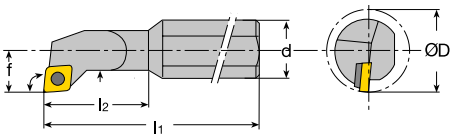
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ATORN Solid carbide miniature boring bars



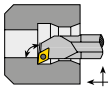


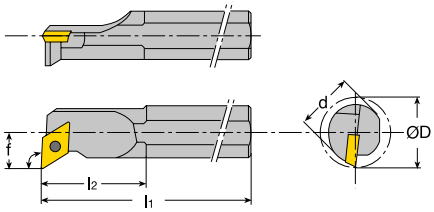


- **SCLD R/L 95°**
- Setting angle 95°, for CD.. indexable inserts positive 7°, 80° point angle
- **Use:** Facing and longitudinal turning

ISO designation	D1 mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
E04 SCLD R/L 04-AX	4	46	24	2.4	4.8	CD.. 0401	A1	B2	322560 0004		322561 0004	
E06 SCLD R/L 04-AX	6	65	37	3.4	6.8	CD.. 0401	A1	B2	322560 0006		322561 0006	
									3142		3142	



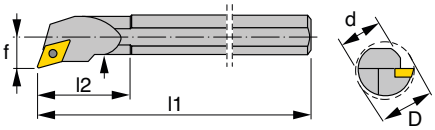




- **SDUC R/L 93°**
- Setting angle 93°, for DC.. indexable inserts positive 7°, 55° point angle
- **Use:** Longitudinal turning and copy turning

ISO designation	D1 mm	L mm	L2 mm	f mm	E mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
E 0406 SDUC R/L 04-AX	6	56	26	3	1.5	5.6	DC.. 04..	A3	B1	322564 0406		322565 0406	
E 0408 SDUC R/L 04-AX	8	57	26	3	1.5	5.6	DC.. 04..	A3	B1	322564 0408		322565 0408	
										3142		3142	



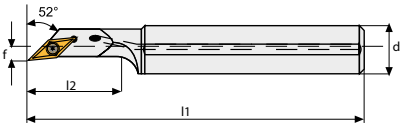


- **SDQC R/L 107.5°**
- Setting angle 93°, for DC.. indexable inserts positive 7°, 107.5° point angle
- **Use:** Longitudinal turning and copy turning

ISO designation	D1 mm	L mm	L2 mm	f mm	E mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
E 0406 SDQC R/L 04-AX	6	56	26	2.6	1.1	5.2	DC.. 04..	A3	B1	322566 0406		322567 0406	
E 0408 SDQC R/L 04-AX	8	57	26	2.6	1.1	5.2	DC.. 04..	A3	B1	322566 0408		322567 0408	
										3142		3142	







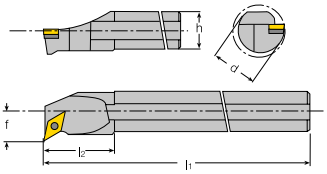


- **SVJC R/L 52°**
- Setting angle 52°, for VC.. indexable inserts positive 7°, 35° point angle
- **Use:** Longitudinal turning and copy turning

ISO designation	D1 mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
E 0406 SVJC R/L 05-AX	6	56	26	2	5.5	VC.. 05..	A3	B1	322572 0406		322573 0406	
E 0408 SVJC R/L 05-AX	8	57	26	2	5.5	VC.. 05..	A3	B1	322572 0408		322573 0408	
									3142		3142	



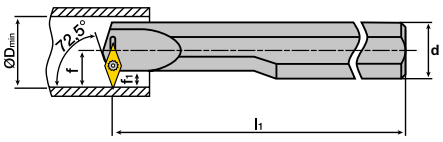




- **SVLC R/L 95°**
- Setting angle 95°, for VC.. indexable inserts positive 7°, 35° point angle
- **Use:** Longitudinal turning and copy turning

ISO designation	D1 mm	L mm	L2 mm	f mm	E mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
E 0406 SVLC R/L 05-AX	6	56	26	6	3	9.2	VC.. 05..	A3	B1	322568 0406		322569 0406	
E 0408 SVLC R/L 05-AX	8	57	26	5	3	9.2	VC.. 05..	A3	B1	322568 0408		322569 0408	
										3142		3142	



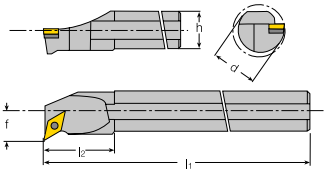


- **SVVC R/L 72.5°**
- Setting angle 72.5°, for VC.. indexable inserts positive 7°, 35° point angle
- **Use:** Longitudinal turning and copy turning

ISO designation	D1 mm	L mm	L2 mm	f mm	E mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
E 0406 SVVC R/L 05-AX	6	56	26	2	4.5	10.3	VC.. 05..	A3	B1	322574 0406		322575 0406	
E 0408 SVVC R/L 05-AX	8	57	26	2	3.5	10.2	VC.. 05..	A3	B1	322574 0408		322575 0408	
										3142		3142	





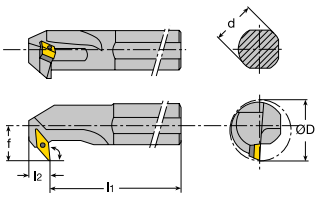


- **SVXC R/L 113°**
- Setting angle 113°, for VC.. indexable inserts positive 7°, 35° point angle
- **Use:** Longitudinal turning and copy turning

ISO designation	D1 mm	L mm	L2 mm	f mm	D min. mm	H mm	D min. mm	E mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
E 0406 SVXC R/L 05-AX	6	56	26	5	8.2	3	8.2	3	VC.. 05..	A3	B1	322570 0406		322571 0406	
E 0408 SVXC R/L 05-AX	8	57	26	5	9.2	3	9.2	3	VC.. 05..	A3	B1	322570 0408		322571 0408	
												3142		3142	



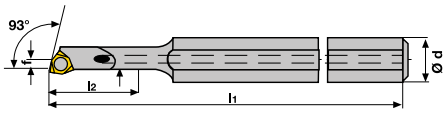




- **SV95C R/L 95°**
- Setting angle 95°, for VC.. indexable inserts positive 7°, 35° point angle
- **Use:** Longitudinal and copy turning, reverse turning

ISO designation	D1 mm	L mm	L2 mm	f mm	E mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
E 0406 SV95C R/L 05-AX	6	56	26	6	4.5	9.2	VC.. 0501..	A3	B1	322576 0406		322577 0406	
E 0408 SV95C R/L 05-AX	8	57	26	5	3	9.2	VC.. 0501..	A3	B1	322576 0408		322577 0408	
										3142		3142	





- **SWUC R/L 93°**
- Setting angle 93°, for WC.. indexable inserts positive 7°, 80° point angle
- **Use:** Facing and longitudinal turning

ISO designation	D1 mm	L mm	L2 mm	f mm	D min. mm	suitable indexable inserts			Right art.no.	€	Left art.no.	€
E06 SWUC R/L 02-AX	6	65	37	3.9	7.8	WC.. 0201..	A2	B2	322562 0006		322563 0006	
									3142		3142	

Spare parts

	Screw art.no.	€
A1	321701 0115	
A2	322201 0120	
A3	322201 0130	
	3106	

	TORX art.no.	€
B1	703053 0050	
B2	703053 0060	
	7114	

ISO indexable cutting inserts CDGT

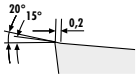
• **80° rhombic, positive 7°**

Chip breaker MN

F finishing	M medium	R roughing
●	○	-



Medium processing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
CDGT 040101-MN				●			**HW6315**	10 369601 0111	
CDGT 040102-MN				●			**HW6315**	10 369601 0211	
CDGT 040104-MN				●			**HW6315**	10 369601 0411	

ISO	HW6315
ISO N Al/non-ferrous	Vc = 160 - 280
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.04 - 0.12 ap = 0.1 - 1

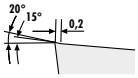
3143

Chip breaker MN

F finishing	M medium	R roughing
●	○	-



Medium processing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
CDGT 040102-MN	●	●	●				**HC7625**	10 369607 0212	
CDGT 040104-MN	●	●	●				**HC7625**	10 369607 0412	

ISO	HC7625
ISO P steel	Vc = 110 - 220
ISO M stainless steel	Vc = 60 - 120
ISO K cast iron	Vc = 120 - 190
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.10 ap = 0.1 - 1.0

3143

ISO indexable cutting inserts CPMT

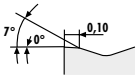
• **80° rhombic, positive 7°**

Chip breaker FP1

F finishing	M medium	R roughing
○	○	-



Smoothing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
CPMT 05T102-FP1	●	●	●				**HC7625**	10 369602 0211	
CPMT 05T104-FP1	●	●	●				**HC7625**	10 369602 0411	

ISO	HC7625
ISO P steel	Vc = 110 - 220
ISO M stainless steel	Vc = 60 - 120
ISO K cast iron	Vc = 120 - 190
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.15 ap = 0.1 - 1.5

3143

ISO indexable cutting inserts DCGT

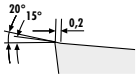
- **55° rhombic, positive 7°**

Chip breaker MN

F finishing	M medium	R roughing
●	○	-



Medium processing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
DCGT 04T002-MN				●			**HW6310**	10 369607 0311	

3143

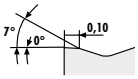
ISO	HW6310
ISO N Al/non-ferrous	Vc = 160 - 280
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.04 - 0.12 ap = 0.1 - 1.5

Chip breaker FP1

F finishing	M medium	R roughing
○	○	-



Smoothing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
DCGT 04T002-FP1	●	○	○				**HC7625**	10 369608 0312	

3143

ISO	HC7625
ISO P steel	Vc = 110 - 220
ISO M stainless steel	Vc = 60 - 120
ISO K cast iron	Vc = 120 - 190
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.10 ap = 0.1 - 1.5

ISO indexable cutting inserts VCGT

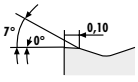
- **35° rhombic, positive 7°**

Chip breaker FP1

F finishing	M medium	R roughing
○	○	-



Smoothing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
VCGT 050102-FP1	●	●	●				**HC7625**	10 369608 0212	

3143

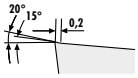
ISO	HC7625
ISO P steel	Vc = 110 - 220
ISO M stainless steel	Vc = 60 - 120
ISO K cast iron	Vc = 120 - 190
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.15 ap = 0.1 - 1.5

Chip breaker MN

F finishing	M medium	R roughing
●	○	-



Medium processing



ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
VCGT 050102-MN				●			**HW6315**	10 369603 0211	
VCGT 070201-MN				●			**HW6315**	10 369603 1111	
VCGT 070202-MN				●			**HW6315**	10 369603 1211	
VCGT 070204-MN				●			**HW6315**	10 369603 1411	

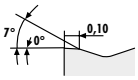
3143

ISO	HW6315
ISO N Al/non-ferrous	Vc = 160 - 280
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.04 - 0.12 ap = 0.1 - 1.5

ISO indexable cutting inserts VCMT

• **35° rhombic, positive 7°**

Chip breaker FP1

F finishing ●	M medium ○	R roughing -	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Smoothing 	VCMT 070202-FP1	●	○	-						**HC7625**	10	369604 0212	
	VCMT 070204-FP1	●	○	-						**HC7625**	10	369604 0412	

ISO	HC7625
ISO P steel	Vc = 110 - 220
ISO M stainless steel	Vc = 60 - 120
ISO K cast iron	Vc = 120 - 190
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.15 ap = 0.1 - 1.5

3143

ISO indexable cutting inserts WCGT

• **80° trigonometric, positive 7°**

Chip breaker MN

F finishing ●	M medium ○	R roughing -	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Medium processing 	WCGT 020101-MN	○	○	●						**HW6315**	10	369605 0111	
	WCGT 020102-MN	○	○	●						**HW6315**	10	369605 0211	

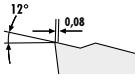
ISO	HW6315
ISO N Al/non-ferrous	Vc = 160 - 280
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.04 - 0.12 ap = 0.1 - 0.8

3143

ISO indexable cutting inserts WCMT

• **80° trigonometric, positive 7°**

Chip breaker MN Cermet version

F finishing ●	M medium ○	R roughing -	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Medium processing 	WCMT 020102-MN	●	○	-						**HC7625**	10	369606 0212	
	WCMT 020104-MN	●	○	-						**HC7625**	10	369606 0412	

ISO	HC7625
ISO P steel	Vc = 110 - 220
ISO M stainless steel	Vc = 60 - 120
ISO K cast iron	Vc = 120 - 190
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.10 ap = 0.1 - 0.8

3143

Vibration-dampened boring bars

INFO

Selecting the right indexable cutting insert

Selecting the right insert can have a major positive impact when machining with vibration-dampened boring bars. The indexable cutting insert can improve machining stability by minimising cutting forces.

- Where possible, always use the shortest tool length.
- To reduce radial forces to a minimum, ensure the entry angle is as close to 90° as possible.
- To reduce the total cutting force, select the smallest possible indexable cutting insert angle.
- To reduce the cutting forces, select the smallest possible corner radius.
- The machining depth (ap) should be greater than the corner radius of the indexable cutting insert.
- If possible, use an indexable cutting insert with a positive geometry to reduce the cutting pressure.

Clamping the boring bar

Overhang and clamping length

Vibration-dampened boring bars have a defined overhang and a defined clamping length. For a 60 mm boring bar with an overhang length of 10 x D, the total length of 840 mm incl. holding fixtures is divided as shown here. If the boring bar reaches beyond the specified overhang length, dampener operation is no longer fully guaranteed. A clamping length that is too short will produce the same result. It is important for the function of the boring bar that the specified parameters are observed.



Example of a holder method with D 60 mm - 10 x D

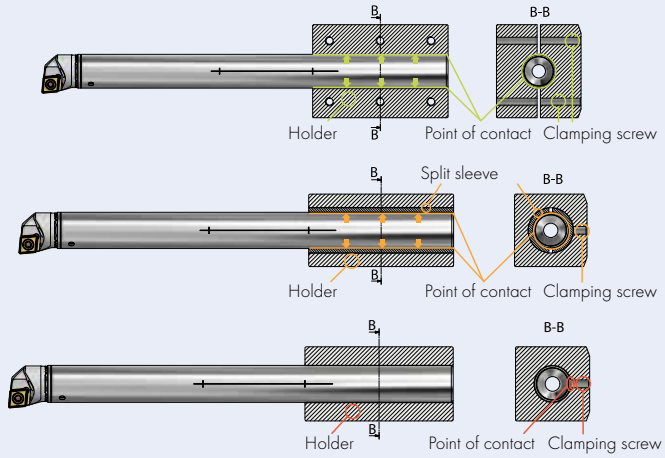
Clamping of vibration-dampened boring bars

The clamping length of vibration-dampened boring bars should be no less than 4 x D.

Many clamping systems offer the option of slotted boring bar holders for full wrap-around clamping. Unfortunately, these systems often lack the necessary clamping length or a suitable diameter. In such cases, slotted clamping sleeves are used. These reduce to the required diameter and generally increase the clamping length.

Another option is to clamp using a split bushing in a boring bar holder. In this case, the boring bar is clamped over the bushing and the bushing completely encircles the boring bar. The three clamping screws on the boring bar holder clamp the full bushing, thus achieving good rigidity.

Where possible, do not use a boring bar holder without a bushing. If the boring bar is locked using only one screw there is only one point of contact, resulting in very poor rigidity. In addition, the screw can damage the surface of the boring bar and this makes positioning more difficult.





Modular steel boring bars 5xD made of steel

- Alternative to Monoblock boring bars
- Efficient internal cooling
- Replaceable heads





Modular steel boring bars 5xD with interface QC

- Maximum projecting length A including boring bar head

D mm	L mm	A mm	f mm		art.no.	€
20	160	max. 100	0	A1	321800 0020	
25	205	max. 125	2.5	A1	321800 0025	
32	268	max. 160	6	A1	321800 0032	

3164

Modular steel boring bars 5xD with interface DM

- Maximum projecting length A including boring bar head

D mm	L mm	A mm	f mm		art.no.	€
40	328	max. 200	0	A2	321800 0040	
50	418	max. 250	5	A2	321800 0050	
60	508	max. 300	10	A2	321800 0060	

3164

Spare parts

	Screw art.no.	€
A1	321601 0602	
A2	321601 0609	

3164

Vibration-dampened modular boring bars

- Vibration-dampened boring bars for boring bar heads
- Lengths of 6 to 10 x diameter
- Other diameters and lengths available on request

Interface CC

- Carbide reinforced from 8 x diameter
- We do not recommend shortening the carbide-reinforced version!



D mm	L mm	A mm	f mm		art.no.	€
16	140	max. 96	0	A3	321815 0001	
16	172	max. 128	0	A3	321815 0002	
16	204	max. 160	0	A3	321815 0003	

3164

Interface QC

- Version with carbide-reinforced shank available on request



D mm	L mm	A mm	f mm		art.no.	€
20	180	90-120	0	A1	321816 0001	
20	220	105-160	0	A1	321816 0002	
20	260	120-200	0	A1	321816 0003	
25	230	100-150	2.5	A1	321818 0001	
25	280	120-200	2.5	A1	321818 0002	
25	330	140-250	2.5	A1	321818 0003	
32	300	120-192	6	A1	321820 0001	
32	364	142-256	6	A1	321820 0002	
32	428	165-320	6	A1	321820 0003	

3164

Interface DM

- Version with carbide-reinforced shank available on request



D mm	L mm	A mm	f mm		art.no.	€
40	368	160-240	0	A2	321822 0001	
40	448	180-320	0	A2	321822 0002	
40	528	200-400	0	A2	321822 0003	
50	468	185-300	5	A2	321824 0001	
50	568	215-400	5	A2	321824 0002	
50	668	245-500	5	A2	321824 0003	
60	568	214-360	10	A2	321826 0001	
60	688	247-480	10	A2	321826 0002	
60	808	280-600	10	A2	321826 0003	

3164

Spare parts

	Screw art.no.	€
A1	321601 0602	
A2	321601 0609	
A3	321601 0637	

3164

Boring bar heads for modular boring bars

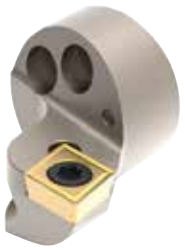
Technical information on page 1090

- **Boring bar heads with interface CC**
- Note: System CC boring bar heads can be combined with all System CC boring bars.

A16-SCLCR/L 95° interface CC

- Interchangeable drill heads for positive rhombic 80° indexable cutting inserts

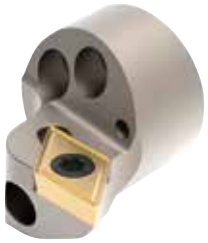
ISO designation	D min. mm	L mm	f mm	suitable indexable inserts	Interface	A1	B1	Right art.no.	€	Left-hand art.no.	€
A16-SCLCR/L 06	20	20	10	CC.. 0602..	CC	A1	B1	321900 0001		321901 0001	
								3164		3164	



A16-SDUCR/L 93° interface CC

- Interchangeable drill heads for positive rhombic 55° indexable cutting inserts

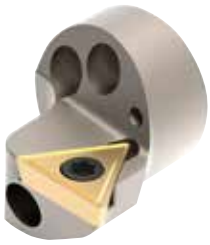
ISO designation	D min. mm	L mm	f mm	suitable indexable inserts	Interface	A1	B1	Right art.no.	€	Left art.no.	€
A16-SDUCR/L 07	20	20	10	DC.. 0702..	CC	A1	B1	321902 0001		321903 0001	
								3164		3164	



A16-STUCR/L 93° interface CC

- Interchangeable drill heads for positive triangular 60° indexable cutting inserts

ISO designation	D min. mm	L mm	f mm	suitable indexable inserts	Interface	A1	B1	Right art.no.	€	Left art.no.	€
A16-STUCR/L 11	20	20	10	TC.. 1102..	CC	A1	B1	321904 0001		321905 0001	
								3164		3164	



Spare parts

	Screw art.no.	€
A1	321601 0600	
	3106	

	TORX art.no.	€
B1	703053 0080	
	7114	

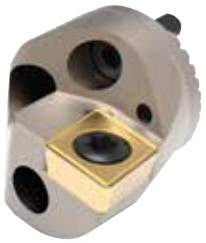
Boring bar heads for modular boring bars

Technical information on page 1090

- **Boring bar heads with interface QC**
- Note: System QC boring bar heads can be combined with all System QC boring bars.

A20-SCLCR/L 95°

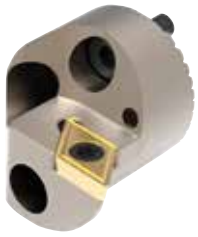
- Interchangeable drill heads for positive rhombic 80° indexable cutting inserts



ISO designation	L mm	f mm	suitable indexable inserts	Interface					Right art.no.	€	Left art.no.	€
A20-SCLCR/L 09	20.5	12.95	CC.. 09T3..	QC	A2	B1	C1	D2	321908 0001		321909 0001	
									3164		3164	

A20-SDUCR/L 93°

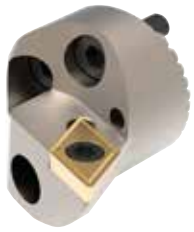
- Interchangeable drill heads for positive rhombic 55° indexable cutting inserts



ISO designation	L mm	f mm	suitable indexable inserts	Interface					Right art.no.	€	Left art.no.	€
A20-SDUCR/L 07	20.5	12.95	DC.. 0702..	QC	A1	B1	C1	D1	321914 0001		321915 0001	
A20-SDUCR/L 11	20.5	14.95	DC.. 11T3..	QC	A2	B1	C1	D2	321914 0002		321915 0002	
									3164		3164	

A20-SDQCR/L 107,5°

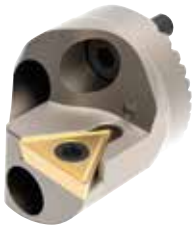
- Interchangeable drill heads for positive rhombic 55° indexable cutting inserts



ISO designation	L mm	f mm	suitable indexable inserts	Interface					Right art.no.	€	Left art.no.	€
A20-SDQCR/L 07	20.5	12.95	DC.. 0702..	QC	A1	B1	C1	D1	321910 0001		321911 0001	
A20-SDQCR/L 11	22.5	14.95	DC.. 11T3..	QC	A2	B1	C1	D2	321910 0002		321911 0002	
									3164		3164	

A20-STUCR/L 93°

- Interchangeable drill heads for positive triangular 60° indexable cutting inserts



ISO designation	L mm	f mm	suitable indexable inserts	Interface					Right art.no.	€	Left art.no.	€
A20-STUCR/L 11	20.5	12.95	TC.. 1102..	QC	A2	B1	C1	D2	321918 0001		321919 0001	
A20-STUCR/L 11 small	20.5	11	TC.. 1102..	QC	A2	B1	C1	D2	321918 0002		321919 0002	
A20-STUCR/L 16	21	14.95	TC.. 16T3..	QC	A2	B1	C1	D2	321918 0003		321919 0003	
									3164		3164	

A20-SVUCR/L 93°

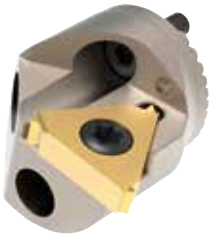
- Interchangeable drill heads for positive rhombic 35° indexable cutting inserts



ISO designation	L mm	f mm	suitable indexable inserts	Interface					Right art.no.	€	Left art.no.	€
A20-SVUCR/L 11	20.5	15.95	VC.. 1103..	QC	A1	B1	C1	D1	321920 0001		321921 0001	
									3164		3164	

A20-SIR/L 90°

- Interchangeable drill heads for threading inserts



ISO designation	L mm	f mm	suitable indexable inserts	Interface					Right art.no.	€	Left art.no.	€
A20-SIR/L 16	21.65	14.95	16 IR	QC	A2	B1	C1	D2	321922 0001			
A20-SIR/L 16	21.65	14.95	16 IL	QC	A2	B1	C1	D2			321923 0001	
									3164		3164	

Spare parts

	Screw art.no.	€
A1	321601 0600	
A2	321601 0601	
	3106	

	Screw art.no.	€
B1	321601 0602	
	3164	

	O-ring art.no.	€
C1	321601 0603	
	3164	

	TORX art.no.	€
D1	703053 0080	
D2	703053 0150	
	7114	

Boring bar heads for modular boring bars

Technical information on page 1090

- **Boring bar heads with interface DM**
- Note: System DM boring bar heads can be combined with all System DM boring bars.

A40-SCLCR/L 95°

- Interchangeable drill heads for positive rhombic 80° indexable cutting inserts

ISO designation	L mm	f mm	suitable indexable inserts	Interface	Right art.no.	€	Left art.no.	€
A40-SCLCR/L 12	32	27	CC.. 1204..	DM	321936 0001		321937 0001	
					3164		3164	



A40-SDUCR/L 93°

- Interchangeable drill heads for positive rhombic 55° indexable cutting inserts

ISO designation	L mm	f mm	suitable indexable inserts	Interface	Right art.no.	€	Left art.no.	€
A40-SDUCR/L 11	32	27	DC.. 11T3..	DM	321938 0001		321939 0001	
A40-SDUCR/L 15	32	27	DC.. 1504..	DM	321938 0002		321939 0002	
					3164		3164	



A40-SDQCR/L 107,5°

- Interchangeable drill heads for positive rhombic 55° indexable cutting inserts

ISO designation	L mm	f mm	suitable indexable inserts	Interface	Right art.no.	€	Left art.no.	€
A40-SDQCR/L 11	32	27	DC.. 11T3..	DM	321940 0001		321941 0001	
					3164		3164	



A40-STUCR/L 93°

- Interchangeable drill heads for positive triangular 60° indexable cutting inserts

ISO designation	L mm	f mm	suitable indexable inserts	Interface	Right art.no.	€	Left art.no.	€
A40-STUCR/L 16	32	27	TC.. 16T3..	DM	321942 0001		321943 0001	
A40-STUCR/L 16 small	32	22	TC.. 16T3..	DM	321942 0002		321943 0002	
					3164		3164	



A40-SVUCR/L

- Interchangeable drill heads for positive rhombic 35° indexable cutting inserts

ISO designation	L mm	f mm	suitable indexable inserts	Interface	Right art.no.	€	Left art.no.	€
A40-SVUCR/L 11	32	27	VC.. 1103..	DM	321944 0001		321945 0001	
A40-SVUCR/L 16	32	27	VC.. 1604..	DM	321944 0002		321945 0002	
					3164		3164	



A40-DDUNR/L 93°

- Interchangeable drill heads for negative rhombic 55° indexable cutting inserts

ISO designation	L mm	f mm	suitable indexable inserts	Interface	Right art.no.	€	Left art.no.	€
A40-DDUNR/L 15	35	27	DN.. 1506..	DM	321926 0001		321927 0001	
					3164		3164	



A40-DDQNR/L 107,5°

- Interchangeable drill heads for negative rhombic 55° indexable cutting inserts

ISO designation	L mm	f mm	suitable indexable inserts	Interface	Right art.no.	€	Left art.no.	€
A40-DDQNR/L 15	35	27	DN.. 1506..	DM	321928 0001		321929 0001	
					3164		3164	



A40-DTUNR/L 93°

- Interchangeable drill heads for negative triangular 60° indexable cutting inserts

ISO designation	L mm	f mm	suitable indexable inserts	Interface								Right art.no.	€	Left art.no.	€
A40-DTUNR/L 16	35	27	TN.. 1604..	DM	B8	C3	F1	I1	P1	Q1	R1	321930 0001		321931 0001	
A40-DTUNR/L 16	35	22	TN.. 1604..	DM	B8	C3	F1	I1	P1	Q1	R1	321930 0002		321931 0002	
A40-DTUNR/L 22	35	27	TN.. 2204..	DM	B1	C1	F2	I1	P1	Q1	R2	321930 0003		321931 0003	
												3164		3164	



A40-DVUNR/L 93°

- Interchangeable drill heads for negative rhombic 35° indexable cutting inserts

ISO designation	L mm	f mm	suitable indexable inserts	Interface								Right art.no.	€	Left art.no.	€
A40-DVUNR/L 16	35	27	VN.. 1604..	DM	B10	C3	G1	I1	P1	Q1	R3	321932 0001		321933 0001	
												3164		3164	



A40-DWLNR/L 95°

- Interchangeable drill heads for negative trigonometric 80° indexable cutting inserts

ISO designation	L mm	f mm	suitable indexable inserts	Interface								Right art.no.	€	Left art.no.	€
A40-DWLNR/L 08	35	27	WN.. 0804..	DM	B1	C4	H1	I1	P1	Q1	R2	321934 0001		321935 0001	
												3164		3164	



A40-DCLNR/L 95°

- Interchangeable drill heads for negative rhombic 80° indexable cutting inserts

ISO designation	L mm	f mm	suitable indexable inserts	Interface								Right art.no.	€	Left art.no.	€
A40-DCLNR/L 12	35	27	CN.. 1204..	DM	B1	C1	D1	I1	P1	Q1	R2	321924 0001		321925 0001	
A40-DCLNR/L 16	35	27	CN.. 1604..	DM	B3	C2	D2	I1	P1	Q1		321924 0002		321925 0002	
												3164		3164	



Spare parts

Screw			Clamping claw with internal cooling			Screw			Support plate			Support plate			Support plate			Support plate		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	321601 0600		B1	321601 0604		C1	321601 0606		D1	321601 0607		E1	321601 0616		F1	321601 0623		G1	321601 0627	
A2	321601 0632		B2	321601 0605		C2	321601 0612		D2	321601 0613		E2	321601 0634		F2	321601 0626				
A3	321601 0636		B3	321601 0610		C3	321601 0622													
			B4	321601 0611		C4	321601 0630													
			B5	321601 0614		C5	321601 0633													
			B6	321601 0615		C6	321601 0635													
			B7	321601 0617																
			B8	321601 0624																
			B9	321601 0625																
			B10	321601 0628																
			B11	321601 0629																
3106			3164			3106			3106			3106			3106			3106		

Support plate			Screw			Sealing ring set			Nickel plated			TORX		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€
H1	321601 0631		I1	341450 0008		P1	341450 0009		Q1	703005 0030		R1	703053 0080	
									Q2	703005 0040		R2	703053 0100	
												R3	703053 0150	
3106			3164			3164			7111			7114		

SARA® Toolbits

HSS-E

- **DIN 4964**
- Entire length hardened, tempered and ground true to size on all sides
- **Use:** Turning, boring, grooving etc. and for producing profile steels

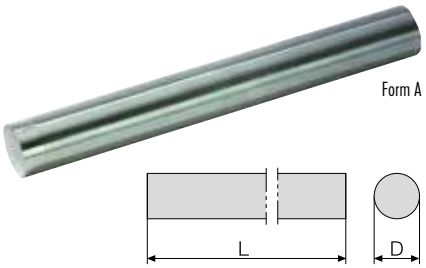
Type A, round, tolerance h8

D mm	L mm	art.no.	€
4	63	300101 0001	
4	80	300101 0002	
4	100	300101 0003	
5	63	300101 0004	
5	80	300101 0005	
5	100	300101 0006	
5	125	300101 0007	
6	40	300101 0008	
6	63	300101 0009	
6	80	300101 0010	
6	100	300101 0011	
6	125	300101 0012	
6	160	300101 0013	
8	40	300101 0014	
8	63	300101 0015	
8	80	300101 0016	
8	100	300101 0017	
8	125	300101 0018	
8	160	300101 0019	
8	200	300101 0020	
10	63	300101 0022	

3101

D mm	L mm	art.no.	€
10	80	300101 0023	
10	100	300101 0024	
10	125	300101 0025	
10	160	300101 0026	
10	200	300101 0027	
12	63	300101 0028	
12	80	300101 0029	
12	100	300101 0030	
12	125	300101 0031	
12	160	300101 0032	
12	200	300101 0033	
14	160	300101 0034	
16	125	300101 0035	
16	160	300101 0036	
16	200	300101 0037	
18	160	300101 0038	
18	200	300101 0039	
20	125	300101 0040	
20	160	300101 0041	
20	200	300101 0042	

3101



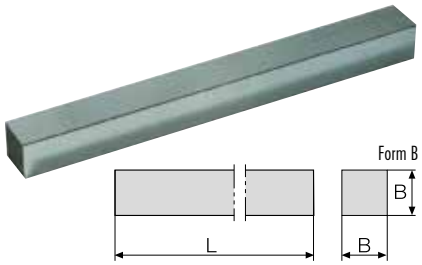
Type B, square, tolerance h13

Width mm	L mm	art.no.	€
4	40	300110 0001	
4	63	300110 0002	
4	80	300110 0003	
4	100	300110 0004	
5	40	300110 0005	
5	63	300110 0006	
5	100	300110 0007	
6	40	300110 0008	
6	63	300110 0009	
6	80	300110 0010	
6	100	300110 0011	
6	125	300110 0012	
6	160	300110 0013	
8	40	300110 0014	
8	63	300110 0015	
8	80	300110 0016	
8	100	300110 0017	
8	125	300110 0018	
8	160	300110 0019	
8	200	300110 0020	
10	63	300110 0021	
10	80	300110 0022	
10	100	300110 0023	
10	125	300110 0024	

3101

Width mm	L mm	art.no.	€
10	160	300110 0025	
10	200	300110 0026	
12	63	300110 0027	
12	80	300110 0028	
12	100	300110 0029	
12	125	300110 0030	
12	160	300110 0031	
12	200	300110 0032	
14	100	300110 0033	
14	125	300110 0034	
14	160	300110 0035	
14	200	300110 0036	
16	100	300110 0037	
16	125	300110 0038	
16	160	300110 0039	
16	200	300110 0040	
18	160	300110 0041	
18	200	300110 0042	
20	200	300110 0043	
20	250	300110 0044	
25	160	300110 0045	
25	200	300110 0046	
25	250	300110 0047	

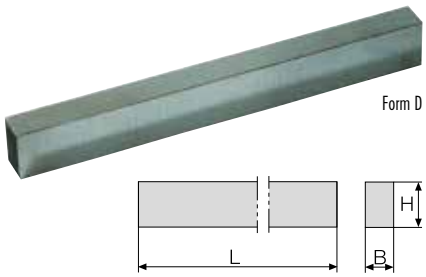
3101



Type D, rectangular, tolerance h13

Width mm	Height mm	L mm	art.no.	€
4	16	100	300120 0001	
4	16	160	300120 0002	
5	10	100	300120 0003	
5	10	160	300120 0004	
5	10	200	300120 0005	
5	20	100	300120 0006	
5	20	160	300120 0007	
5	20	200	300120 0008	
6	10	100	300120 0009	
6	10	160	300120 0010	
6	10	200	300120 0011	
6	12	100	300120 0012	
6	12	160	300120 0013	
6	25	160	300120 0014	
6	25	200	300120 0015	
8	12	100	300120 0016	
8	12	160	300120 0017	
8	12	200	300120 0018	
8	16	100	300120 0019	
			3101	

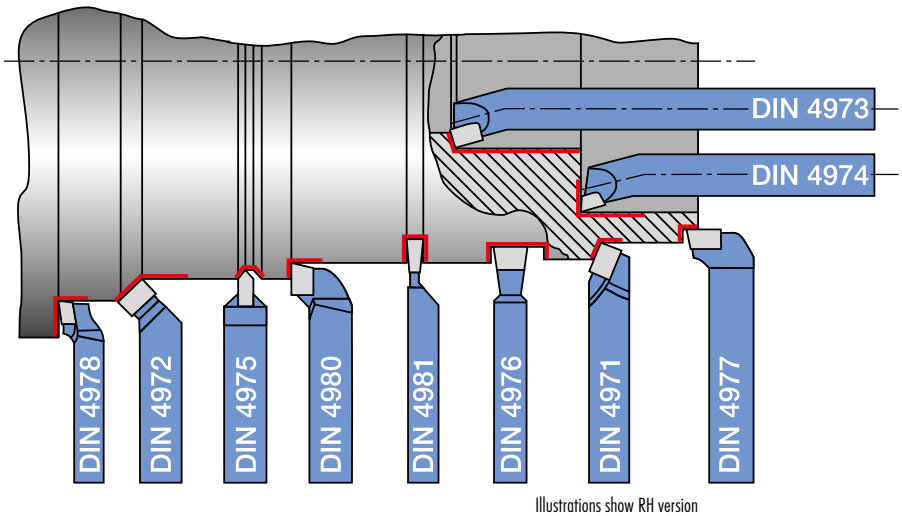
Width mm	Height mm	L mm	art.no.	€
8	16	160	300120 0020	
8	16	200	300120 0021	
8	32	200	300120 0022	
10	16	100	300120 0023	
10	16	160	300120 0024	
10	16	200	300120 0025	
10	20	100	300120 0026	
10	20	160	300120 0027	
10	20	200	300120 0028	
10	40	160	300120 0029	
10	40	200	300120 0030	
12	20	160	300120 0031	
12	20	200	300120 0032	
12	25	200	300120 0033	
12	25	250	300120 0034	
16	25	160	300120 0035	
16	25	200	300120 0036	
16	32	200	300120 0037	
			3101	



SARA® Turning tool

HM

- Shanks made from non-alloy steel (700 - 800 N/mm² in strength)
- Finely ground face and flank surfaces
- Fitted with ISO solid carbide cutting inserts according to DIN 4950
- **P20**
  P25/P30 multi-range quality
  K10/K20 multi-range quality
- Unit prices when purchased in PU
- Other qualities can be found in our webshop

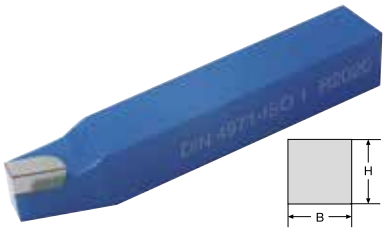


Illustrations show RH version

Straight turning tool, right-hand, DIN 4971 - ISO 1

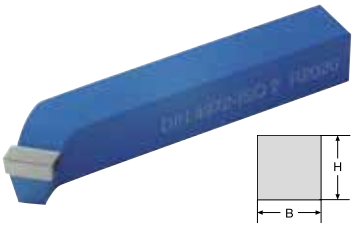
- Left-hand version available on request

Shank width mm	Shank height mm	L mm	w mm	P20	art.no.	€	P25 / P30	art.no.	€	K10 / K20	art.no.	€
10	10	90	8.0	5	302001 0202		5	302001 0203		5	302001 0221	
12	12	100	10.0	5	302001 0302		5	302001 0303		5	302001 0321	
16	16	110	12.2	5	302001 0402		5	302001 0403		5	302001 0421	
20	20	125	16.5	5	302001 0502		5	302001 0503		5	302001 0521	
25	25	140	20.6	2	302001 0602		2	302001 0603		2	302001 0621	
32	32	170	25.5				2	302001 0703		2	302001 0721	
					3103			3103			3103	



Curved turning tool, right-hand, DIN 4972 - ISO 2

Shank width mm	Shank height mm	L mm	w mm		P20 art.no.	€		P25 / P30 art.no.	€		K10 / K20 art.no.	€
10	10	90	7.7	5	302005 0202		5	302005 0203		5	302005 0221	
12	12	100	9.9	5	302005 0302		5	302005 0303		5	302005 0321	
16	16	110	11.6	5	302005 0402		5	302005 0403		5	302005 0421	
20	20	125	15.9	5	302005 0502		5	302005 0503		5	302005 0521	
25	25	140	19.7	2	302005 0602		2	302005 0603		2	302005 0621	
32	32	170	24.9	2	302005 0702		2	302005 0703		2	302005 0721	
					3103			3103			3103	



Curved turning tool, left-hand, DIN 4972 - ISO 2

Shank width mm	Shank height mm	L mm	w mm		P20 art.no.	€		P25 / P30 art.no.	€		K10 / K20 art.no.	€
10	10	90	7.7	5	302007 0202		5	302007 0203		5	302007 0221	
12	12	100	9.9	5	302007 0302		5	302007 0303		5	302007 0321	
16	16	110	11.6	5	302007 0402		5	302007 0403		5	302007 0421	
20	20	125	15.9	5	302007 0502		5	302007 0503		5	302007 0521	
25	25	140	19.7	1	302007 0602		2	302007 0603		2	302007 0621	
32	32	170	24.9	2	302007 0702		2	302007 0703		2	302007 0721	
					3103			3103			3103	

Internal turning tool with square shank, DIN 4973 - ISO 8

- Available with round shank on request

Shank width mm	Shank height mm	L mm	w mm		P20 art.no.	€		P25 / P30 art.no.	€		K10 / K20 art.no.	€
8	8	125	5.0	5	302010 0102		5	302010 0103		5	302010 0121	
10	10	150	6.0	5	302010 0202		1	302010 0203		5	302010 0221	
12	12	180	8.2	5	302010 0302		5	302010 0303		5	302010 0321	
16	16	210	10.3	5	302010 0402		5	302010 0403		5	302010 0421	
20	20	250	12.0	5	302010 0502		5	302010 0503		5	302010 0521	
25	25	300	15.5	2	302010 0602		2	302010 0603		2	302010 0621	
32	32	355	20.0	2	302010 0702		2	302010 0703		2	302010 0721	
					3103			3103			3103	



Internal corner turning tool with square shank, DIN 4974 - ISO 9

Shank width mm	Shank height mm	L mm	w mm		P20 art.no.	€		P25 / P30 art.no.	€		K10 / K20 art.no.	€
8	8	125	5.1	5	302015 0102		5	302015 0103		5	302015 0121	
10	10	150	6.0	5	302015 0202		5	302015 0203		5	302015 0221	
12	12	180	8.7	5	302015 0302		5	302015 0303		5	302015 0321	
16	16	210	9.4	5	302015 0402		5	302015 0403		5	302015 0421	
20	20	250	11.8	5	302015 0502		5	302015 0503		5	302015 0521	
25	25	300	15.0	2	302015 0602		5	302015 0603		2	302015 0621	
32	32	355	19.4	2	302015 0702		2	302015 0703		2	302015 0721	
					3103			3103			3103	



Internal corner turning tool with straight shank, DIN 4974 - ISO 9

D mm	L mm	w mm		P20 art.no.	€		P25 / P30 art.no.	€		K10 / K20 art.no.	€
8	125	5.1	5	302017 2202		5	302017 2203		5	302017 2221	
10	150	6.0	5	302017 2302		5	302017 2303		5	302017 2321	
12	180	8.7	5	302017 2402		5	302017 2403		5	302017 2421	
16	210	9.4	5	302017 2502		5	302017 2503		5	302017 2521	
20	250	11.8	5	302017 2602		5	302017 2603		5	302017 2621	
25	300	15.0	2	302017 2702		2	302017 2703		2	302017 2721	
				3103			3103			3103	



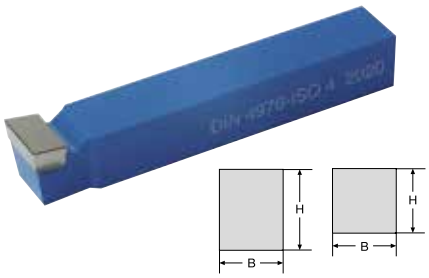
Pointed turning tool, DIN 4975

Shank width mm	Shank height mm	L mm		P20 art.no.	€		P25 / P30 art.no.	€		K10 / K20 art.no.	€
10	16	110	5	302020 1202		5	302020 1203		5	302020 1221	
12	20	125	5	302020 1302		5	302020 1303		5	302020 1321	
16	25	140	5	302020 1402		5	302020 1403		5	302020 1421	
20	32	170	2	302020 1502		2	302020 1503		2	302020 1521	
				3103			3103			3103	



Broad turning tool, DIN 4976 - ISO 4

Shank width mm	Shank height mm	L mm	w mm	P20	art.no.	€	P25 / P30	art.no.	€	K10 / K20	art.no.	€
10	10	90	10.0	5	302025 0202		5	302025 0203		5	302025 0221	
12	12	100	11.6	5	302025 0302		5	302025 0303		5	302025 0321	
16	16	110	16.0	5	302025 0402		5	302025 0403		5	302025 0421	
20	20	125	20.0	5	302025 0502		5	302025 0503		5	302025 0521	
20	32	170	20.0	5	302025 1502		5	302025 1503		5	302025 1521	
25	25	140	24.7	2	302025 0602		2	302025 0603		2	302025 0621	
32	32	170	31.5	2	302025 0702		2	302025 0703		2	302025 0721	
					3103			3103			3103	



Offset face turning tool, right-hand, DIN 4977 - ISO 5

- Left-hand version available on request

Shank width mm	Shank height mm	L mm	w mm	P20	art.no.	€	P25 / P30	art.no.	€	K10 / K20	art.no.	€
16	16	110	7.4	5	302030 0402		5	302030 0403		5	302030 0421	
20	20	125	9.7	5	302030 0502		5	302030 0503		5	302030 0521	
25	25	140	11.2	2	302030 0602		2	302030 0603		2	302030 0621	
					3103			3103			3103	



Offset corner turning tool, right-hand, DIN 4978 - ISO 3

- Left-hand version available on request

Shank width mm	Shank height mm	L mm	w mm	P20	art.no.	€	P25 / P30	art.no.	€	K10 / K20	art.no.	€
10	16	110	8.0	5	302035 1202		5	302035 1203		5	302035 1221	
12	20	125	10.0	5	302035 1302		5	302035 1303		5	302035 1321	
16	25	140	12.2	5	302035 1402		5	302035 1403		5	302035 1421	
					3103			3103			3103	

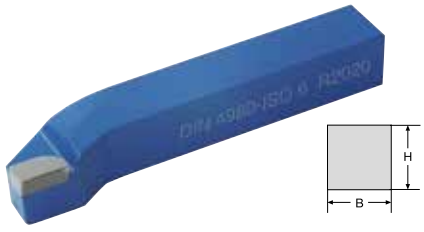


Offset side turning tool, right-hand, DIN 4980 - ISO 6

Shank width mm	Shank height mm	L mm	w mm	P20	art.no.	€	P25 / P30	art.no.	€	K10 / K20	art.no.	€
10	10	90	8.7	5	302040 0202		5	302040 0203		1	302040 0221	
12	12	100	10.0	5	302040 0302		5	302040 0303		5	302040 0321	
16	16	110	12.2	5	302040 0402		5	302040 0403		5	302040 0421	
20	20	125	15.8	5	302040 0502		5	302040 0503		5	302040 0521	
25	25	140	20.0	2	302040 0602		2	302040 0603		2	302040 0621	
32	32	170	25.4	2	302040 0702		2	302040 0703		2	302040 0721	
					3103			3103			3103	

Offset side turning tool, left-hand, DIN 4980 - ISO 6

Shank width mm	Shank height mm	L mm	w mm	P20	art.no.	€	P25 / P30	art.no.	€	K10 / K20	art.no.	€
10	10	90	8.7	5	302042 0202		5	302042 0203		5	302042 0221	
12	12	100	10.0	5	302042 0302		5	302042 0303		5	302042 0321	
16	16	110	12.2	5	302042 0402		5	302042 0403		1	302042 0421	
20	20	125	15.8	5	302042 0502		5	302042 0503		5	302042 0521	
25	25	140	20.0	2	302042 0602		2	302042 0603		2	302042 0621	
32	32	170	25.4	2	302042 0702		2	302042 0703		2	302042 0721	
					3103			3103			3103	



Parting-off tool, right-hand, DIN 4981 - ISO 7

Shank width mm	Shank height mm	L mm	w mm	P20	art.no.	€	P25 / P30	art.no.	€	K10 / K20	art.no.	€
8	12	100	3.2	5	302045 1102		5	302045 1103		5	302045 1121	
10	16	110	4.2	5	302045 1202		5	302045 1203		5	302045 1221	
12	20	125	5.0	5	302045 1302		5	302045 1303		5	302045 1321	
16	25	140	6.2	5	302045 1402		5	302045 1403		5	302045 1421	
20	32	170	8.4	5	302045 1502		5	302045 1503		5	302045 1521	
25	40	200	10.4	2	302045 1602		2	302045 1603		2	302045 1621	
					3103			3103			3103	



Parting-off tool, left-hand, DIN 4981 - ISO 7

Shank width mm	Shank height mm	L mm	w mm	P20	art.no.	€	P25 / P30	art.no.	€	K10 / K20	art.no.	€
8	12	100	3.2	5	302047 1102		5	302047 1103		5	302047 1121	
10	16	110	4.2	5	302047 1202		5	302047 1203		5	302047 1221	
12	20	125	5.3	5	302047 1302		5	302047 1303		5	302047 1321	
16	25	140	6.2	5	302047 1402		5	302047 1403		5	302047 1421	
20	32	170	8.4	5	302047 1502		5	302047 1503		5	302047 1521	
25	40	200	10.4	2	302047 1602		2	302047 1603		2	302047 1621	
					3103			3103			3103	

Hooked turning tool, no. 263

Shank width mm	Shank height mm	L mm	w mm	P20	art.no.	€	P25 / P30	art.no.	€	K10 / K20	art.no.	€
10	10	140	3.0	5	302050 0202		1	302050 0203		5	302050 0221	
12	12	160	4.0	5	302050 0302		5	302050 0303		5	302050 0321	
16	16	180	5.0	5	302050 0402		5	302050 0403		5	302050 0421	
20	20	210	6.0	5	302050 0502		5	302050 0503		5	302050 0521	
25	25	250	8.0	2	302050 0602		2	302050 0603		2	302050 0621	
32	32	300	10.0	2	302050 0702		2	302050 0703		2	302050 0721	
					3103			3103			3103	



Internal thread turning tool, no. 283 - 60°

Shank width mm	Shank height mm	L mm	P20	art.no.	€	P25 / P30	art.no.	€	K10 / K20	art.no.	€
10	10	140	5	302060 0202		5	302060 0203		5	302060 0221	
12	12	160	5	302060 0302		5	302060 0303		5	302060 0321	
16	16	180	5	302060 0402		5	302060 0403		5	302060 0421	
20	20	210	5	302060 0502		5	302060 0503		5	302060 0521	
25	25	250	2	302060 0602		2	302060 0603		2	302060 0621	
				3103			3103			3103	



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ATORN Precision thread cutting

INFO

The threading inserts are clamped in the holder using Torx screws; you can use virtually all the tool holders available on the market.

Affordable thread turning for external and internal threads, especially on CNC processing machines.



Ground version

ATORN

Version ground on all sides with **highly accurate profile geometry**

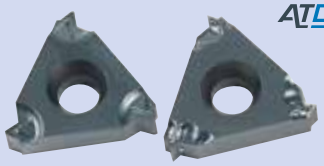
- Guaranteed quality due to complete control
- Maximum precision possible
- Chip breakers ground from solid material



Ground version with sintered chip breaker

ATORN

- Controlled chip breaking
- Longer service life



Threading inserts product range

	ATORN
Partial profiles, 60°	●
Partial profiles, 55°	●
ISO metric thread	●
UN full profile thread (Unified)	●
BSW British Standard Whitworth thread	●
NPT American standard taper pipe thread	●
Trapezoidal thread according to DIN 103	●
Round thread according to DIN 405	●
PG (DIN 40430) armoured pipe thread	●
Saw-tooth thread (DIN 513)	●
Type Z inserts, 4.1 mm, for Sandvik holders	●
Mini thread	●

Other threading inserts are available on request:

- ACME American trapezoidal thread
- Oil thread
  - API – round
  - API – V 0.040
  - API – V 0.038 R
  - API – V 0.050
- BSPT British tapered pipe thread
- NPTF
- STUB ACME
- UNJ
- Multiple thread ridge inserts

and thread based on drawings available on request

Multiple thread ridge inserts

available on request



Recess turning inserts

ISO standard thread turning holder can also be used with recess turning inserts for grooving!



Application areas of the available carbide qualities

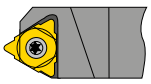
Quality	ISO	Application area
HC 5625 PVD TIN	P15-P35	For non-alloyed and alloyed steel at low to medium cutting speeds
HC 5615 PVD TIN	P10-P25 K10-K20	For machining non-alloyed, alloyed and stainless steels, super alloys, hardened steels, cast iron materials and non-ferrous metals at medium cutting speeds
HC 5630 PVD TIAlN	P20-P40 K20-K30	For machining non-alloyed, alloyed and stainless steels, super alloys, hardened steels and cast iron materials at medium to high cutting speeds
HC 5640 PVD TIN	P30-P50 K25-K40	For non-alloyed and alloyed steels at low cutting speeds, particularly suitable for stainless steels
HC 5620 PVD	M10-M20 K05-K20 N10-N20 S10-S20	For stainless steel, cast iron, titanium, non-ferrous metals and high-temperature alloys
HC 5110 PVD	H01-H20	For hardened steels, cast iron, super alloys up to 62 HRc

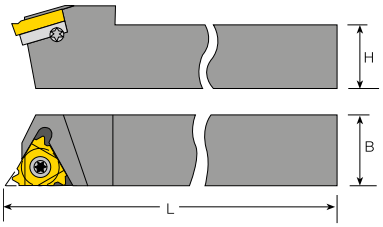
DIN ISO partial profile, 60° and 55° Page 970
DIN ISO full profile, metric Page 971
DIN ISO full profile, metric high-performance coating Page 975
DIN ISO full profile UN, BSW Page 975
DIN ISO round, trapezoidal Page 977
DIN ISO mini thread Page 981
Recess turning inserts Page 984

ATORN Tool holder

- **External thread**
- **Note:** All tool holders are manufactured with a pitch angle of 1.5°. Other pitch angles are specified in the pitch angle table in the technical part of the catalogue.
- * = tool holder without spacers
- ** = available with clamping claw on request







Standard type

External thread

- A = indexable cutting insert size

Designation	Width mm	Height mm	L mm	A						Right art.no.	€	Left art.no.	€
SER 10 10 H11	10	10	100	11	A1				E1	340101 0002			
SEL 10 10 H11	10	10	100	11	A1				E1			340110 0002	
SER 12 12 F16	12	12	80	16	A2	B1	C1		E2	340101 0011			
SEL 12 12 F16	12	12	80	16	A2	B1		D1	E2			340110 0011	
SER 16 16 H16	16	16	100	16	A2	B1	C1		E2	340101 0012			
SEL 16 16 H16	16	16	100	16	A2	B1		D1	E2			340110 0012	
SER 20 20 K16	20	20	125	16	A2	B1	C1		E2	340101 0013			
SEL 20 20 K16	20	20	125	16	A2	B1		D1	E2			340110 0013	
SER 25 25 M16	25	25	150	16	A2	B1	C1		E2	340101 0014			
SEL 25 25 M16	25	25	150	16	A2	B1		D1	E2			340110 0014	
SER 25 25 M22	25	25	150	22	A3	B2	C2		E3	340101 0021			
SEL 25 25 M22	25	25	150	22	A3	B2		D2	E3			340110 0021	
SER 32 32 P22	32	32	170	22	A3	B2	C2		E3	340101 0022			
SEL 32 32 P22	32	32	170	22	A3	B2		D2	E3			340110 0022	
SER 32 32 P22U	32	32	170	22U	A3	B2	C3		E3	340101 0031			
SEL 32 32 P22U	32	32	170	22U	A3	B2		D3	E3			340110 0031	
SER 25 25 M27	25	25	150	27	A4	B3	C4		E4	340101 0041			
SEL 25 25 M27	25	25	150	27	A4	B3		D4	E4			340110 0041	
SER 32 32 P27	32	32	170	27	A4	B3	C4		E4	340101 0042			
SEL 32 32 P27	32	32	170	27	A4	B3		D4	E4			340110 0042	
SER 32 32 P27U	32	32	170	27U	A4	B3	C5		E4	340101 0051			
SEL 32 32 P27U	32	32	170	27U	A4	B3		D5	E4			340110 0051	
										3112		3112	

Spare parts

Screw			Spacer screw			Spacer, external right-hand/internal left-hand			Spacer, external left-hand/internal right-hand			Wrench		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	341401 0001		B1	341410 0011		C1	341430 0011		D1	341430 0012		E1	705141 0008	
A2	341401 0011		B2	341410 0021		C2	341430 0021		D2	341430 0022		E2	705141 0010	
A3	341401 0021		B3	341410 0041		C3	341430 0031		D3	341430 0032		E3	705141 0020	
A4	341401 0041					C4	341430 0041		D4	341430 0042		E4	705141 0025	
	3116			3116		C5	341430 0051		D5	341430 0052			7114	
							3116			3116				

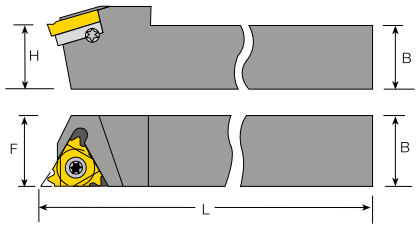


Tool holder with internal cooling

- **External thread**
- **With internal coolant supply**
- **Note:** All tool holders are manufactured with a pitch angle of 1.5°. Other pitch angles are specified in the pitch angle table in the technical part of the catalogue.

With internal cooling





Standard type

External thread

- A = indexable cutting insert size

ISO designation	Width mm	Height mm	L mm	A							Right art.no.	€	Left art.no.	€
DER 1616 H16	16	16	100	16	A1		C2	D1	E1	F2	340120 0001			
DEL 1616 H16	16	16	100	16		B1	C2	D1	E1	F1			340130 0001	
DER 2020 K16	20	20	125	16	A1		C2	D1	E1	F2	340120 0002			
DEL 2020 K16	20	20	125	16		B1	C2	D1	E1	F1			340130 0002	
DER 2525 M16	25	25	150	16	A1		C2	D1	E1	F2	340120 0003			
DEL 2525 M16	25	25	150	16		B1	C2	D1	E1	F1			340130 0003	
											3164		3164	

Spare parts

Spacer, external right-hand/internal left-hand			Spacer, external left-hand/internal right-hand			Screw			Spacer screw			Sealing ring set			Clamping claw with internal cooling		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	341450 0001		B1	341450 0002		C1	341450 0005		D1	341450 0006		E1	341450 0009		F1	341450 0010	
A2	341450 0003		B2	341450 0004		C2	341450 0008		D2	341450 0007					F2	341450 0011	
															F3	341450 0012	
															F4	341450 0013	
	3164			3164			3164			3164			3164			3164	

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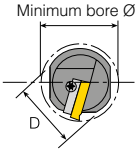
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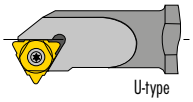
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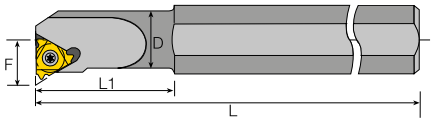
ATORN Boring bars

- **Female thread**
- **Note:** All boring bars are manufactured with a pitch angle of 1.5°. Other pitch angles are specified in the pitch angle table in the technical part of the catalogue
- * = boring bar without spacers
- ** = available with clamping claw on request






U-type

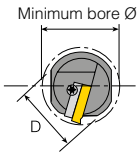


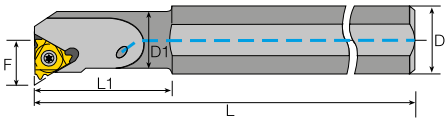
Standard type

Female thread

- A = indexable cutting insert size

Designation	D mm	D1 mm	D min. mm	L1 mm	L mm	f mm	A						Right art.no.	€	Left art.no.	€
SIR 0010 H11	10	10	12	-	100	7.4	11	A1				E1	340301 0001			
SIL 0010 H11	10	10	12	-	100	7.4	11	A1				E1			340310 0001	
SIR 0010 K11	10	16	12	25	125	7.4	11	A1				E1	340301 0002			
SIL 0010 K11	10	16	12	25	125	7.4	11	A1				E1			340310 0002	
SIR 0013 L11	13	16	15	32	140	8.9	11	A1				E1	340301 0003			
SIL 0013 L11	13	16	15	32	140	8.9	11	A1				E1			340310 0003	
SIR 0013 M16	13	16	16	32	150	10.2	16	A3				E2	340301 0011			
SIL 0013 M16	13	16	16	32	150	10.2	16	A3				E2			340310 0011	
SIR 0016 P16	16	20	19	40	170	11.7	16	A3				E2	340301 0012			
SIL 0016 P16	16	20	19	40	170	11.7	16	A3				E2			340310 0012	
SIR 0020 P16	20	20	24	-	170	13.7	16	A2	B1		D1	E2	340301 0013			
SIL 0020 P16	20	20	24	-	170	13.7	16	A2	B1	C1		E2			340310 0013	
SIR 0025 R16	25	25	29	-	200	16.2	16	A2	B1		D1	E2	340301 0014			
SIL 0025 R16	25	25	29	-	200	16.2	16	A2	B1	C1		E2			340310 0014	
SIR 0032 S16	32	32	36	-	250	19.7	16	A2	B1		D1	E2	340301 0015			
SIL 0032 S16	32	32	36	-	250	19.7	16	A2	B1	C1		E2			340310 0015	
SIR 0040 T16	40	40	44	-	300	23.7	16	A2	B1		D1	E2	340301 0016			
SIL 0040 T16	40	40	44	-	300	23.7	16	A2	B1	C1		E2			340310 0016	
SIR 0020 P22	20	20	24	-	170	15.6	22	A4				E3	340301 0021			
SIL 0020 P22	20	20	24	-	170	15.6	22	A4				E3			340310 0021	
SIR 0025 R22	25	25	29	-	200	18.1	22	A4	B2		D2	E3	340301 0022			
SIL 0025 R22	25	25	29	-	200	18.1	22	A4	B2	C2		E3			340310 0022	
SIR 0032 S22	32	32	38	-	250	21.6	22	A4	B2		D2	E3	340301 0023			
SIL 0032 S22	32	32	38	-	250	21.6	22	A4	B2	C2		E3			340310 0023	
SIR 0040 T22	40	40	46	-	300	25.6	22	A4	B2		D2	E3	340301 0024			
SIL 0040 T22	40	40	46	-	300	25.6	22	A4	B2	C2		E3			340310 0024	
SIR 0032 S22U	32	32	38.0	-	250	24.4	22U	A4	B2		D3	E3	340301 0031			
SIL 0032 S22U	32	32	38.0	-	250	24.4	22U	A4	B2	C3		E3			340310 0031	
SIR 0040 T22U	40	40	46.0	-	300	28.1	22U	A4	B2		D3	E3	340301 0032			
SIL 0040 T22U	40	40	46.0	-	300	28.1	22U	A4	B2	C3		E3			340310 0032	
SIR 0032 S27	32	32	40.0	-	250	22.6	27	A5	B3		D4	E4	340301 0041			
SIL 0032 S27	32	32	40.0	-	250	22.6	27	A5	B3	C4		E4			340310 0041	
SIR 0050 U27	50	50	58.0	-	350	31.6	27	A5	B3		D4	E4	340301 0043			
SIL 0050 U27	50	50	58.0	-	350	31.6	27	A5	B3	C4		E4			340310 0043	
SIR 0032 S27U	32	32	40.0	-	250	25.8	27U	A5	B3		D5	E4	340301 0051			
SIL 0032 S27U	32	32	40.0	-	250	25.8	27U	A5	B3	C5		E4			340310 0051	
SIR 0050 U27U	50	50	58.0	-	350	34.3	27U	A5	B3		D5	E4	340301 0053			
SIL 0050 U27U	50	50	58.0	-	350	34.3	27U	A5	B3	C5		E4			340310 0053	
													3112		3112	





Boring bars with internal coolant supply

- A = indexable cutting insert size

Designation	D mm	D1 mm	D min. mm	L1 mm	L mm	f mm	A						Right art.no.	€	Left art.no.	€
SIR 0010 K11B	10	16	12	25	125	7.4	11	A1				E1	340320 0002			
SIL 0010 K11B	10	16	12	25	125	7.4	11	A1				E1			340321 0002	
SIR 0013 M16B	13	16	16	32	150	10.2	16	A3				E2	340320 0011			
SIL 0013 M16B	13	16	16	32	150	10.2	16	A3				E2			340321 0011	
SIR 0016 P16B	16	20	19	40	170	11.7	16	A3				E2	340320 0012			
SIL 0016 P16B	16	20	19	40	170	11.7	16	A3				E2			340321 0012	
SIR 0020 P16B	20	20	24	-	170	13.7	16	A2	B1		D1	E2	340320 0013			
SIL 0020 P16B	20	20	24	-	170	13.7	16	A2	B1	C1		E2			340321 0013	
SIR 0025 R16B	25	25	29	-	200	16.2	16	A2	B1		D1	E2	340320 0014			
SIL 0025 R16B	25	25	29	-	200	16.2	16	A2	B1	C1		E2			340321 0014	
SIR0025 R22B	25	25	29	-	200	18.1	22	A4	B2		D2	E3	340320 0022			
SIL0025 R 22B	25	25	29	-	200	18.1	22	A4	B2	C2		E3			340321 0022	
													3112		3112	

Spare parts

Screw			Spacer screw			Spacer, external right-hand/internal left-hand			Spacer, external left-hand/internal right-hand			Wrench		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	341401 0001		B1	341410 0011		C1	341430 0011		D1	341430 0012		E1	705141 0008	
A2	341401 0011		B2	341410 0021		C2	341430 0021		D2	341430 0022		E2	705141 0010	
A3	341401 0016		B3	341410 0041		C3	341430 0031		D3	341430 0032		E3	705141 0020	
A4	341401 0021					C4	341430 0041		D4	341430 0042		E4	705141 0025	
A5	341401 0041					C5	341430 0051		D5	341430 0052				
3116			3116			3116			3116			7114		

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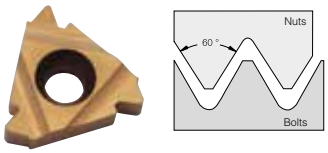
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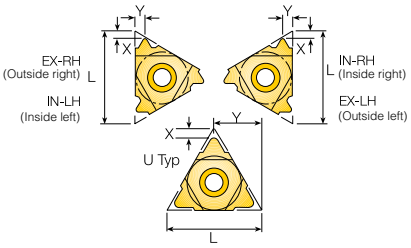
https://toolfinder.sartorius-werkzeuge.de/

ATORN Thread cutting inserts, partial profile, 60°

1102

- **Partial profile, 60°**
- **Inserts available in left-hand version on request**





Partial profile, 60° external right-hand, ground

Designation	L mm	Min./max. pitch	ISO P M K S H HC 5630		€	ISO P M K N HC 5615		€
				art.no.			art.no.	
11 ER A60	11	0.5-1.5 mm	10	342001 0127		10	342001 0135	
16 ER A60	16	0.5-1.5 mm	10	342001 0227		10	342001 0235	
16 ER G60	16	1.75-3.0 mm	10	342001 0327		10	342001 0335	
16 ER AG60	16	0.5-3.0 mm	10	342001 0427		10	342001 0435	
22 ER N60	22	3.5-5.0 mm	10	342001 0527		10	342001 0535	
22 UER/L U60	22U	5.5-8.0 mm	10	342001 0627		10	342001 0635	
				3113			3113	

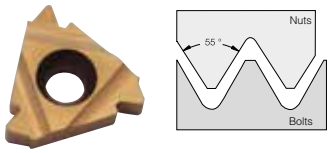
Partial profile, 60º internal right-hand, ground

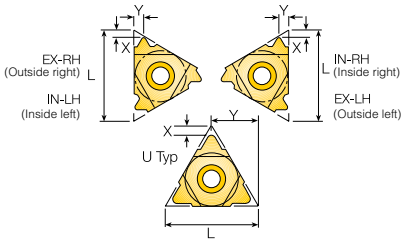
Designation	L mm	Min./max. pitch	ISO P M K S H HC 5630		€	ISO P M K N HC 5615		€
				art.no.			art.no.	
11 IR A60	11	0.5-1.5 mm	10	342201 0127		10	342201 0135	
16 IR A60	16	0.5-1.5 mm	10	342201 0227		10	342201 0235	
16 IR G60	16	1.75-3.0 mm	10	342201 0327		10	342201 0335	
16 IR AG60	16	0.5-3 mm	10	342201 0427		10	342201 0435	
22 IR N60	22	3.5-5.0 mm	10	342201 0527		10	342201 0535	
22U IR/L U60	22U	5.5-8.0 mm	10	342201 0627		10	342201 0635	
				3113			3113	

ATORN Thread cutting inserts, partial profile, 55°

1102

- **Partial profile, 55°**
- **Inserts available in left-hand version on request**





Partial profile, 55° external right-hand, ground

Designation	L mm	Min./max. number of thread starts per inch	ISO P M K S H HC 5630		€	ISO P M K N HC 5615		€
				art.no.			art.no.	
11 ER A55	11	48-16	10	342401 0127		10	342401 0135	
16 ER A55	16	48-16	10	342401 0227		10	342401 0235	
16 ER G55	16	14-8	10	342401 0327		10	342401 0335	
16 ER AG55	16	48-8	10	342401 0427		10	342401 0435	
22 ER N55	22	7-5	10	342401 0527		10	342401 0535	
22 UER U55	22U	4.5-3.25	10	342401 0627		10	342401 0635	
				3113			3113	

Partial profile, 55° internal right-hand, ground

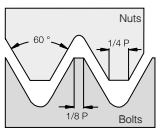
Designation	L mm	Min./max. number of thread starts per inch	ISO P M K S H HC 5630		€	ISO P M K N HC 5615		€
				art.no.			art.no.	
11 IR A55	11	48-16	10	342601 0127		10	342601 0135	
16 IR A55	16	48-16	10	342601 0227		10	342601 0235	
16 IR G55	16	14-8	10	342601 0327		10	342601 0335	
16 IR AG55	16	48-8	10	342601 0427		10	342601 0435	
22 IR N55	22	7-5	10	342601 0527		10	342601 0535	
22U IR U55	22U	4.5-3.25	10	342601 0627		10	342601 0635	
				3113			3113	

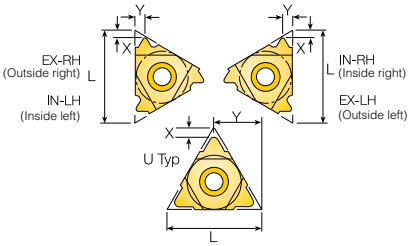
ATORN Thread cutting inserts, full profile, ISO, ER

1102

- **Metric, full profile, ISO**





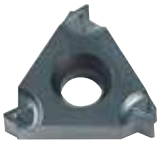


Full profile, ISO external right-hand, ground

Designation	L mm	Pitch mm	ISO P M K S H HC 5630		€	ISO P HC 5625		€	ISO P M K N HC 5615		€
				art.no.			art.no.			art.no.	
11 ER 0.35ISO	11	0.35				10	342801 0130		10	342801 0135	
11 ER 0.4ISO	11	0.4				10	342801 0230		10	342801 0235	
11 ER 0.45ISO	11	0.45				10	342801 0330		10	342801 0335	
11 ER 0.5ISO	11	0.5				10	342801 0430		10	342801 0435	
11 ER 0.6ISO	11	0.6				10	342801 0530		10	342801 0535	
11 ER 0.7ISO	11	0.7				10	342801 0630		10	342801 0635	
11 ER 0.75ISO	11	0.75				10	342801 0730		10	342801 0735	
11 ER 0.8ISO	11	0.8				10	342801 0830		10	342801 0835	
11 ER 1.0ISO	11	1				10	342801 0930		10	342801 0935	
11 ER 1.25ISO	11	1.25				10	342801 1030		10	342801 1035	
11 ER 1.5ISO	11	1.5				10	342801 1130		10	342801 1135	
11 ER 1.75ISO	11	1.75				10	342801 1230		10	342801 1235	
16 ER 0.35ISO	16	0.35				10	342801 1330		10	342801 1335	
16 ER 0.4ISO	16	0.4	10	342801 1427		10	342801 1430		10	342801 1435	
16 ER 0.45ISO	16	0.45				10	342801 1530		10	342801 1535	
16 ER 0.5ISO	16	0.5	10	342801 1627		10	342801 1630		10	342801 1635	
16 ER 0.6ISO	16	0.6				10	342801 1730		10	342801 1735	
16 ER 0.7ISO	16	0.7				10	342801 1830		10	342801 1835	
16 ER 0.75ISO	16	0.75	10	342801 1927		10	342801 1930		10	342801 1935	
16 ER 0.8ISO	16	0.8	10	342801 2027		10	342801 2030		10	342801 2035	
16 ER 1.0ISO	16	1	10	342801 2127		10	342801 2130		10	342801 2135	
16 ER 1.25ISO	16	1.25	10	342801 2227		10	342801 2230		10	342801 2235	
16 ER 1.5ISO	16	1.5	10	342801 2327		10	342801 2330		10	342801 2335	
16 ER 1.75ISO	16	1.75	10	342801 2427		10	342801 2430		10	342801 2435	
16 ER 2.0ISO	16	2	10	342801 2527		10	342801 2530		10	342801 2535	
16 ER 2.5ISO	16	2.5	10	342801 2627		10	342801 2630		10	342801 2635	
16 ER 3.0ISO	16	3	10	342801 2727		10	342801 2730		10	342801 2735	
16 ER 3.5ISO	16	3.5							10	342801 3735	
22 ER 3.5ISO	22	3.5	10	342801 2827		10	342801 2830		10	342801 2835	
22 ER 4.0ISO	22	4	10	342801 2927		10	342801 2930		10	342801 2935	
22 ER 4.5ISO	22	4.5	10	342801 3027		10	342801 3030		10	342801 3035	
22 ER 5.0ISO	22	5	10	342801 3127		10	342801 3130		10	342801 3135	
22 ER 5.5ISO	22	5.5							10	342801 3835	
22 ER 6.0ISO	22	6							10	342801 3935	
27 ER 5.5ISO	27	5.5				5	342801 3230		5	342801 3235	
27 ER 6.0ISO	27	6.0				5	342801 3330		5	342801 3335	
22U ER/L5.5ISO	22U	5.5				5	342801 3430		5	342801 3435	
22U ER/L6.0ISO	22U	6.0				5	342801 3530		5	342801 3535	
27U ER/L8.0ISO	27U	8.0				5	342801 3630		5	342801 3635	
				3113			3113			3113	

Full profile, ISO external right-hand, with chip breaker type B

Designation	L mm	Pitch mm	ISO P M K S H HC 5630		€
				art.no.	
16 ERB 1.0ISO	16	1	10	342802 2127	
16 ERB 1.25ISO	16	1.25	10	342802 2227	
16 ERB 1.5ISO	16	1.5	10	342802 2327	
16 ERB 1.75ISO	16	1.75	10	342802 2427	
16 ERB 2.0ISO	16	2	10	342802 2527	
16 ERB 2.5ISO	16	2.5	10	342802 2627	
16 ERB 3.0ISO	16	3	10	342802 2727	
				3113	



10 pcs set, ground profile, external right

Contents	HC 5630 art.no.	€
2 units 16 ER 1.0 ISO 2 units 16 ER 1.25 ISO 2 units 16 ER 1.5 ISO 2 units 16 ER 1.75 ISO 2 units 16 ER 2.0 ISO	342801 5016	
	3113	



10 pcs set, ground profile, external right with chip breaker B

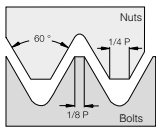
Contents	HC 5630 art.no.	€
2 units 16 ER B 1.0 ISO 2 units 16 ER B 1.25 ISO 2 units 16 ER B 1.5 ISO 2 units 16 ER B 1.75 ISO 2 units 16 ER B 2.0 ISO	342802 5016	
	3113	

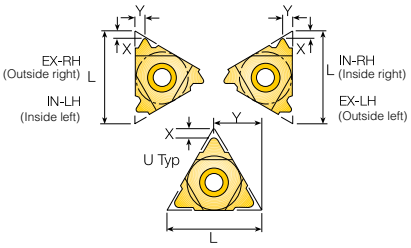
ATORN Thread cutting inserts, full profile, ISO, EL

Vc/fz 1102

- **Metric, ISO full profile**
- **Note:** Insert types 22 U and 27 U in pitches of 5.5-8.0 mm are identical to the right-hand version (see full profile ISO, ER)







Full profile, ISO external left-hand, ground

ISO P M K N

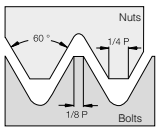
Designation	L mm	Pitch mm		HC 5615 art.no.	€
11 EL 0.35ISO	11	0.35	10	342810 0135	
11 EL 0.4ISO	11	0.4	10	342810 0235	
11 EL 0.45ISO	11	0.45	10	342810 0335	
11 EL 0.5ISO	11	0.5	10	342810 0435	
11 EL 0.6ISO	11	0.6	10	342810 0535	
11 EL 0.7ISO	11	0.7	10	342810 0635	
11 EL 0.75ISO	11	0.75	10	342810 0735	
11 EL1.0ISO	11	1	10	342810 0935	
11 EL 1.25ISO	11	1.25	10	342810 1035	
11 EL 1.5ISO	11	1.5	10	342810 1135	
11 EL 1.75ISO	11	1.75	10	342810 1235	
16 EL 0.35ISO	16	0.35	10	342810 1335	
16 EL 0.4ISO	16	0.4	10	342810 1435	
16 EL 0.45ISO	16	0.45	10	342810 1535	
16 EL 0.5ISO	16	0.5	10	342810 1635	
16 EL 0.6ISO	16	0.6	10	342810 1735	
16 EL 0.7ISO	16	0.7	10	342810 1835	
16 EL 0.75ISO	16	0.75	10	342810 1935	
16 EL 0.8ISO	16	0.8	10	342810 2035	
16 EL 1.0 ISO	16	1	10	342810 2135	
16 EL 1.25ISO	16	1.25	10	342810 2235	
16 EL 1.5ISO	16	1.5	10	342810 2335	
16 EL 1.75ISO	16	1.75	10	342810 2435	
16 EL 2.0ISO	16	2	10	342810 2535	
16 EL 2.5ISO	16	2.5	10	342810 2635	
16 EL 3.0ISO	16	3	10	342810 2735	
16 EL 3.5ISO	16	3.5	10	342810 3735	
22 EL 3.5ISO	22	3.5	10	342810 2835	
22 EL 4.0ISO	22	4	10	342810 2935	
22 EL 4.5ISO	22	4.5	10	342810 3035	
22 EL 5.0ISO	22	5	10	342810 3135	
22 EL 5.5ISO	22	5.5	10	342810 3835	
27 EL 5.5ISO	27	5.5	10	342810 3235	
22 EL 6.0ISO	22	6	10	342810 3935	
27 EL 6.0ISO	27	6	5	342810 3335	
				3113	

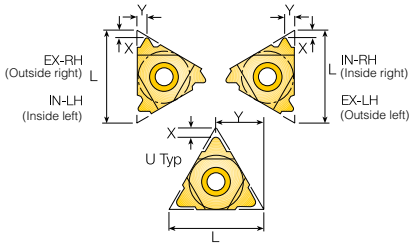
ATORN Thread cutting inserts, full profile, ISO, IR

1102

- **Metric, full profile, ISO**







Full profile, ISO internal right-hand, ground

Designation	L mm	Pitch mm	ISO P M K HC 5630			ISO P HC 5625			ISO P M K N HC 5615		
				art.no.	€		art.no.	€		art.no.	€
11 IR 0.35ISO	11	0.35				10	343001 0130		10	343001 0135	
11 IR 0.4ISO	11	0.4				10	343001 0230		10	343001 0235	
11 IR 0.45ISO	11	0.45				10	343001 0330		10	343001 0335	
11 IR 0.5ISO	11	0.5	10	343001 0427		10	343001 0430		10	343001 0435	
11 IR 0.6ISO	11	0.6				10	343001 0530		10	343001 0535	
11 IR 0.7ISO	11	0.7				10	343001 0630		10	343001 0635	
11 IR 0.75ISO	11	0.75	10	343001 0727		10	343001 0730		10	343001 0735	
11 IR 0.8ISO	11	0.8				10	343001 0830		10	343001 0835	
11 IR 1.0ISO	11	1	10	343001 0927		10	343001 0930		10	343001 0935	
11 IR 1.25ISO	11	1.25				10	343001 1030		10	343001 1035	
11 IR 1.5ISO	11	1.5	10	343001 1127		10	343001 1130		10	343001 1135	
11 IR 1.75ISO	11	1.75				10	343001 1230		10	343001 1235	
11 IR 2.0ISO	11	2	10	343001 4127					10	343001 4135	
16 IR 0.5ISO	16	0.5							10	343001 4035	
16 IR 0.6ISO	16	0.6				10	343001 1430		10	343001 1435	
16 IR 0.7ISO	16	0.7				10	343001 1530		10	343001 1535	
16 IR 0.75ISO	16	0.75				10	343001 1630		10	343001 1635	
16 IR 0.8ISO	16	0.8				10	343001 1730		10	343001 1735	
16 IR 1.0ISO	16	1	10	343001 1827		10	343001 1830		10	343001 1835	
16 IR 1.25ISO	16	1.25	10	343001 1927		10	343001 1930		10	343001 1935	
16 IR 1.5ISO	16	1.5	10	343001 2027		10	343001 2030		10	343001 2035	
16 IR 1.75ISO	16	1.75	10	343001 2127		10	343001 2130		10	343001 2135	
16 IR 2.0ISO	16	2	10	343001 2227		10	343001 2230		10	343001 2235	
16 IR 2.5ISO	16	2.5	10	343001 2327		10	343001 2330		10	343001 2335	
16 IR 3.0ISO	16	3	10	343001 2427		10	343001 2430		10	343001 2435	
16 IR 3.5ISO	16	3.5							10	343001 3435	
22 IR 3.5ISO	22	3.5	10	343001 2527		10	343001 2530		10	343001 2535	
22 IR 4.0ISO	22	4	10	343001 2627		10	343001 2630		10	343001 2635	
22 IR 4.5ISO	22	4.5				10	343001 2730		10	343001 2735	
22 IR 5.0ISO	22	5				10	343001 2830		10	343001 2835	
22 IR 5.5ISO	22	5.5							10	343001 3535	
22 IR 6.0ISO	22	6							10	343001 3635	
22U IR/L5.5ISO	22U	5.5				10	343001 3130		10	343001 3135	
22U IR/L6.0ISO	22U	6.0				10	343001 3230		10	343001 3235	
27 IR 5.5ISO	27	5.5				5	343001 2930		5	343001 2935	
27 IR 6.0ISO	27	6.0				5	343001 3030		5	343001 3035	
27U IR/L8.0ISO	27U	8.0				5	343001 3330		5	343001 3335	
				3113			3113			3113	

Full profile, ISO internal right-hand, ground, with chip breaker type B

Designation	L mm	Pitch mm	ISO P M K HC 5630		
				art.no.	€
16 IRB 1.0ISO	16	1	10	343002 1827	
16 IRB 1.25ISO	16	1.25	10	343002 1927	
16 IRB 1.5ISO	16	1.5	10	343002 2027	
16 IRB 1.75ISO	16	1.75	10	343002 2127	
16 IRB 2.0ISO	16	2	10	343002 2227	
16 IRB 2.5ISO	16	2.5	10	343002 2327	
16 IRB 3.0ISO	16	3	10	343002 2427	
				3113	



10 pcs set, ground profile, internal right

Contents	HC 5630 art.no.	€
2 units 16 IR 1.0 ISO 2 units 16 IR 1.25 ISO 2 units 16 IR 1.5 ISO 2 units 16 IR 1.75 ISO 2 units 16 IR 2.0 ISO	343001 5016	
	3113	

10 pcs set, ground profile, internal right with chip breaker B

Contents	HC 5630 art.no.	€
2 units 16 IR B 1.0 ISO 2 units 16 IR B 1.25 ISO 2 units 16 IR B 1.5 ISO 2 units 16 IR B 1.75 ISO 2 units 16 IR B 2.0 ISO	343002 5016	
	3113	

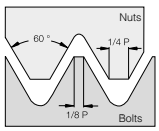


ATORN Thread cutting inserts, full profile, ISO, IL

Vc/fz 1102

- **Metric, ISO full profile**
- **Note:** Insert types 22 U and 27 U in pitches of 5.5-8.0 mm are identical to the right-hand version (see full profile ISO, IR)

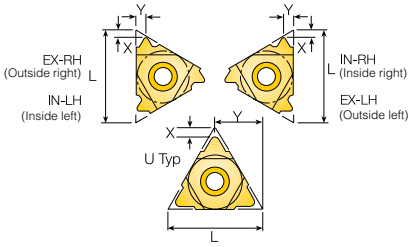




Full profile, ISO internal left-hand, ground

ISO P M K N

Designation	L mm	Pitch mm		HC5615 art.no.	€
11 IL 0.35ISO	11	0.35	10	343010 0135	
11 IL 0.4ISO	11	0.40	10	343010 0235	
11 IL 0.5ISO	11	0.5	10	343010 0435	
11 IL 0.7ISO	11	0.7	10	343010 0635	
11 IL 0.75ISO	11	0.75	10	343010 0735	
11 IL 0.8ISO	11	0.8	10	343010 0835	
11 IL 1.0ISO	11	1	10	343010 0935	
11 IL 1.25ISO	11	1.25	10	343010 1035	
11 IL 1.5ISO	11	1.5	10	343010 1135	
11 IL 1.75ISO	11	1.75	10	343010 1235	
11 IL 2.0ISO	11	2	10	343010 4135	
16 IL 0.35ISO	16	0.35	10	343010 1335	
16 IL 0.6ISO	16	0.6	10	343010 1435	
16 IL 0.75 ISO	16	0.75	10	343010 1635	
16 IL 0.8ISO	16	0.8	10	343010 1735	
16 IL 1.0 ISO	16	1	10	343010 1835	
16 IL 1.25ISO	16	1.25	10	343010 1935	
16 IL 1.5ISO	16	1.5	10	343010 2035	
16 IL 1.75ISO	16	1.75	10	343010 2135	
16 IL 2.0ISO	16	2	10	343010 2235	
16 IL 2.5ISO	16	2.5	10	343010 2335	
16 IL 3.0ISO	16	3	10	343010 2435	
16 IL 3.5ISO	16	3.5	10	343010 3435	
22 IL 3.5ISO	22	3.5	10	343010 2535	
22 IL 4.0ISO	22	4	10	343010 2635	
22 IL 4.5ISO	22	4.5	10	343010 2735	
22 IL 5.0ISO	22	5	10	343010 2835	
22 IL 5.5ISO	22	5.5	10	343010 3535	
22 IL 6.0ISO	22	6	10	343010 3635	
27 IL 5.5ISO	27	5.5	5	343010 2935	
27 IL 6.0ISO	27	6.0	5	343010 3035	
				3113	

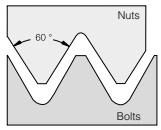


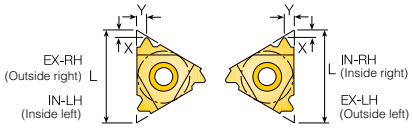
ATORN High-performance thread cutting inserts

1102

- **New high-performance coating for significantly higher cutting speeds**
- Full profile ISO ER
- Full profile IR available on request







Full profile, 60° external right-hand, ground

ISO P M K N S H

Designation	L mm	Pitch mm		HC 5620 art.no.	€
16 ER 1.0 ISO	16	1.0	10	342164 2145	
16 ER 1.25 ISO	16	1.25	10	342164 2245	
16 ER 1.5 ISO	16	1.5	10	342164 2345	
16 ER 1.75 ISO	16	1.75	10	342164 2445	
16 ER 2.0 ISO	16	2.0	10	342164 2545	
16 ER 3.0 ISO	16	3.0	10	342164 2745	

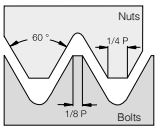
3113

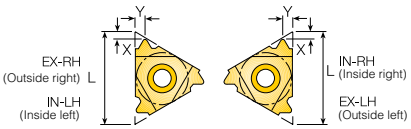
ATORN Thread cutting inserts, full profile, UN

1102

- **Full profile, UN**
- other insert sizes and pitches available on request, along with left-hand version







Full profile, UN external right-hand, ground

ISO P M K N

Designation	L mm	Pitch TPI		HC 5625 art.no.	€
16 ER 20UN	16	20	10	343201 2735	
16 ER 18UN	16	18	10	343201 2835	
16 ER 16UN	16	16	10	343201 2935	
16 ER 14UN	16	14	10	343201 3035	
16 ER 12UN	16	12	10	343201 3235	

3113

Full profile, UN internal right-hand, ground

ISO P M K N

Designation	L mm	Pitch TPI		HC 5615 art.no.	€
16 IR 20UN	16	20	10	343401 2735	
16 IR 18UN	16	18	10	343401 2835	
16 IR 14UN	16	14	10	343401 3035	
16 IR 12UN	16	12	10	343401 3235	

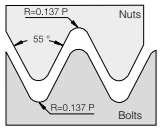
3113

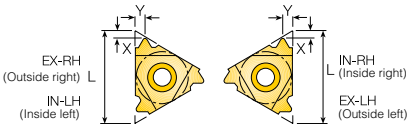
ATORN Thread cutting inserts, full profile, BSW

1102

- **Full profile, BSW**
- other insert sizes and pitches available on request, along with left-hand version







Full profile, BSW external right-hand, ground

Designation	L mm	Pitch	ISO P M K S H HC 5630			ISO P HC 5625			ISO P M K N HC 5615		
				art.no.	€		art.no.	€		art.no.	€
16 ER 28W	16	28	10	344401 2427		10	344401 2430		10	344401 2435	
16 ER 19W	16	19	10	344401 2927		10	344401 2930		10	344401 2935	
16 ER 14W	16	14	10	344401 3227		10	344401 3230		10	344401 3235	
16 ER 11W	16	11	10	344401 3427		10	344401 3430		10	344401 3435	
				3113			3113			3113	



Full profile, BSW internal right-hand, ground

Designation	L mm	Pitch	ISO P M K S H HC 5630			ISO P HC 5625			ISO P M K N HC 5615		
				art.no.	€		art.no.	€		art.no.	€
11 IR 19W	11	19	10	344601 1327		10	344601 1330		10	344601 1335	
11 IR 14W	11	14	10	344601 1627		10	344601 1630		10	344601 1635	
16 IR 28W	16	28	10	344601 2427		10	344601 2430		10	344601 2435	
16 IR 19W	16	19	10	344601 2927		10	344601 2930		10	344601 2935	
16 IR 14W	16	14	10	344601 3227		10	344601 3230		10	344601 3235	
16 IR 11W	16	11	10	344601 3427		10	344601 3430		10	344601 3435	
				3113			3113			3113	

Full profile, BSW external right-hand, ground, with chip breaker type B

Designation	L mm	Pitch	ISO P M K S H HC 5630		
				art.no.	€
16 ERB 19W	16	19	10	344402 2927	
16 ERB 14W	16	14	10	344402 3227	
16 ERB 11W	16	11	10	344402 3427	
				3113	



Full profile, BSW internal right-hand, ground, with chip breaker type B

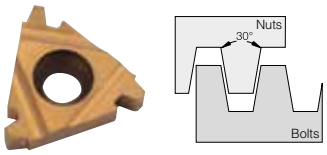
Designation	L mm	Pitch	ISO P M K S H HC 5630		
				art.no.	€
16 IRB 19W	16	19	10	344602 2927	
16 IRB 14W	16	14	10	344602 3227	
16 IRB 11W	16	11	10	344602 3427	
				3113	

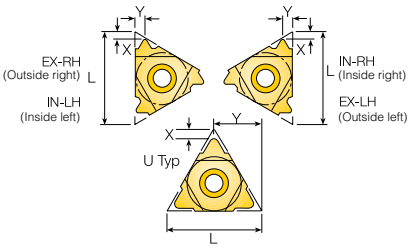


ATORN Thread cutting inserts, full profile, trapezoidal

1102

- **Full profile, trapezoidal, DIN 103**
- other insert sizes and pitches available on request, along with left-hand version





Full profile, trapezoidal external right-hand, ground

ISO P M K N

Designation	L mm	Pitch mm		HC 5615 art.no.	€
16 ER 2TR	16	2		343601 0235	
16 ER 3TR	16	3	10	343601 0335	
22 ER 4TR	22	4	10	343601 0435	
22 ER 5TR	22	5	10	343601 0535	
22 ER 6TR	22	6	10	343601 0935	
22 UER/L 6TR	22U	6	10	343601 0635	
22 UER/L 8TR	22U	8	10	343601 1035	
27 UER/L 8TR	27U	8	5	343601 0835	

3113

Full profile, trapezoidal internal right-hand, ground

ISO P M K N

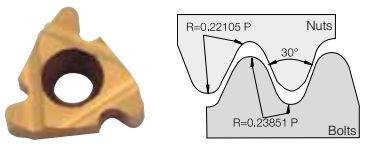
Designation	L mm	Pitch mm		HC 5615 art.no.	€
16 IR 2TR	16	2	10	343801 0235	
16 IR 3TR	16	3	10	343801 0335	
22 IR 4TR	22	4	10	343801 0435	
22 IR 5TR	22	5	10	343801 0535	
22 IR 6TR	22	6	10	343801 1035	
22 UIR/L 6TR	22U	6	10	343801 0635	
22 UIR/L 7TR	22U	7	10	343801 0735	
22 UIR/L 8TR	22U	8	10	343801 1135	

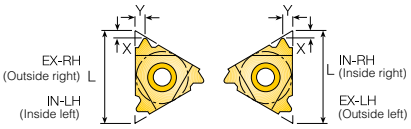
3113

ATORN Thread cutting inserts, full profile, round thread

1102

- **Full profile, round thread, DIN 405**
- other insert sizes and pitches available on request, along with left-hand version





Full profile, external right-hand, ground

ISO P M K N

Designation	L mm	Pitch TPI		HC 5615 art.no.	€
16 ER 10 RD	16	10	10	345601 0135	
16 ER 8 RD	16	8	10	345601 0235	
16 ER 6 RD	16	6	10	345601 0335	

3113

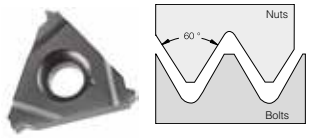
Full profile, internal right-hand, ground

Designation	L mm	Pitch TPI	ISO P HC 5625 art.no.	€	ISO P M K N HC 5615 art.no.	€
16 IR 8 RD	16	8	10 345801 0230		10 345801 0235	
16 IR 6 RD	16	6	10 345801 0330		10 345801 0335	
22 IR 6 RD	22	6	10 345801 0430		10 345801 0435	
22 IR 4 RD	22	4	10 345801 0530		10 345801 0535	
			3113		3113	

SARA® Threading inserts, partial profile 60°

1102

- **Partial profile, 60°**

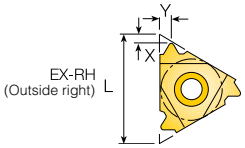


Partial profile, 60°, external right-hand

ISO K M N P S

ISO designation	l mm	Pitch mm		SPU20T art.no.	€
16 ER A60	16	0.5-1.5	2	342004 0142	
16 ER AG60	16	0.5-3.0	2	342004 0342	
16 ER G60	16	1.75-3.0	2	342004 0242	

3165

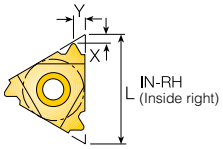


Partial profile, 60°, internal right-hand

ISO K M N P S

ISO designation	l mm	Pitch mm		SPU20T art.no.	€
16 IR A60	16	0.5-1.5	2	342204 0142	
16 IR AG60	16	0.5-3.0	2	342204 0342	
16 IR G60	16	1.75-3.0	2	342204 0242	

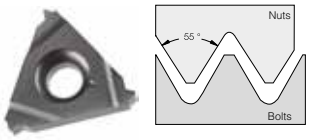
3165



SARA® Threading inserts, partial profile 55°

1102

- **Partial profile, 55°**

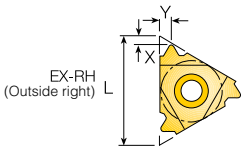


Partial profile, 55°, external right-hand

ISO K M N P S

ISO designation	l mm	Pitch TPI		SPU20T art.no.	€
16 ER A55	16	48-16	2	342402 0142	
16 ER AG55	16	48-8	2	342402 0342	
16 ER G55	16	14-8	2	342402 0242	

3165

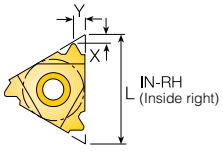


Partial profile, 55°, internal right-hand

ISO K M N P S

ISO designation	l mm	Pitch TPI		SPU20T art.no.	€
16 IR A55	16	48-16	2	342602 0142	
16 IR A55	16	48-8	2	342602 0342	
16 IR G55	16	14-8	2	342602 0242	

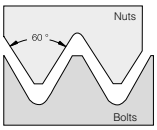
3165



SARA® Threading inserts, full profile 60°

1102

- **Full profile 60°**

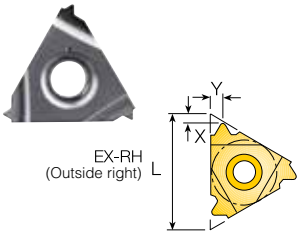


Full profile, ISO external right-hand, ground

ISO K M N P S

ISO designation	l mm	Pitch mm		SPU20T art.no.	€
16 ER 0.5 ISO	16	0.5	2	342803 0142	
16 ER 0.75 ISO	16	0.75	2	342803 0242	
16 ER 0.8 ISO	16	0.8	2	342803 0342	
16 ER 1.0 ISO	16	1.0	2	342803 0442	
16 ER 1.25 ISO	16	1.25	2	342803 0542	
16 ER 1.5 ISO	16	1.5	2	342803 0642	
16 ER 1.75 ISO	16	1.75	2	342803 0742	
16 ER 2.0 ISO	16	2.0	2	342803 0842	
16 ER 2.5 ISO	16	2.5	2	342803 0942	
16 ER 3.0 ISO	16	3.0	2	342803 1042	

3165

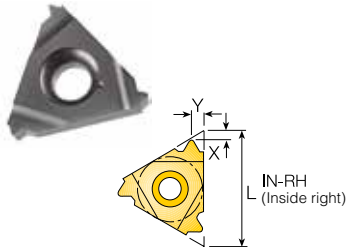


Full profile, ISO, ground on inner right

ISO K M N P S

ISO designation	l mm	Pitch mm		SPU20T art.no.	€
16 IR 1.0 ISO	16	1.0	2	343003 0142	
16 IR 1.25 ISO	16	1.25	2	343003 0242	
16 IR 1.5 ISO	16	1.5	2	343003 0342	
16 IR 1.75 ISO	16	1.75	2	343003 0442	
16 IR 2.0 ISO	16	2.0	2	343003 0542	
16 IR 2.5 ISO	16	2.5	2	343003 0642	
16 IR 3.0 ISO	16	3.0	2	343003 0742	

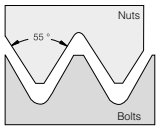
3165



SARA® Threading inserts, full profile 55°

1102

- **Full profile 55°**

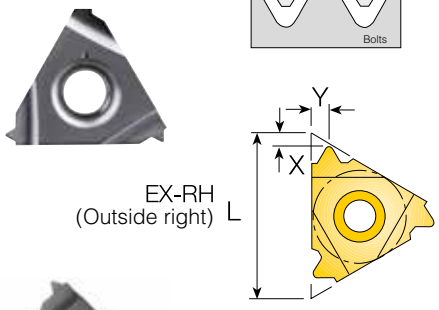


Full profile, 55° external right-hand, ground

ISO K M N P S

ISO designation	l mm	Pitch TPI		SPU20T art.no.	€
16 ER 11W	16	11	2	344403 0342	
16 ER 14W	16	14	2	344403 0242	
16 ER 19W	16	19	2	344403 0142	

3165

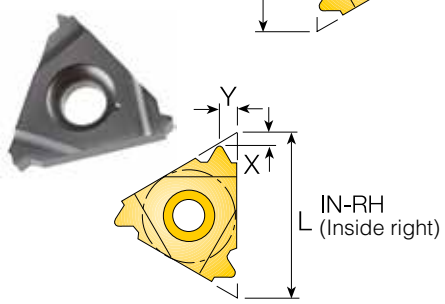


Full profile, 55º internal right-hand, ground

ISO K M N P S

ISO designation	l mm	Pitch TPI		SPU20T art.no.	€
16 IR 11W	16	11	2	344604 0342	
16 IR 14W	16	14	2	344604 0242	
16 IR 19W	16	19	2	344604 0142	

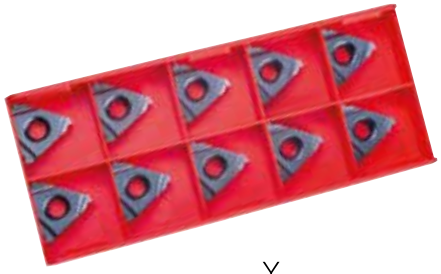
3165



SARA® Threading inserts sets

Vc/fz **1102**

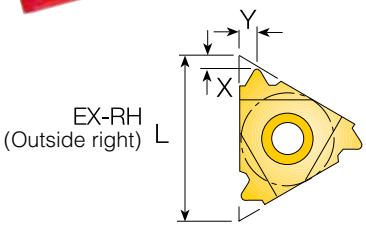
- Common threading inserts 55°/60°
- for external/internal threads



10-part set, 55°/60°, ground profile, external right

ISO K M N P S

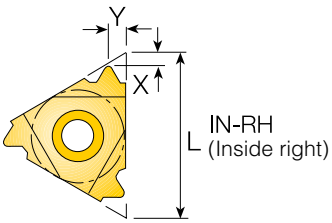
Quality	Contents	l mm	SPU20T art.no.	€
SPU20T	1 threading insert each quality SPU20T: 16ER 1.0 ISO 16ER 1.25 ISO 16ER 1.5 ISO 16ER 1.75 ISO 16ER 2.0 ISO 16ER 2.5 ISO 16ER 3.0 ISO 16ER 19W 16ER 14W 16ER 11W	16	342804 0001	3165



10-part set, 55°/60°, ground profile, internal right

ISO K M N P S

Quality	Contents	l mm	SPU20T art.no.	€
SPU20T	1 threading insert each quality SPU20T: 16IR 1.0 ISO 16IR 1.25 ISO 16IR 1.5 ISO 16IR 1.75 ISO 16IR 2.0 ISO 16IR 2.5 ISO 16IR 3.0 ISO 16IR 19W 16IR 14W 16IR 11W	16	343004 0001	3165



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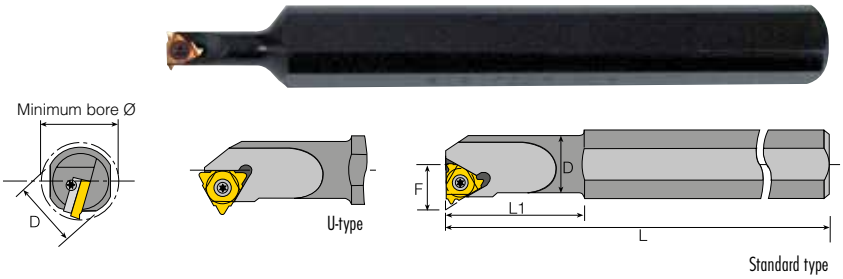
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ATORN MINI boring bar

1102

- **Female thread**
- **Note:** The boring bars are used without spacers.
- Especially suited to preventing vibration in applications with long projections and small bore diameters.



Boring bars

Designation	D mm	D1 mm	L mm	L1 mm	l mm	D min. mm	Right art.no.	€
SIR 0005 H06	12	5.1	100	12	6	6.0	340901 0001	
SIR 0007 K08	16	6.6	125	18	8	7.8	340901 0002	
SIR 0008 K08U	16	7.3	125	21	8U	9.0	340901 0003	
							3112	

Solid carbide boring bars with internal coolant supply

Designation	D mm	D1 mm	L mm	L1 mm	l mm	D min. mm	Right art.no.	€
SIR 0005 H06CB	6	5.1	100	26	6	6.0	340901 0011	
SIR 0007 K08CB	8	6.6	125	31	8	7.8	340901 0012	
SIR 0008 K08UCB	8	7.3	125	35	8U	9.0	340901 0013	
							3112	

Spare parts

	Screw art.no.	€
A1	341401 0051	
A2	341401 0061	
	3116	

	TORX art.no.	€
B1	703053 0060	
B2	703053 0080	
	7114	

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ATORN Thread cutting inserts MINI

1102

- **Female thread for bores from 6 mm in diameter**
- Amazing combination of Mini thread cutting inserts and coatings
- Specially developed for low speeds
- Successfully replace conventional taps
- Left-hand version available on request

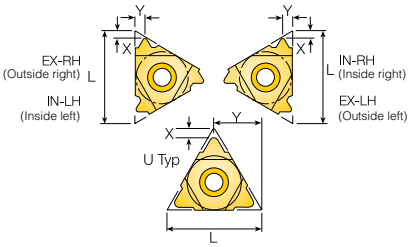


Partial profile, 60° and 55° internal right-hand, ground

ISO P M K S

Designation	L mm	Pitch TPI	Pitch mm		HC 5640 art.no.	€
06 IR A60	6		0.5 - 1.25	10	347001 0125	
08 IR A60	8		0.5 - 1.5	10	347001 0225	
08 U IR/L U60	8U		1.75 - 2.0	10	347001 0325	
06 IR A55	6	48-20		10	347001 1125	
08 IR A55	8	48-16		10	347001 1225	
08 U IR/L U55	8U	14-11		10	347001 1325	

3113

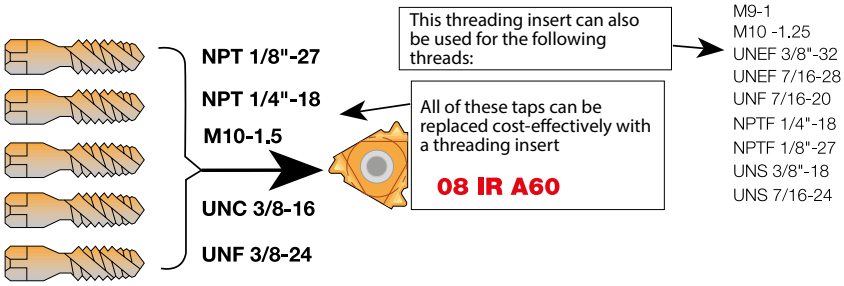


Full profile, ISO metric internal right-hand, ground

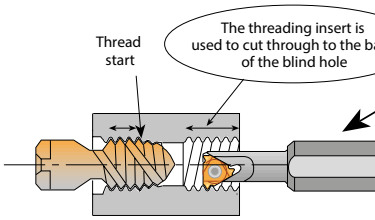
ISO P M K S

Designation	L mm	Pitch mm		HC 5640 art.no.	€
06 IR 0.5ISO	6	0.5	10	347201 0125	
06 IR 0.75ISO	6	0.75	10	347201 0225	
06 IR 1.0ISO	6	1.0	10	347201 0325	
06 IR 1.25ISO	6	1.25	10	347201 0425	
08 IR 0.5ISO	8	0.5	10	347201 0525	
08 IR 0.75ISO	8	0.75	10	347201 0625	
08 IR 1.0ISO	8	1.0	10	347201 0725	
08 IR 1.25ISO	8	1.25	10	347201 0825	
08 IR 1.5ISO	8	1.5	10	347201 0925	
08 IR 1.75ISO	8	1.75	10	347201 1025	
08 U IR/L 2.0ISO	8U	2.0	10	347201 1125	

3113



Advantages:



- Better surface
- Better cutting geometry
- Better tolerances
- More flexibility in use with different materials
- Low machine power required
- No welding possible



ATORN Thread cutting set

1102

- Common thread cutting inserts plus tool holder or boring bar
- For external/female threads



External

Contents	art.no.	€
1 threading insert each quality HC 5625: 16ER A60 16ER G60 16ER 0.75 ISO 16ER 1.0 ISO 16ER 1.25 ISO 16ER 1.5 ISO 16ER 1.75 ISO 16ER 2.0 ISO 16ER 2.5 ISO 16ER 3.0 ISO 1 clamp mounting SER 2020 K16 1 TORX key 1 screw	348001 0130	
	3112	

Internal

Contents	art.no.	€
1 threading insert each quality HC 5625: 16IR A60 16IR G60 16IR 0.75 ISO 16IR 1.0 ISO 16IR 1.25 ISO 16IR 1.5 ISO 16IR 1.75 ISO 16IR 2.0 ISO 16IR 2.5 ISO 16IR 3.0 ISO 1 boring bar SIR 0020 P 16 1 TORX key 1 screw	348501 0130	
	3112	

ATORN Spacer set

- Spacers with different pitch angles
- **Type AE** for use in external RH/internal LH holders
- **Type AI** for use in external LH/internal RH holders



Contents	art.no.	€
AE16: +4.5 / +3.5 / +2.5 / +0.5 / -1.5 AI16: +4.5 / +3.5 / +2.5 /+0.5 / -1.5	341430 1600	
AE22: +4.5 / +3.5 / +2.5 / +0.5 / -1.5 AI22: +4.5 / +3.5 / +2.5 /+0.5 / -1.5	341430 2200	
AE22U: +4.5 / +3.5 / +2.5 / +0.5 / -1.5 AI22U: +4.5 / +3.5 / +2.5 /+0.5 / -1.5	341430 2250	
AE27: +4.5 / +2.5 / -1.5 AI27: +4.5 / +2.5 / -1.5	341430 2700	
AE27U: +4.5 / +2.5 / -1.5 AI27U: +4.5 / +2.5 / -1.5	341430 2750	
	3116	

ATORN Grooving inserts

1102

- **For use on thread cutting holders**
- Low tool costs, since existing holders can be used
- One tool holder for grooving and thread cutting
- Three cutting edges, precision-ground
- HC 5640 coated
- **Supplied without spacer (spacer set), please order separately!**
- **Boring bars with insert size 16 without spacer cannot be used.**



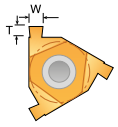
Inserts suitable for holder types SER..16 and SIL..16

ISO P M K N

ISO designation	W mm	T max. mm		HC 5640 art.no.	€
16ER/IL 1.0	1.0	1.4	5	349050 1025	
16ER/IL 1.2	1.2	1.6	5	349050 1225	
16ER/IL 1.4	1.4	1.8	5	349050 1425	
16ER/IL 1.7	1.7	2.0	5	349050 1725	
16ER/IL 1.95	1.95	2.0	5	349050 1925	
16ER/IL 2.25	2.25	2.25	5	349050 2225	

3113





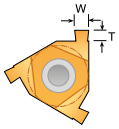
Inserts suitable for holder types SIR..16 and SEL..16

ISO P M K N

ISO designation	W mm	T max. mm		HC 5640 art.no.	€
16IR/EL 1.0	1.0	1.4	5	349055 1025	
16IR/EL 1.2	1.2	1.6	5	349055 1225	
16IR/EL 1.4	1.4	1.8	5	349055 1425	
16IR/EL 1.7	1.7	2.0	5	349055 1725	
16IR/EL 1.95	1.95	2.0	5	349055 1925	
16IR/EL 2.25	2.25	2.25	5	349055 2225	

3113





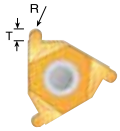
Radius inserts suitable for holder types SER..16 and SIL..16

ISO P M K N

ISO designation	R mm	T max. mm		HC 5640 art.no.	€
16ER/IL R 0.5	0.5	1.4	5	349052 0525	
16ER/IL R 0.6	0.6	1.6	5	349052 0625	
16ER/IL R 0.9	0.9	2.0	5	349052 0925	
16ER/IL R 1.0	1.0	2.0	5	349052 1025	
16ER/IL R 1.1	1.1	2.15	5	349052 1125	
16ER/IL R 1.2	1.2	2.25	5	349052 1225	

3113





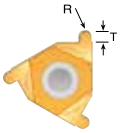
Radius inserts suitable for holder types SIR..16 and SEL..16

ISO P M K N

ISO designation	R mm	T max. mm		HC 5640 art.no.	€
16IR/EL R 0.5	0.5	1.4	5	349057 0525	
16IR/EL R 0.6	0.6	1.6	5	349057 0625	
16IR/EL R 0.9	0.9	2.0	5	349057 0925	
16IR/EL R 1.0	1.0	2.0	5	349057 1025	
16IR/EL R 1.1	1.1	2.15	5	349057 1125	
16IR/EL R 1.2	1.2	2.25	5	349057 1225	

3113





Insert sets suitable for holder types SER..16 and SIL..16

ISO P M K N

ISO designation	Contents	Depth mm	HC 5640 art.no.	€
16 (ER/IL) 1.00-2.25 SET	16 ER/IL 1.0 | 16 ER/IL 1.20 | 16 ER/IL 1.40 | 16 ER/IL 1.70 | 16 ER/IL 1.95 | 16 ER/IL 2.25 | spacer AE 16-0	1.4 | 1.6 | 1.8 | 2.0 | 2.0 | 2.25	349051 1601	
			3113	





Insert sets suitable for holder types SIR..16 and SEL..16

ISO P M K N

ISO designation	Contents	Depth mm	HC 5640 art.no.	€
16 (IR/EL) 1.00-2.25 SET	16 IR/EL 1.0 | 16 IR/EL 1.20 | 16 IR/EL 1.40 | 16 IR/EL 1.70 | 16 IR/EL 1.95 | 16IR/EL 2.25 | spacer Al 16-0	1.4 | 1.6 | 1.8 | 2.0 | 2.0 | 2.25	349056 1601	
			3113	



Spacers for grooving inserts

Suitable for holder	A	Designation	art.no.	€
EL/IR	16	Al 16-0	349060 1620	
ER/IL	16	AE 16-0	349060 1610	
			3113	



349060 1610 349060 1620

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- order measuring instruments including calibration
- available in real time
- in 8 languages





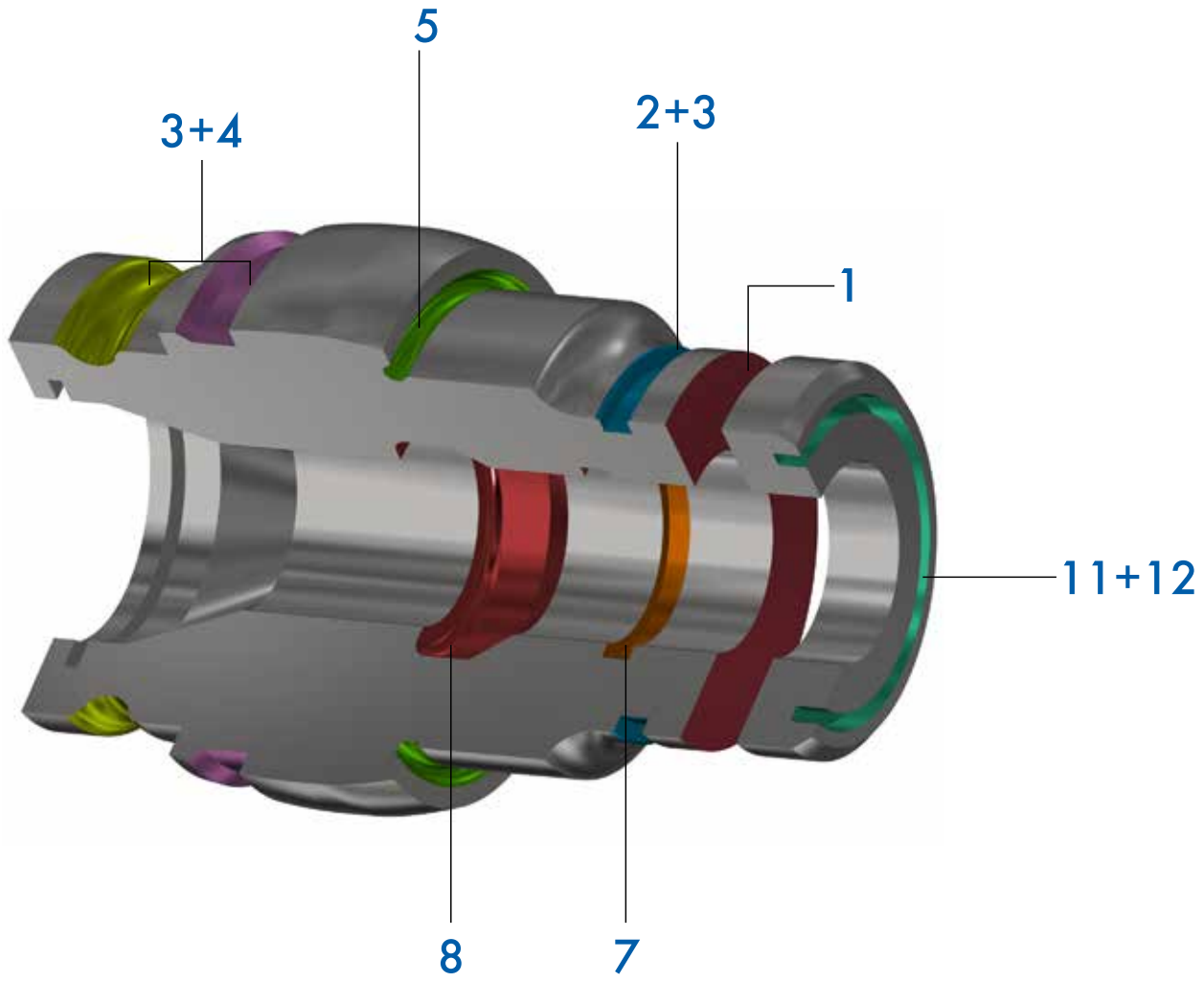
Register online now!

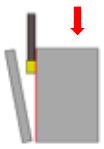
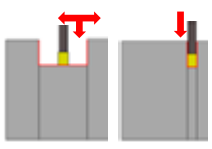
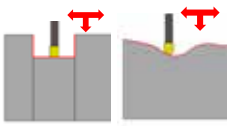
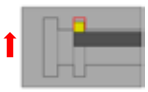
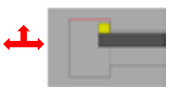
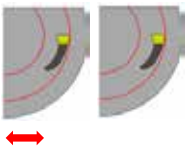
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ATORN Grooving system holder selection GROOVE

INFO

- Parting-off and grooving, recess turning and axial grooving



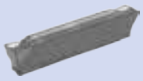
1	2+3	3+4	5	7	8	11+12
						
KS-998/1009	KS-999/1010	KS-999/1010	KS-1002	KS-1001	KS-1001	KS-1004

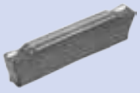
System AD / AE


Double-sided recessing insert AD neutral — from page 988

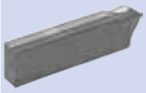

Double-sided recessing inserts AD radius — Page 990

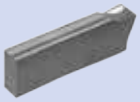

Double-sided recessing inserts AD circlip GROOVE — Page 991


Double-sided recessing inserts AD 6° right-hand — from page 991


Double-sided recessing inserts AD 6° left-hand — from page 993


Single-sided recessing inserts AE neutral — from page 994


Single-sided recessing inserts AE 6° right-hand — Page 996


Single-sided recessing inserts AE 6° left-hand — Page 997


Recessing blades AD / AE System — Page 998


Recessing blades AD / AE System With internal cooling — Page 998


Recess tool holder AD / AE System — Page 999


Boring bars — Page 1001


Clamp mounting Modular 0 °/45 °/90 ° AD / AE System — Page 1002


Cutting edge holder Modular radial AD / AE System — Page 1002

System ADA


Double-sided recessing inserts ADA axial — Page 1003


Clamp mounting axial ADA System — Page 1004


Clamp mounting Modular 0 °/45 °/90 ° AD / AE System — Page 1004


Cutting edge holder Modular axial ADA System — Page 1005

System ASS


Recessing inserts ASS — from page 1006


Radius recessing inserts ASS — Page 1008


Recessing blades ASS System — from page 1009


Clamp mounting ASS System — Page 1010

for all systems


Recessing blade holders — Page 1010


Wrench — Page 999/ 1009

ATORN Recessing inserts AD neutral GROOVE

- **The feed rates must be adjusted to the respective cutting edge width**
- Cutting edge accuracy W ± 0.02 mm
- AD = double-edged cutting insert **max. 24 mm punching depth**
- AE = single-edged cutting insert **punching depth can be extended up to 50 mm depending on blade overhang**

Chip breaker M - medium, universal

- For grooving
- Recessing insert with slightly negative edge rounding
- Suitable for almost all areas of application
- Main application area steel and cast iron

 ISO designation	W mm	R mm	T max. mm	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
AD 1.50-0.15 N-M	1.5	0.15	24	○	●			●		APM45G	10	388030 1545	
	1.5	0.15	24	●	●	●				APU40G	10	388030 1540	
AD 2.00-0.2 N-M	2	0.2	24	●	○	●				ACP20G	10	388000 2035	
	2	0.2	24	○	●			●		APM45G	10	388000 2045	
	2	0.2	24	●	●	●				APU40G	10	388000 2040	
AD 3.00-0.2 N-M	3	0.2	24	●	○	●				ACP20G	10	388000 3035	
	3	0.2	24	○	●			●		APM45G	10	388000 3045	
	3	0.2	24	●	●	●				APU40G	10	388000 3040	
AD 4.00-0.3 N-M	4	0.3	24	●	○	●				ACP20G	10	388000 4035	
	4	0.3	24	○	●			●		APM45G	10	388000 4045	
	4	0.3	24	●	●	●				APU40G	10	388000 4040	
AD 5.00-0.4 N-M	5	0.4	24	●	○	●				ACP20G	10	388000 5035	
	5	0.4	24	○	●			●		APM45G	10	388000 5045	
	5	0.4	24	●	●	●				APU40G	10	388000 5040	
AD 6.00-0.4 N-M	6	0.4	24	○	●			●		APM45G	10	388000 6045	
	6	0.4	24	●	●	●				APU40G	10	388000 6040	
AD 8.00-0.5 N-M	8	0.5	24	●	●	●				APU40G	10	388000 8040	

3139

ISO	ACP20G	APM45G	APU40G
ISO P steel	Vc = 50 - 240	Vc = 40 - 120	Vc = 50 - 240
ISO M stainless steel	Vc = 50 - 180	Vc = 60 - 180	Vc = 50 - 200
ISO K cast iron	Vc = 80 - 200		Vc = 80 - 200
ISO S superalloys		Vc = 15 - 120	
Vc = [m/min] f = [mm/U]	f = 0.05 - 0.15		f = 0.16 - 0.35

Chip breaker F - fine

- For grooving
- Excellent, very soft cutting geometry with very low cutting forces
- For materials with low minimum tensile strength
- Ideal for thin-walled components
- High cutting edge stability with ideal chip control even at low feed rates
- Low tendency to form built-up edges

 ISO designation	W mm	R mm	T max. mm	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
AD 2.00-0.2 N-F	2	0.2	24	●	●	●				APU40G	10	388006 2040	
	2	0.2	24	○	●			●		APM45G	10	388006 2045	
AD 3.00-0.2 N-F	3	0.2	24	●	●	●				APU40G	10	388006 3040	
	3	0.2	24	○	●			●		APM45G	10	388006 3045	
AD 4.00-0.3 N-F	4	0.3	24	●	●	●				APU40G	10	388006 4040	
	4	0.3	24	○	●			●		APM45G	10	388006 4045	

3139

ISO	APM45G	APU40G
ISO P steel	Vc = 40 - 120	Vc = 50 - 240
ISO M stainless steel	Vc = 60 - 180	Vc = 50 - 200
ISO K cast iron	Vc = 80 - 200	Vc = 80 - 200
ISO S superalloys	Vc = 15 - 120	
Vc = [m/min] f = [mm/U]	f = 0.03 - 0.1	f = 0.06 - 0.2

Chip breaker ET - extra

- For grooving
- Also for non-rusting materials
- "Problem-solver" for materials that are difficult to machine such as titanium or duplex
- Extremely soft cutting



ISO designation	W mm	R mm	T max. mm	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
AD 1.50-0.15 N-ET	1.5	0.15	24	●	●	●				APU40G	10	388031 1540	
	1.5	0.15	24	○	●			●		APM45G	10	388031 1545	
AD 2.00-0.2 N-ET	2	0.2	24	●	●	●				APU40G	10	388012 2040	
	2	0.2	24	○	●			●		APM45G	10	388012 2045	
AD 3.00-0.2 N-ET	3	0.2	24	●	●	●				APU40G	10	388012 3040	
	3	0.2	24	○	●			●		APM45G	10	388012 3045	
AD 4.00-0.3 N-ET	4	0.3	24	●	●	●				APU40G	10	388012 4040	
	4	0.3	24	○	●			●		APM45G	10	388012 4045	
AD 5.00-0.4 N-ET	5	0.4	24	●	○	●				ACP20G	10	388012 5035	
	5	0.4	24	●	●	●				APU40G	10	388012 5040	
AD 6.00-0.4 N-ET	6	0.4	24	●	○	●				ACP20G	10	388012 6035	
	6	0.4	24	●	●	●				APU40G	10	388012 6040	

ISO	ACP20G	APM45G	APU40G
ISO P steel	Vc = 50 - 240	Vc = 40 - 120	Vc = 50 - 240
ISO M stainless steel	Vc = 50 - 180	Vc = 60 - 180	Vc = 50 - 200
ISO K cast iron	Vc = 80 - 200		Vc = 80 - 200
ISO S superalloys		Vc = 15 - 120	
Vc = [m/min] f = [mm/U]	f = 0.12 - 0.24	f = 0.08 - 0.22	f = 0.05 - 0.15

3139

Chip breaker TR - turning

- For longitudinal turning and grooving
- Special chip breaker for parting-off and groove turning operations
- Outstanding chip control during longitudinal turning
- For all steel and stainless steel materials



ISO designation	W mm	R mm	T max. mm	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
AD 2.00-0.2 N-TR	2	0.2	24	●	●	●				APU40G	10	388024 2040	
	2	0.2	24	○	●			●		APM45G	10	388024 2045	
AD 3.00-0.2 N-TR	3	0.3	24	●	○	●				ACP20G	10	388024 3035	
	3	0.3	24	●	●	●				APU40G	10	388024 3040	
	3	0.3	24	○	●			●		APM45G	10	388024 3045	
AD 4.00-0.4 N-TR	4	0.4	24	●	○	●				ACP20G	10	388024 4035	
	4	0.4	24	●	●	●				APU40G	10	388024 4040	
	4	0.4	24	○	●			●		APM45G	10	388024 4045	
AD 5.00-0.4 N-TR	5	0.4	24	●	●	●				APU40G	10	388024 5040	
	5	0.4	24	○	●			●		APM45G	10	388024 5045	
AD 6.00-0.4 N-TR	6	0.4	24	●	●	●				APU40G	10	388024 6040	
	6	0.4	24	○	●			●		APM45G	10	388024 6045	

ISO	ACP20G	APM45G	APU40G
ISO P steel	Vc = 50 - 240	Vc = 40 - 120	Vc = 50 - 240
ISO M stainless steel	Vc = 50 - 180	Vc = 60 - 180	Vc = 50 - 200
ISO K cast iron	Vc = 80 - 200		Vc = 80 - 200
ISO S superalloys		Vc = 15 - 120	
Vc = [m/min] f = [mm/U]	f = 0.06 - 0.16		f = 0.14 - 0.26

3139

Chip breaker LC

- For longitudinal turning and grooving
- Cutting precision W +/- 0.02 mm



ISO designation	W mm	R mm	T max. mm	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
AD 2.00-0.2 N-LC	2	0.2	24				●			AWN15G	10	388018 2016	
AD 3.00-0.2 N-LC	3	0.2	24				●			AWN15G	10	388018 3016	
AD 4.00-0.3 N-LC	4	0.3	24				●			AWN15G	10	388018 4016	
AD 5.00-0.4 N-LC	5	0.4	24				●			AWN16G	10	388018 5016	
AD 6.00-0.5 N-LC	6	0.5	24				●			AWN16G	10	388018 6016	

ISO	AWN15G	AWN16G
ISO N Al/non-ferrous	Vc = 50 - 5000	
Vc = [m/min] f = [mm/U]	f = 0.05 - 0.2	f = 0.07 - 0.42

3139

ATORN Recessing inserts AD Radius GROOVE

- **The feed rates must be adjusted to the respective cutting edge width**
- Cutting edge accuracy W ± 0.02mm
- AD = double-edged cutting insert **max. 24 mm punching depth**

Chip breaker R - round

- For longitudinal turning and grooving
- Chip breaker for recess turning and ramping
- Rotating chip breaker for optimal chip control
- For all steel and stainless steel materials

 ISO designation	W mm	R mm	T max. mm	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
AD 2.00-1.0 R	2	1	24	●	●	●				APU40G	10	388025 2040	
	2	1	24	○	●			●		APM45G	10	388025 2045	
AD 3.00-1.5 R	3	1.5	24	●	○	●				ACP20G	10	388025 3035	
	3	1.5	24	●	●	●				APU40G	10	388025 3040	
	3	1.5	24	○	●			●		APM45G	10	388025 3045	
AD 4.00-2.0 R	4	2.0	24	●	○	●				ACP20G	10	388025 4035	
	4	2.0	24	●	●	●				APU40G	10	388025 4040	
	4	2.0	24	○	●			●		APM45G	10	388025 4045	
AD 5.00-2.5 R	5	2.5	24	●	●	●				APU40G	10	388025 5040	
	5	2.5	24	○	●			●		APM45G	10	388025 5045	
AD 6.00-3.0 R	6	3	24	●	●	●				APU40G	10	388025 6040	
	6	3	24	○	●			●		APM45G	10	388025 6045	

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ISO	ACP20G	APM45G	APU40G
ISO P steel	Vc = 50 - 240	Vc = 40 - 120	Vc = 50 - 240
ISO M stainless steel	Vc = 50 - 180	Vc = 60 - 180	Vc = 50 - 200
ISO K cast iron	Vc = 80 - 200		Vc = 80 - 200
ISO S superalloys		Vc = 15 - 120	
Vc = [m/min] f = [mm/U]	f = 0.08 - 0.3	f = 0.15 - 0.35	

Chip breaker RM - round

- For longitudinal turning and grooving
- Chip breaker for recess turning and ramping
- Rotating chip breaker for optimal chip control
- Special chip breaker for stainless materials

 ISO designation	W mm	R mm	T max. mm	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
AD 2.00-1.0 RM	2	1.0	24	●	●	●				APU40G	10	388032 2040	
AD 3.00-1.5 RM	3	1.5	24	●	●	●				APU40G	10	388032 3040	
AD 4.00-2.0 RM	4	2.0	24	●	●	●				APU40G	10	388032 4040	
AD 5.00-2.5 RM	5	2.5	24	●	●	●				APU40G	10	388032 5040	
AD 6.00-3.0 RM	6	3.0	24	●	●	●				APU40G	10	388032 6040	

3139

ISO	APU40G
ISO P steel	Vc = 50 - 240
ISO M stainless steel	Vc = 50 - 200
ISO K cast iron	Vc = 80 - 200
Vc = [m/min] f = [mm/U]	f = 0.15 - 0.35

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ATORN Recessing inserts AD circlip GROOVE

- **The feed rates must be adjusted to the respective cutting edge width**
- Cutting edge accuracy W ± 0.02 mm
- AD = two-flute cutting insert

Chip breaker M - medium, universal

- For grooving
- Recessing insert with slightly negative edge rounding
- Suitable for nearly all applications
- Main application area steel and cast iron

 ISO designation	W mm	R mm	T max. mm	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
AD 1.00-0.0 SR	1.00	0.00	1,5	●	●	●				**APU40G**	10	388026 1040	
AD 1.30-0.0 SR	1.30	0.00	1,5	●	●	●				**APU40G**	10	388026 1340	
AD 1.60-0.10 SR	1.60	0.1	2.0	●	●	●				**APU40G**	10	388026 1640	
AD 1.85-0.10 SR	1.85	0.1	3.0	●	●	●				**APU40G**	10	388026 1840	
AD 2.15-0.15 SR	2.15	0.15	3.0	●	●	●				**APU40G**	10	388026 2140	
AD 2.65-0.15 SR	2.65	0.15	5.0	●	●	●				**APU40G**	10	388026 2640	
AD 3.15-0.15 SR	3.15	0.15	5.0	●	●	●				**APU40G**	10	388026 3140	

3139

ISO	APU40G
ISO P steel	Vc = 50 - 240
ISO M stainless steel	Vc = 50 - 200
ISO K cast iron	Vc = 80 - 200
Vc = [m/min] f = [mm/U]	f = 0.15 - 0.35

ATORN Circlip GROOVE

INFO

Designation of circlip grooving insert	Suitable tool holder / suitable tool recessing blade
AD 1.00-00 SR APU40G (for SR groove as per DIN 471/472)	System AD 3.0
AD 1.30-0.0 SR APU40G (for SR groove as per DIN 471/472)	
AD 1.60-0.10 SR APU40G (for SR groove as per DIN 471/472)	System AD 4.0
AD 1.85-0.10 SR APU40G (for SR groove as per DIN 471/472)	
AD 2.15-0.15 SR APU40G (for SR groove as per DIN 471/472)	
AD 2.65-0.15 SR APU40G (for SR groove as per DIN 471/472)	System AD 5.0
AD 3.15-0.15 SR APU40G (for SR groove as per DIN 471/472)	

ATORN Recessing inserts AD right-hand GROOVE

- **The feed rates must be adjusted to the respective cutting edge width**
- Cutting edge accuracy W ± 0.02 mm
- AD = double-edged cutting insert **max. 24 mm punching depth**
- AE = single-edged cutting insert **punching depth can be extended up to 50 mm depending on blade overhang**
- Optional right 6°

Chip breaker M - medium, universal

- For grooving
- Recessing insert with slightly negative edge rounding
- Suitable for almost all areas of application
- Main application area steel and cast iron

 ISO designation	W mm	R mm	T max. mm	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
AD 2.00-0.15 R6-M	2	0.15	24	●	●	●				**APU40G**	10	388001 2040	
	2	0.15	24	○	●			●		**APM45G**	10	388001 2045	
AD 3.00-0.2 R6-M	3	0.2	24	●	●	●				**APU40G**	10	388001 3040	
	3	0.2	24	○	●			●		**APM45G**	10	388001 3045	
AD 4.00-0.3 R6-M	4	0.3	24	●	●	●				**APU40G**	10	388001 4040	
	4	0.3	24	○	●			●		**APM45G**	10	388001 4045	

3139

ISO	APM45G	APU40G
ISO P steel	Vc = 40 - 120	Vc = 50 - 240
ISO M stainless steel	Vc = 60 - 180	Vc = 50 - 200
ISO K cast iron		Vc = 80 - 200
ISO S superalloys	Vc = 15 - 120	
Vc = [m/min] f = [mm/U]	f = 0.05 - 0.15	

Chip breaker F - fine

- For grooving
- Excellent, very soft cutting geometry with very low cutting forces
- For materials with low minimum tensile strength
- Ideal for thin-walled components
- High cutting edge stability with ideal chip control even at low feed rates
- Low tendency to form built-up edges

 ISO designation	W mm	R mm	T max. mm	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
AD 2.00-0.2 R6-F	2	0.15	24	●	●	●				**APU40G**	10	388007 2040	
	2	0.15	24	○	●			●		**APM45G**	10	388007 2045	
AD 3.00-0.2 R6-F	3	0.2	24	●	●	●				**APU40G**	10	388007 3040	
	3	0.2	24	○	●			●		**APM45G**	10	388007 3045	
AD 4.00-0.3 R6-F	4	0.3	24	●	●	●				**APU40G**	10	388007 4040	
	4	0.3	24	○	●			●		**APM45G**	10	388007 4045	

3139

ISO	APM45G	APU40G
ISO P steel	Vc = 40 - 120	Vc = 50 - 240
ISO M stainless steel	Vc = 60 - 180	Vc = 50 - 200
ISO K cast iron		Vc = 80 - 200
ISO S superalloys	Vc = 15 - 120	
Vc = [m/min] f = [mm/U]	f = 0.03 - 0.1	

Chip breaker ET - extra

- For grooving
- Also for non-rusting materials
- "Problem-solver" for materials that are difficult to machine such as titanium or duplex
- Extremely soft cutting

 ISO designation	W mm	R mm	T max. mm	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
AD 2.00-0.2 R6-ET	2	0.2	24	●	●	●				**APU40G**	10	388013 2040	
	2	0.2	24	○	●			●		**APM45G**	10	388013 2045	
AD 3.00-0.2 R6-ET	3	0.2	24	●	●	●				**APU40G**	10	388013 3040	
	3	0.2	24	○	●			●		**APM45G**	10	388013 3045	
AD 4.00-0.3 R6-ET	4	0.3	24	●	●	●				**APU40G**	10	388013 4040	
	4	0.3	24	○	●			●		**APM45G**	10	388013 4045	

3139

ISO	APM45G	APU40G
ISO P steel	Vc = 40 - 120	Vc = 50 - 240
ISO M stainless steel	Vc = 60 - 180	Vc = 50 - 200
ISO K cast iron		Vc = 80 - 200
ISO S superalloys	Vc = 15 - 120	
Vc = [m/min] f = [mm/U]	f = 0.05 - 0.15	f = 0.08 - 0.2

Chip breaker TR - turning

- For longitudinal turning and grooving
- Special chip breaker for parting-off and recess turning
- Outstanding chip control for longitudinal turning
- For all steel and stainless steel materials

 ISO designation	W mm	R mm	T max. mm	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
AD 2.00-0.2 R6-TR	2	0.2	24	●	○	●				**ACP20G**	10	388067 2020	
	2	0.2	24	●	●	●				**APU40G**	10	388067 2040	
	2	0.2	24	○	●			●		**APM45G**	10	388067 2045	
AD 3.00-0.3 R6-TR	3	0.3	24	●	○	●				**ACP20G**	10	388067 3020	
	3	0.3	24	●	●	●				**APU40G**	10	388067 3040	
	3	0.3	24	○	●			●		**APM45G**	10	388067 3045	

3139

ISO	ACP20G	APM45G	APU40G
ISO P steel	Vc = 50 - 240	Vc = 40 - 120	Vc = 50 - 240
ISO M stainless steel	Vc = 50 - 180	Vc = 60 - 180	Vc = 50 - 200
ISO K cast iron	Vc = 80 - 200		Vc = 80 - 200
ISO S superalloys		Vc = 15 - 120	
Vc = [m/min] f = [mm/U]	f = 0.06 - 0.14		

ATORN Recessing inserts AD left-hand GROOVE

- **The feed rates must be adjusted to the respective cutting edge width**
- Cutting edge accuracy W ± 0.02 mm
- AD = double-edged cutting insert **max. 24 mm punching depth**
- AE = single-edged cutting insert **punching depth can be extended up to 50 mm depending on blade overhang**
- Optional left 6°

Chip breaker M - medium, universal

- For grooving
- Recessing insert with slightly negative edge rounding
- Suitable for almost all areas of application
- Main application area steel and cast iron



ISO designation	W mm	R mm	T max. mm	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
AD 2.00-0.2 L6-M	2	0.15	24	●	●	●				APU40G	10	388002 2040	
	2	0.15	24	○	●			●		APM45G	10	388002 2045	
AD 3.00-0.2 L6-M	3	0.2	24	●	●	●				APU40G	10	388002 3040	
	3	0.2	24	○	●			●		APM45G	10	388002 3045	
AD 4.00-0.3 L6-M	4	0.3	24	●	●	●				APU40G	10	388002 4040	
	4	0.3	24	○	●			●		APM45G	10	388002 4045	

3139

ISO	APM45G	APU40G
ISO P steel	Vc = 40 - 120	Vc = 50 - 240
ISO M stainless steel	Vc = 60 - 180	Vc = 50 - 200
ISO K cast iron		Vc = 80 - 200
ISO S superalloys	Vc = 15 - 120	
Vc = [m/min] f = [mm/U]	f = 0.05 - 0.15	

Chip breaker F - fine

- For grooving
- Excellent, very soft cutting geometry with very low cutting forces
- For materials with low minimum tensile strength
- Ideal for thin-walled components
- High cutting edge stability with ideal chip control even at low feed rates
- Low tendency to form built-up edges



ISO designation	W mm	R mm	T max. mm	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
AD 2.00-0.2 L6-F	2	0.15	24	●	●	●				APU40G	10	388008 2040	
	2	0.15	24	○	●			●		APM45G	10	388008 2045	
AD 3.00-0.2 L6-F	3	0.2	24	●	●	●				APU40G	10	388008 3040	
	3	0.2	24	○	●			●		APM45G	10	388008 3045	
AD 4.00-0.3 L6-F	4	0.3	24	●	●	●				APU40G	10	388008 4040	
	4	0.3	24	○	●			●		APM45G	10	388008 4045	

3139

ISO	APM45G	APU40G
ISO P steel	Vc = 40 - 120	Vc = 50 - 240
ISO M stainless steel	Vc = 60 - 180	Vc = 50 - 200
ISO K cast iron		Vc = 80 - 200
ISO S superalloys	Vc = 15 - 120	
Vc = [m/min] f = [mm/U]	f = 0.06 - 0.2	f = 0.03 - 0.1

Chip breaker ET - extra

- For grooving
- Also for non-rusting materials
- "Problem-solver" for materials that are difficult to machine such as titanium or duplex
- Extremely soft cutting



ISO designation	W mm	R mm	T max. mm	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
AD 2.00-0.2 L6-ET	2	0.2	24	●	●	●				APU40G	10	388014 2040	
	2	0.2	24	○	●			●		APM45G	10	388014 2045	
AD 3.00-0.2 L6-ET	3	0.2	24	●	●	●				APU40G	10	388014 3040	
	3	0.2	24	○	●			●		APM45G	10	388014 3045	
AD 4.00-0.3 L6-ET	4	0.3	24	●	●	●				APU40G	10	388014 4040	
	4	0.3	24	○	●			●		APM45G	10	388014 4045	

3139

ISO	APM45G	APU40G
ISO P steel	Vc = 40 - 120	Vc = 50 - 240
ISO M stainless steel	Vc = 60 - 180	Vc = 50 - 200
ISO K cast iron		Vc = 80 - 200
ISO S superalloys	Vc = 15 - 120	
Vc = [m/min] f = [mm/U]	f = 0.08 - 0.22	f = 0.05 - 0.15

Chip breaker TR - turning

- For longitudinal turning and grooving
- Special chip breaker for parting-off and recess turning
- Outstanding chip control for longitudinal turning
- For all steel and stainless steel materials

 ISO designation	W mm	R mm	T max. mm	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
AD 2.00-0.2 L6-TR	2	0.2	24	●	○	●				ACP20G	10 388066 2020	
	2	0.2	24	●	●	●				APU40G	10 388066 2040	
	2	0.2	24	○	●			●		APM45G	10 388066 2045	
AD 3.00-0.3 L6-TR												
	3	0.3	24	●	●	●				APU40G	10 388066 3040	
	3	0.3	24	○	●			●		APM45G	10 388066 3045	

3139

ISO	ACP20G	APM45G	APU40G
ISO P steel	Vc = 50 - 240	Vc = 40 - 120	Vc = 50 - 240
ISO M stainless steel	Vc = 50 - 180	Vc = 60 - 180	Vc = 50 - 200
ISO K cast iron	Vc = 80 - 200		Vc = 80 - 200
ISO S superalloys		Vc = 15 - 120	
Vc = [m/min] f = [mm/U]	f = 0.06 - 0.14		

ATORN Recessing inserts AE neutral GROOVE

- **The feed rates must be adjusted to the respective cutting edge width**
- Cutting edge accuracy W ± 0.02 mm
- AD = double-edged cutting insert **max. 24 mm punching depth**
- AE = single-edged cutting insert **punching depth can be extended up to 50 mm depending on blade overhang**

Chip breaker M - medium, universal

- For grooving
- Recessing insert with slightly negative edge rounding
- Suitable for almost all areas of application
- Main application area steel and cast iron

 ISO designation	W mm	R mm	T max. mm	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
AE 2.00-0.2 N-M												
	2	0.2	50	●	●	○				APU40G	10 388003 2040	
	2	0.2	50	○	●			●		APM45G	10 388003 2045	
AE 3.00-0.2 N-M												
	3	0.2	50	●	●	○				APU40G	10 388003 3040	
	3	0.2	50	○	●			●		APM45G	10 388003 3045	
AE 4.00-0.3 N-M												
	4	0.3	50	●	●	○				APU40G	10 388003 4040	
	4	0.3	50	○	●			●		APM45G	10 388003 4045	

3139

ISO	ACP20G	APM45G	APU40G
ISO P steel	Vc = 50 - 240	Vc = 40 - 120	Vc = 50 - 240
ISO M stainless steel	Vc = 50 - 180	Vc = 60 - 180	Vc = 50 - 200
ISO K cast iron	Vc = 80 - 200		Vc = 80 - 200
ISO S superalloys		Vc = 15 - 120	
Vc = [m/min] f = [mm/U]	f = 0.08 - 0.22	f = 0.05 - 0.15	

Chip breaker ET - extra

- For grooving
- Also for non-rusting materials
- "Problem-solver" for materials that are difficult to machine such as titanium or duplex
- Extremely soft cutting

 ISO designation	W mm	R mm	T max. mm	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
AE 2.00-0.2 N-ET	2	0.2	50	●	○	●				ACP20G	10 388015 2020	
	2	0.2	50	●	●	●				APU40G	10 388015 2040	
	2	0.2	50	○	●			●		APM45G	10 388015 2045	
AE 3.00-0.2 N-ET	3	0.2	50	●	○	●				ACP20G	10 388015 3020	
	3	0.2	50	●	●	●				APU40G	10 388015 3040	
	3	0.2	50	○	●			●		APM45G	10 388015 3045	
AE 4.00-0.3 N-ET												
	4	0.4	50	●	●	●				APU40G	10 388015 4040	
	4	0.4	50	○	●			●		APM45G	10 388015 4045	

3139

ISO	ACP20G	APM45G	APU40G
ISO P steel	Vc = 50 - 240	Vc = 50 - 240	Vc = 50 - 240
ISO M stainless steel	Vc = 50 - 180	Vc = 60 - 180	Vc = 50 - 200
ISO K cast iron	Vc = 80 - 200		Vc = 80 - 200
ISO S superalloys		Vc = 15 - 120	
Vc = [m/min] f = [mm/U]	f = 0.08 - 0.22	f = 0.05 - 0.15	f = 0.08 - 0.2

Chip breaker TR - turning

- For longitudinal turning and grooving
- Special chip breaker for parting-off and groove turning operations
- Outstanding chip control during longitudinal turning
- For all steel and stainless steel materials

 ISO designation	W mm	R mm	T max. mm	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
AE 2.00-0.2 N-TR	2	0.2	50	●	○	●				ACP20G	10	388068 2020	
	2	0.2	50	●	●	●				APU40G	10	388068 2040	
	2	0.2	50	○	●			●		APM45G	10	388068 2045	
AE 3.00-0.3 N-TR	3	0.3	50	●	○	●				ACP20G	10	388029 3020	
	3	0.3	50	●	●	●				APU40G	10	388029 3040	
	3	0.3	50	○	●			●		APM45G	10	388029 3045	
AE 4.00-0.4 N-TR	4	0.4	50	●	○	●				ACP20G	10	388029 4020	
	4	0.4	50	●	●	●				APU40G	10	388029 4040	
	4	0.4	50	○	●			●		APM45G	10	388029 4045	

3139

ISO	ACP20G	APM45G	APU40G
ISO P steel	Vc = 50 - 240	Vc = 40 - 120	Vc = 50 - 240
ISO M stainless steel	Vc = 50 - 180	Vc = 60 - 180	Vc = 50 - 200
ISO K cast iron	Vc = 80 - 200		Vc = 80 - 200
ISO S superalloys		Vc = 15 - 120	
Vc = [m/min] f = [mm/U]	f = 0.06 - 0.16		

Chip breaker LC

- For longitudinal turning and grooving
- Cutting precision W +/- 0.02 mm

 ISO designation	W mm	R mm	T max. mm	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
AE 2.00-0.2 N-LC	2	0.2	50				●			AWN15G	10	388021 2016	
AE 3.00-0.2 N-LC	3	0.2	50				●			AWN15G	10	388021 3016	
AE 4.00-0.3 N-LC	4	0.3	50				●			AWN15G	10	388021 4016	
AE 5.00-0.4 N-LC	5	0.4	50				●			AWN16G	10	388021 5016	
AE 6.00-0.5 N-LC	6	0.5	50				●			AWN16G	10	388021 6016	

3139

ISO	AWN15G	AWN16G
ISO N Al/non-ferrous	Vc = 200 - 2000	Vc = 50 - 5000
Vc = [m/min] f = [mm/U]	f = 0.05 - 0.2	f = 0.05 - 0.30

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ATORN Recessing inserts AE right-hand GROOVE

- **The feed rates must be adjusted to the respective cutting edge width**
- Cutting edge accuracy W ± 0.02 mm
- AD = double-edged cutting insert **max. 24 mm punching depth**
- AE = single-edged cutting insert **punching depth can be extended up to 50 mm depending on blade overhang**
- Optional right 6°

Chip breaker M - medium, universal

- For grooving
- Recessing insert with slightly negative edge rounding
- Suitable for almost all areas of application
- Main application area steel and cast iron

 ISO designation	W mm	R mm	T max. mm	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
AE 2.00-0.15 R6-M													
	2	0.15	50	○	●			●		APM45G	10	388004 2045	
AE 3.00-0.2 R6-M													
	3	0.2	50	●	●	●				APU40G	10	388004 3040	
	3	0.2	50	○	●			●		APM45G	10	388004 3045	

3139

ISO	ACP20G	APM45G	APU40G
ISO P steel	Vc = 50 - 240	Vc = 40 - 120	Vc = 50 - 240
ISO M stainless steel	Vc = 50 - 180	Vc = 60 - 180	Vc = 50 - 200
ISO K cast iron	Vc = 80 - 200		Vc = 80 - 200
ISO S superalloys		Vc = 15 - 120	
Vc = [m/min] f = [mm/U]	f = 0.05 - 0.15		f = 0.08 - 0.22

Chip breaker F - fine

- For grooving
- Excellent, very soft cutting geometry with very low cutting forces
- For materials with low minimum tensile strength
- Ideal for thin-walled components
- High cutting edge stability with ideal chip control even at low feed rates
- Low tendency to form built-up edges

 ISO designation	W mm	R mm	T max. mm	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
AE 2.00-0.15 R6-F													
	2	0.15	50	●	●	●				APU40G	10	388010 2040	
	2	0.15	50	○	●			●		APM45G	10	388010 2045	
AE 3.00-0.2 R6-F	3	0.2	50	●	○	●				ACP20G	10	388010 3020	

3139

ISO	ACP20G	APM45G	APU40G
ISO P steel	Vc = 50 - 240	Vc = 40 - 120	Vc = 50 - 240
ISO M stainless steel	Vc = 50 - 180	Vc = 60 - 180	Vc = 50 - 200
ISO K cast iron	Vc = 80 - 200		Vc = 80 - 200
ISO S superalloys		Vc = 15 - 120	
Vc = [m/min] f = [mm/U]	f = 0.03 - 0.1		

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ATORN Recessing inserts AE left-hand GROOVE

- **The feed rates must be adjusted to the respective cutting edge width**
- Cutting edge accuracy W ± 0.02 mm
- AD = double-edged cutting insert **max. 24 mm punching depth**
- AE = single-edged cutting insert **punching depth can be extended up to 50 mm depending on blade overhang**
- Optional left 6°

Chip breaker M - medium, universal

- For grooving
- Recessing insert with slightly negative edge rounding
- Suitable for almost all areas of application
- Main application area steel and cast iron

ISO designation	W mm	R mm	T max. mm	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
AE 2.00-0.15 L6-M	2	0.15	50	●	●	●				APU40G	10	388005 2040	
	2	0.15	50	○	●			●		APM45G	10	388005 2045	
AE 3.00-0.2 L6-M	3	0.2	50	●	●	●				APU40G	10	388005 3040	
	3	0.2	50	○	●			●		APM45G	10	388005 3045	

3139

ISO	APM45G	APU40G
ISO P steel	Vc = 40 - 120	Vc = 50 - 240
ISO M stainless steel	Vc = 60 - 180	Vc = 50 - 200
ISO K cast iron		Vc = 80 - 200
ISO S superalloys	Vc = 15 - 120	
Vc = [m/min] f = [mm/U]	f = 0.05 - 0.15	

Chip breaker F - fine

- For grooving
- Excellent, very soft cutting geometry with very low cutting forces
- For materials with low minimum tensile strength
- Ideal for thin-walled components
- High cutting edge stability with ideal chip control even at low feed rates
- Low tendency to form built-up edges

ISO designation	W mm	R mm	T max. mm	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
AE 2.00-0.15 L6-F	2	0.15	50	●	●	●				APU40G	10	388011 2040	
	2	0.15	50	○	●			●		APM45G	10	388011 2045	
AE 3.00-0.2 L6-F	3	0.2	50	●	○	●				ACP20G	10	388011 3020	

3139

ISO	ACP20G	APM45G	APU40G
ISO P steel	Vc = 50 - 240	Vc = 40 - 120	Vc = 50 - 240
ISO M stainless steel	Vc = 50 - 180	Vc = 60 - 180	Vc = 50 - 200
ISO K cast iron	Vc = 80 - 200		Vc = 80 - 200
ISO S superalloys		Vc = 15 - 120	
Vc = [m/min] f = [mm/U]	f = 0.05 - 0.15	f = 0.03 - 0.1	

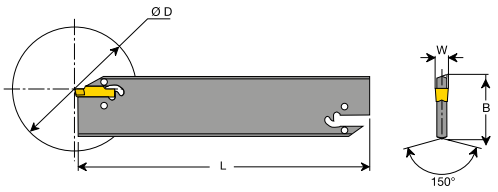
ISO designation recessing inserts (examples)

INFO

ISO designation	Punching width	Corner radius	Version	Setting angle	Chip breaker	Figure
AD 3.00-0.2-N-M	3.00 mm	0.2 mm	N = Neutral	0°	M	
AD 2.00-0.2-R6-ET	2.00 mm	0.2 mm	R = right-hand	6°	ET	
AD 4.00-0.3-L6-F	4.00 mm	0.3 mm	L = left-hand	6°	F	

ATORN Recessing blades GROOVE

- **for recessing inserts System AD / AE**
- for parting-off and deep grooving
- Supplied without chuck key





Recessing blade ABE right-hand / left-hand

ISO designation	Shank height mm	L mm	W mm	Suitable for	D max. mm	Right art.no.	€	Left art.no.	€
ABE R/L 26-ADE02	26	110	2.00	System AD/AE 2.0	42	356006 2602		356007 2602	
ABE R/L 32-ADE02	32	150	2.00	System AD/AE 2.0	42	356006 3202		356007 3202	
						3138		3138	



Recessing blade ABE neutral

ISO designation	Shank height mm	L mm	W mm	Suitable for	D max. mm	art.no.	€
ABE N 26-ADE02	26	110	2.00	System AD/AE 2.0	50	356005 2602	
ABE N 26-ADE03	26	110	3.00	System AD/AE 3.0	70	356005 2603	
ABE N 26-ADE04	26	110	4.00	System AD/AE 4.0	80	356005 2604	
ABE N 32-ADE02	32	150	2.00	System AD/AE 2.0	50	356005 3202	
ABE N 32-ADE03	32	150	3.00	System AD/AE 3.0	100	356005 3203	
ABE N 32-ADE04	32	150	4.00	System AD/AE 4.0	100	356005 3204	
ABE N 32-ADE05	32	150	5.00	System AD/AE 5.0	120	356005 3205	
ABE N 32-ADE06	32	150	6.00	System AD/AE 6.0	120	356005 3206	
						3138	



Recessing blade ABE R/L with internal cooling

ISO designation	Shank height mm	L mm	W mm	Suitable for	D max. mm			Right art.no.	€	Left art.no.	€
ABE-R/L 26-ADE02-C	26	110	2.00	System AD/AE 2.0	50	A1	B1	356008 2602		356009 2602	
ABE-R/L 32-ADE02-C	32	150	2.00	System AD/AE 2.0	50	A1	B1	356008 3202		356009 3202	
								3138		3138	



Recessing blade ABE with internal cooling

ISO designation	Shank height mm	L mm	W mm	Suitable for	D max. mm			art.no.	€
ABE N 26-ADE02-C	26	110	2.00	System AD/AE 2.0	50	A1	B1	356050 2602	
ABE N 26-ADE03-C	26	110	3.00	System AD/AE 3.0	70	A1	B1	356050 2603	
ABE-N 26-ADE04-C	26	110	4.00	System AD/AE 4.0	80	A1	B1	356050 2604	
ABE N 32-ADE02-C	32	150	2.00	System AD/AE 2.0	50	A1	B1	356050 3202	
ABE N 32-ADE03-C	32	150	3.00	System AD/AE 3.0	100	A1	B1	356050 3203	
ABE N 32-ADE04-C	32	150	4.00	System AD/AE 4.0	100	A1	B1	356050 3204	
ABE N 32-ADE05-C	32	150	5.00	System AD/AE 5.0	120	A1	B1	356050 3205	
ABE N 32-ADE06-C	32	150	6.00	System AD/AE 6.0	120	A1	B1	356050 3206	
								3138	

Chuck key

ISO designation	Chuck key art.no.	€
Wrench blade 2-3 mm system ASS/ABE/AD/AE	356500 0030	
Wrench blade 4-6 mm system ASS/ABE/AD/AE	356500 0040	
	3106	



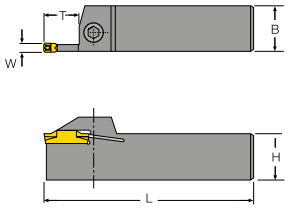
Spare parts

	Screw art.no.	€
A1	356100 0001	
	3106	

	TORX PLUS art.no.	€
B1	703054 0150	
	7114	

ATORN Recess tool holder GROOVE

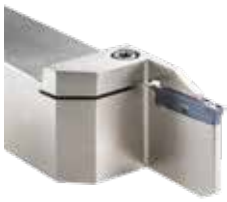
- **for recessing inserts System AD / AE**
- for longitudinal turning and grooving
- Supplied with chuck key





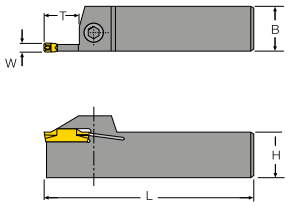
Camp mounting AME 1.5mm R/L
- **for recessing inserts System AD 1.5mm**

ISO designation	Shank height mm	Shank width mm	L mm	W mm	T max. mm	Suitable for			Right art.no.	€	Left art.no.	€
AME-R/L 12-ADE1,5-K-T23	12	12	125	1.50	23	System AD/AE 1.5	B1	D1	356008 1501		356009 1501	
AME-R/L 16-ADE1,5-K-T23	16	16	125	1.50	23	System AD/AE 1.5	B2	D2	356008 1502		356009 1502	
									3138		3138	



Tool holder AME right-hand / left-hand

ISO designation	Shank height mm	Shank width mm	L mm	W mm	T max. mm	Suitable for	Max. tightening torque N·m					Right art.no.	€	Left-hand art.no.	€
AME-R/L 12 ADE02-T13	12	12	125	2.00	13	System AD/AE 2.0	3.2		B1		D1	356001 2001		356002 2001	
AME-R/L 12 ADE03-T13	12	12	125	3.00	13	System AD/AE 3.0	3.2		B1		D1	356001 3001		356002 3001	
AME-R/L 16 ADE02-T13	16	16	125	2.00	13	System AD/AE 2.0	4		B2		D2	356001 2002		356002 2002	
AME-R/L 16 ADE03-T13	16	16	125	3.00	13	System AD/AE 3.0	4		B2		D2	356001 3002		356002 3002	
AME-R/L 16 ADE03-T25	16	16	125	3.00	25	System AD/AE 3.0	4		B2		D2	356001 3008		356002 3008	
AME-R/L 16 ADE04-T25	16	16	125	4.00	25	System AD/AE 4.0	4		B2		D2	356001 4001		356002 4001	
AME-R/L 20 ADE02-T13	20	20	125	2.00	13	System AD/AE 2.0	4		B3		D2	356001 2003		356002 2003	
AME-R/L 20 ADE03-T13	20	20	125	3.00	13	System AD/AE 3.0	4		B3		D2	356001 3004		356002 3004	
AME-R/L 20 ADE03-T25	20	20	125	3.00	25	System AD/AE 3.0	4		B3		D2	356001 3005		356002 3005	
AME-R/L 20 ADE04-T25	20	20	125	4.00	25	System AD/AE 4.0	4		B3		D2	356001 4002		356002 4002	
AME-R/L 20 ADE05-T25	20	20	150	5.00	25	System AD/AE 5.0	4		B3		D2	356001 5002		356002 5002	
AME-R/L 20 ADE06-T25	20	20	150	6.00	25	System AD/AE 6.0	4		B3		D2	356001 6001		356002 6001	
AME-R/L 25 ADE03-T13	25	25	125	3.00	13	System AD/AE 3.0	4.8		B3		D2	356001 3006		356002 3006	
AME-R/L 25 ADE03-T25	25	25	125	3.00	25	System AD/AE 3.0	4.8		B3		D2	356001 3007		356002 3007	
AME-R/L 25 ADE04-T25	25	25	125	4.00	25	System AD/AE 4.0	4.8		B3		D2	356001 4003		356002 4003	
AME-R/L 25 ADE05-T25	25	25	150	5.00	25	System AD/AE 5.0	4.8		B3		D2	356001 5003		356002 5003	
AME-R/L 25 ADE06-T25	25	25	150	6.00	25	System AD/AE 6.0	4.8		B3		D2	356001 6002		356002 6002	
AME-R/L 25 ADE08-T32	25	25	170	8.00	32	System AD 8.0	4.8	A1		C1		356001 8001		356002 8001	
AME-R/L 32 ADE03-T25	32	32	170	3.00	25	System AD/AE 3.0	4.8		B3		D2	356001 3009		356002 3009	
AME-R/L 32 ADE06-T25	32	32	170	6.00	25	System AD/AE 6.0	4.8		B3		D2	356001 6003		356002 6003	
AME-R/L 32 ADE08-T32	32	32	170	8.00	32	System AD 8.0	4.8	A1		C1		356001 8002		356002 8002	
AME-R/L 40 ADE03-T25	40	40	250	3.00	25	System AD/AE 3.0	4.8		B3		D2	356001 3010		356002 3010	
AME-R/L 40 ADE06-T25	40	40	250	6.00	25	System AD/AE 6.0	4.8		B3		D2	356001 6004		356002 6004	
												3138		3138	





Tool holder AME right-hand / left-hand with internal cooling

ISO designation	Shank height mm	Shank width mm	L mm	W mm	T max. mm	Suitable for	Max. tightening torque N·m			Right-hand art.no.	€	Left-hand art.no.	€
AME-R/L 16-ADE02-K-T13 IK	16	16	125	2.00	13	System AD/AE 2.0	4	A1	C1	356003 0009		356004 0009	
AME-R/L 16-ADE03-K-T25 IK	16	16	125	3.00	25	System AD/AE 3.0	4	A1	C1	356003 0008		356004 0008	
AME-R/L 16-ADE04-K-T25 IK	16	16	125	4.00	25	System AD/AE 4.0	4	A1	C1	356003 0010		356004 0010	
AME-R/L 20-ADE02-K-T13 IK	20	20	125	2.00	13	System AD/AE 2.0	4	A1	C1	356003 0011		356004 0011	
AME-R/L 20-ADE03-K-T25 IK	20	20	125	3.00	25	System AD/AE 3.0	4	A1	C1	356003 0005		356004 0005	
AME-R/L 20-ADE04-K-T25 IK	20	20	125	4.00	25	System AD/AE 4.0	4	A1	C1	356003 0012		356004 0012	
AME-R/L 25-ADE03-K-T25 IK	25	25	125	3.00	25	System AD/AE 3.0	4.8	A1	C1	356003 0007		356004 0007	
AME-R/L 25-ADE04-K-T25 IK	25	25	125	4.00	25	System AD/AE 4.0	4.8	A1	C1	356003 0013		356004 0013	
AME-R/L 32 ADE03-P-T25 IK	32	32	170	3.00	25	System AD/AE 3.0	4.8	A1	C1	356003 0014		356004 0014	
AME-R/L 32 ADE04-P-T25 IK	32	32	170	4.00	25	System AD/AE 4.0	4.8	A1	C1	356003 0015		356004 0015	
AME-R/L 40 ADE03-S-T25 IK	40	40	250	3.00	25	System AD/AE 3.0	4.8	A1	C1	356003 0016		356004 0016	
AME-R/L 40 ADE04-S-T25 IK	40	40	250	4.00	25	System AD/AE 4.0	4.8	A1	C1	356003 0017		356004 0017	
AME-R/L 40 ADE08-S-T32 IK	40	40	250	8.00	32	System AD 8.0	4.8	A1	C1	356003 0022		356004 0022	
										3138		3138	

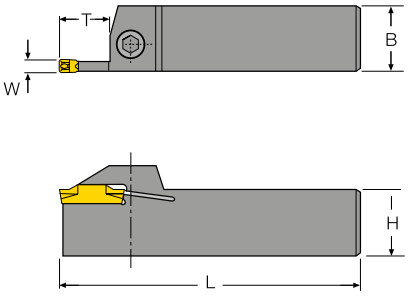
Spare parts

Screw			Screw			Black, oiled			Steel grey		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	356100 0002		B1	356100 0011		C1	703001 0050		D1	703038 0150	
			B2	356100 0012					D2	703038 0200	
			B3	356100 0013							
	3106			3106			7111			7111	

ATORN Recess tool holder AME, reinforced

- **For recessing inserts system AD / AE**
- For longitudinal turning and grooving
- Supplied with clamping key
- Reinforced version

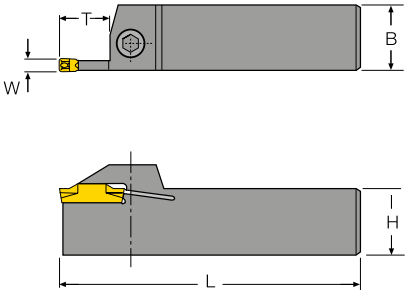




Tool holder AME R/L

ISO designation	Shank height mm	Shank width mm	L mm	W mm	T max. mm	Suitable for	Max. tightening torque N·m			Right art.no.	€	Left art.no.	€
AME-R/L 12 ADE02-T13	12	12	125	2.00	13	System AD/AE 2.0	3.2	A1	B1	356012 0001		356013 0001	
AME-R/L 12 ADE02-T21	12	12	125	2.00	21	System AD/AE 2.0	3.2	A1	B1	356012 0003		356013 0003	
AME-R/L 12 ADE03-T13	12	12	125	3.00	13	System AD/AE 3.0	3.2	A1	B1	356012 0005		356013 0005	
AME-R/L 12 ADE03-T21	12	12	125	3.00	21	System AD/AE 3.0	3.2	A1	B1	356012 0007		356013 0007	
AME-R/L 16 ADE02-T13	16	16	125	2.00	13	System AD/AE 2.0	4.0	A1	B1	356012 0002		356013 0002	
AME-R/L 16 ADE02-T21	16	16	125	2.00	21	System AD/AE 2.0	4.0	A1	B1	356012 0004		356013 0004	
AME-R/L 16 ADE03-T13	16	16	125	3.00	13	System AD/AE 3.0	4.0	A1	B1	356012 0006		356013 0006	
AME-R/L 16 ADE03-T21	16	16	125	3.00	21	System AD/AE 3.0	4.0	A1	B1	356012 0008		356013 0008	
										3138		3138	





Tool holder AME R/L with internal cooling

ISO designation	Shank height mm	Shank width mm	L mm	W mm	T max. mm	Suitable for	Max. tightening torque N·m	A1	B1	Right art.no.	€	Left art.no.	€
AME-R/L 12 ADE02-K-T13 IK	12	12	125	2.00	13	System AD/AE 2.0	3.2	A1	B1	356014 0001		356015 0001	
AME-R/L 12 ADE03-K-T13 IK	12	12	125	3.00	13	System AD/AE 3.0	3.2	A1	B1	356014 0004		356015 0004	
AME-R/L 16 ADE02-K-T13 IK	16	16	125	2.00	13	System AD/AE 2.0	4.0	A1	B1	356014 0002		356015 0002	
AME-R/L 16 ADE02-K-T21 IK	16	16	125	2.00	21	System AD/AE 2.0	4.0	A1	B1	356014 0003		356015 0003	
AME-R/L 16 ADE03-K-T13 IK	16	16	125	3.00	13	System AD/AE 3.0	4.0	A1	B1	356014 0005		356015 0005	
AME-R/L 16 ADE03-K-T21 IK	16	16	125	3.00	21	System AD/AE 3.0	4.0	A1	B1	356014 0006		356015 0006	
										3138		3138	

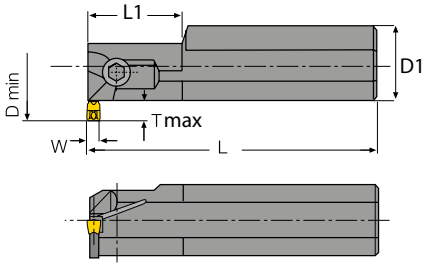
Spare parts

	Screw art.no.	€		Steel grey art.no.	€
A1	356100 0017		B1	703038 0150	
	3106			7111	

ATORN Boring bar GROOVE

- Internal turning and recessing
- **With internal coolant supply**
- For use with recessing inserts of type **AD and AE**





Boring bar AMI R/L

Designation	D1 mm	W mm	L mm	T max. mm	D min. mm	Suitable for	Max. tightening torque N·m	Right art.no.	€	Left art.no.	€
AMI.. 25-2	25	2.00	200	8	31.1	System AD/AE 2.0	5	356030 2502		356031 2502	
AMI.. 25-3	25	3.00	200	9	31.1	System AD/AE 3.0	5	356030 2503		356031 2503	
AMI.. 32-3	32	3.00	250	11	41	System AD/AE 3.0	5	356030 3203		356031 3203	
AMI.. 32-4	32	4.00	250	11	41	System AD/AE 4.0	5	356030 3204		356031 3204	
AMI.. 40-4	40	4.00	300	12	51.7	System AD/AE 4.0	5	356030 4004		356031 4004	
AMI.. 40-5	40	5.00	300	12	51.7	System AD/AE 5.0	5	356030 4005		356031 4005	
								3138		3138	

Spare parts

	Screw art.no.	€		Steel grey art.no.	€
A1	356100 0014		B1	703038 0200	
	3106			7111	

ATORN Recess tool holder GROOVE Modular





Version 0°



Version 45°



Version 90°

Tool holder AMM Modular R/L

- **for modules AMR.. / AMAE..**
- Supplied with chuck key and assembly screws

ISO designation	Shank height mm	Shank width mm	Angle °	Suitable for				Right art.no.	€	Left art.no.	€
AMM-R/L 2020-00°	20	20	0	AM..-R/L-20		B1	C1	356020 2000		356021 2000	
AMM-R/L 2020-45°	20	20	45	AM..-R/L-20		B2	C1	356020 2045		356021 2045	
AMM-R/L 2020-90°	20	20	90	AM..-R/L-20		B1	C1	356020 2090		356021 2090	
AMM-R/L 2525-00°	25	25	0	AM..-R/L-25	A1		C2	356020 2500		356021 2500	
AMM-R/L 2525-45°	25	25	45	AM..-R/L-25		B3	C2	356020 2545		356021 2545	
AMM-R/L 2525-90°	25	25	90	AM..-R/L-25	A1		C2	356020 2590		356021 2590	
								3138		3138	

Spare parts

	Screw art.no.	€
A1	356100 0014	
	3106	

	Screw art.no.	€
B1	356100 0017	
B2	356100 0018	
B3	356100 0019	
	3106	

	Steel grey art.no.	€
C1	703038 0150	
C2	703038 0200	
	7111	

ATORN Cutting edge holder GROOVE Modular radial

- Supplied without chuck key



Cutting edge holder AMR Modular Radial R/L

- **For recessing inserts system AD / AE**
- For deep grooving and parting-off
- **Note for recessing module AMR**
  - For right-hand tool holder version 45° and 90°, a left-hand grooving module is required
  - For left-hand tool holder version 45° and 90°, a right-hand grooving module is required

ISO designation	W mm	T max. mm	Suitable for	Right art.no.	€	Left art.no.	€
AMR-R/L 20 ADE02 T25	2.00	25	System AD/AE 2.0	356024 2002		356025 2002	
AMR-R/L 20 ADE03 T25	3.00	25	System AD/AE 3.0	356024 2003		356025 2003	
AMR-R/L 20 ADE04 T25	4.00	25	System AD/AE 4.0	356024 2004		356025 2004	
AMR-R/L 25 ADE02 T25	2.00	25	System AD/AE 2.0	356024 2502		356025 2502	
AMR-R/L 25 ADE03 T25	3.00	25	System AD/AE 3.0	356024 2503		356025 2503	
AMR-R/L 25 ADE04 T25	4.00	25	System AD/AE 4.0	356024 2504		356025 2504	
				3138		3138	

ATORN Recessing inserts ADA Axial GROOVE

- **The feed rates must be adjusted to the respective cutting edge width**
- Cutting edge accuracy W ± 0.02mm
- ADA = double-edged cutting insert
- **Punching depth depends on the selected recessing tool**

Chip breaker TR
- For axial grooving
- Rotating chip breaker for optimal chip control
- For all steel and stainless steel materials

 ISO designation	W mm	R mm	T max. mm	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
ADA 3.00-0.3 N-TR	3	0.3	15	●	●	●				APU40G	10	388040 3040	
	3	0.3	15	○	●			●		APM45G	10	388040 3045	
ADA 4.00-0.4 N-TR	4	0.4	15	○	●			●		APM45G	10	388040 4045	
ADA 5.00-0.4 N-TR	5	0.4	15	●	○	●				ACP20G	10	388040 5020	
	5	0.4	15	●	●	●				APU40G	10	388040 5040	
	5	0.4	15	○	●			●		APM45G	10	388040 5045	

3139

ISO	ACP20G	APM45G	APU40G
ISO P steel	Vc = 50 - 240	Vc = 50 - 240	Vc = 50 - 240
ISO M stainless steel	Vc = 50 - 200	Vc = 50 - 200	Vc = 50 - 200
ISO K cast iron	Vc = 80 - 200	Vc = 80 - 200	Vc = 80 - 200
ISO S superalloys		Vc = 15 - 120	
Vc = [m/min] f = [mm/U]	f = 0.06 - 0.2	f = 0.06 - 0.15	

ATORN Recessing inserts ADA axial radius GROOVE

- **The feed rates must be adjusted to the respective cutting edge width**
- Cutting edge accuracy W ± 0.02mm
- ADA = double-edged cutting insert
- **Punching depth depends on the selected recessing tool**

Chip breaker R
- For longitudinal turning and grooving
- Chip breaker for recess turning and ramping
- Rotating chip breaker for optimal chip control
- For all steel and stainless steel materials

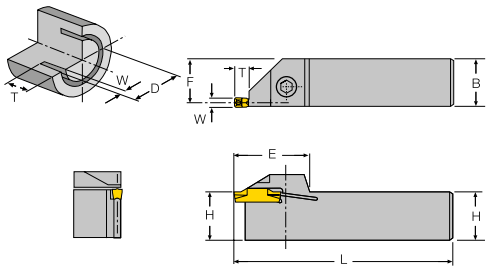
 ISO designation	W mm	R mm	T max. mm	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
ADA 3.00-1.5 R	3	1.5	15	●	○	●				ACP20G	10	388041 3020	
	3	1.5	15	●	●	●				APU40G	10	388041 3040	
	3	1.5	15	○	●			●		APM45G	10	388041 3045	
ADA 4.00-2.0 R	4	2	15	●	○	●				ACP20G	10	388041 4020	
	4	2	15	●	●	●				APU40G	10	388041 4040	
	4	2	15	○	●			●		APM45G	10	388041 4045	

3139

ISO	ACP20G	APM45G	APU40G
ISO P steel	Vc = 50 - 200	Vc = 50 - 160	Vc = 50 - 200
ISO M stainless steel	Vc = 50 - 180	Vc = 50 - 180	Vc = 50 - 180
ISO K cast iron	Vc = 60 - 160		Vc = 60 - 160
ISO S superalloys		Vc = 40 - 120	
Vc = [m/min] f = [mm/U]	f = 0.1 - 0.3		

ATORN Recess tool holder GROOVE axial





Tool holder AMA Axial R/L

- **for recessing inserts System ADA**
- for axial grooving, Ø 40 - 200mm
- Supplied with chuck key

ISO designation	Shank height mm	Shank width mm	L mm	W mm	T max. mm	Suitable for	Min./max. plunge diameter	**Right-hand** art.no.	€	**Left-hand** art.no.	€
AMA-. 25-40-3 T13	25	25	125	3.00	13	System ADA 3.0	40-50 mm	356010 0001		356011 0001	
AMA-. 25-50-3 T13	25	25	125	3.00	13	System ADA 3.0	50-60 mm	356010 0002		356011 0002	
AMA-. 25-60-3 T13	25	25	125	3.00	13	System ADA 3.0	60-75 mm	356010 0003		356011 0003	
AMA-. 25-75-3 T13	25	25	125	3.00	13	System ADA 3.0	75-100 mm	356010 0004		356011 0004	
AMA-. 25-100-3 T13	25	25	125	3.00	13	System ADA 3.0	100-140 mm	356010 0005		356011 0005	
AMA-. 25-140-3 T13	25	25	125	3.00	13	System ADA 3.0	140-200 mm	356010 0006		356011 0006	
AMA-. 25-40-4 T13	25	25	125	4.00	13	System ADA 4.0	40-50 mm	356010 0007		356011 0007	
AMA-. 25-50-4 T13	25	25	125	4.00	13	System ADA 4.0	50-60 mm	356010 0008		356011 0008	
AMA-. 25-60-4 T13	25	25	125	4.00	13	System ADA 4.0	60-70 mm	356010 0009		356011 0009	
AMA-. 25-75-4 T13	25	25	125	4.00	13	System ADA 4.0	75-100 mm	356010 0010		356011 0010	
AMA-. 25-100-4 T13	25	25	125	4.00	13	System ADA 4.0	100-140 mm	356010 0011		356011 0011	
AMA-. 25-140-4 T13	25	25	125	4.00	13	System ADA 4.0	140-200 mm	356010 0012		356011 0012	
AMA-. 25-45-5 T20	25	25	150	5.00	20	System ADA 5.0	45-60 mm	356010 0013		356011 0013	
AMA-. 25-60-5 T20	25	25	150	5.00	20	System ADA 5.0	60-75 mm	356010 0014		356011 0014	
AMA-. 25-75-5 T28	25	25	150	5.00	28	System ADA 5.0	75-100 mm	356010 0015		356011 0015	
AMA-. 25-100-5 T28	25	25	150	5.00	28	System ADA 5.0	100-180 mm	356010 0016		356011 0016	
AMA-. 25-180-5 T32	25	25	150	5.00	32	System ADA 5.0	180-400 mm	356010 0017		356011 0017	
								3138		3138	

ATORN Recess tool holder GROOVE Modular





Version 0°



Version 45°



Version 90°

Tool holder AMM Modular R/L

- **for modules AMR.. / AMAE..**
- Supplied with chuck key and assembly screws

ISO designation	Shank height mm	Shank width mm	Angle °	Suitable for				**Right** art.no.	€	**Left** art.no.	€
AMM-R/L 2525-00°	25	25	0	AM..-R/L-25	A1		C2	356020 2500		356021 2500	
AMM-R/L 2525-45°	25	25	45	AM..-R/L-25		B3	C2	356020 2545		356021 2545	
AMM-R/L 2525-90°	25	25	90	AM..-R/L-25	A1		C2	356020 2590		356021 2590	
								3138		3138	

Spare parts

	Screw art.no.	€
A1	356100 0014	
	3106	

	Screw art.no.	€
B1	356100 0017	
B2	356100 0018	
B3	356100 0019	
	3106	

	Steel grey art.no.	€
C1	703038 0150	
C2	703038 0200	
	7111	

ATORN Cutting edge holder GROOVE Modular axial



Cutting edge holder AMAE Modular Axial R/L

- **For recessing inserts system ADA**
- for axial grooving, Ø 40 - 200 mm
- **Note for recessing module AMAE**
  - A left-hand recessing module is required for a right-hand tool holder version 45° and 90°
  - A right-hand recessing module is required for a left-hand tool holder version 45° and 90°

ISO designation	W mm	T max. mm	Suitable for	Min./max. plunge diameter	**Right-hand** art.no.	€	**Left-hand** art.no.	€
AMAE-R/L 25 ADA03 T15 40-50	3.00	15	System ADA 3.0	40-50	356026 0001		356027 0001	
AMAE-R/L 25 ADA03 T15 50-60	3.00	15	System ADA 3.0	50-60	356026 0002		356027 0002	
AMAE-R/L 25 ADA03 T15 60-75	3.00	15	System ADA 3.0	60-75	356026 0003		356027 0003	
AMAE-R/L 25 ADA03 T15 75-100	3.00	15	System ADA 3.0	75-100	356026 0004		356027 0004	
AMAE-R/L 25 ADA03 T15 100-140	3.00	15	System ADA 3.0	100-140	356026 0005		356027 0005	
AMAE-R/L 25 ADA03 T15 140-200	3.00	15	System ADA 3.0	140-200	356026 0006		356027 0006	
AMAE-R/L 25 ADA04 T15 40-50	4.00	15	System ADA 4.0	40-50 mm	356026 0007		356027 0007	
AMAE-R/L 25 ADA04 T15 50-60	4.00	15	System ADA 4.0	50-60 mm	356026 0008		356027 0008	
AMAE-R/L 25 ADA04 T15 60-75	4.00	15	System ADA 4.0	60-75 mm	356026 0009		356027 0009	
AMAE-R/L 25 ADA04 T15 75-100	4.00	15	System ADA 4.0	75-100 mm	356026 0010		356027 0010	
AMAE-R/L 25 ADA04 T15 100-140	4.00	15	System ADA 4.0	100-140 mm	356026 0011		356027 0011	
AMAE-R/L 25 ADA04 T15 140-200	4.00	15	System ADA 4.0	140-200 mm	356026 0012		356027 0012	
					3138		3138	

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ATORN Recessing inserts ASS neutral GROOVE

- **The feed rates must be adjusted to the respective cutting edge width**
- Cutting edge accuracy W ± 0.02 mm

Chip breaker M - medium

- For grooving
- Negative protective chamfer
- First choice for steels with high tensile strength
- Appropriate for steel and grey cast iron
- Appropriate for grooving, parting-off and longitudinal turning operations

 ISO designation	W mm	R mm	T max. mm	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
ASS 2.00-0.2 M	2	0.2	8	●		●				APU40G	10	389000 2040	
	2	0.2	8	●	●					APM45G	10	389000 2045	
ASS 3.00-0.2 M	3	0.2	8	●		●				ACP20G	10	389000 3120	
	3	0.2	8	●		●				APU40G	10	389000 3140	
	3	0.2	8	●	●					APM45G	10	389000 3145	
ASS 4.00-0.3 M	4	0.2	8	●		●				APU40G	10	389000 4240	
	4	0.2	8	●	●					APM45G	10	389000 4245	
ASS 5.00-0.3 M	5	0.2	8	●		●				APU40G	10	389000 5140	
	5	0.2	8	●	●					APM45G	10	389000 5145	
ASS 6.00-0.4 M	6	0.2	8	●		●				ACP20G	10	389000 6120	
	6	0.2	8	●	●					APM45G	10	389000 6145	

3145

ISO	ACP20G	APM45G	APU40G
ISO P steel	Vc = 70 - 200	Vc = 60 - 150	Vc = 70 - 200
ISO M stainless steel		Vc = 60 - 180	
ISO K cast iron	Vc = 80 - 180		Vc = 80 - 200
Vc = [m/min] f = [mm/U]	f = 0.1 - 0.2	f = 0.1 - 0.25	f = 0.05 - 0.15

Chip breaker, MU - medium, universal

- Parting-off and grooving
- Engraving and recess turning operations
- Outstanding chip control
- Suitable for steel and cast steel

 ISO designation	W mm	R mm	T max. mm	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
ASS 2.00-0.3 MU	2	0.2	8	●		●				APU40G	10	389001 2040	
	2	0.2	8	●	●					APM45G	10	389001 2045	
ASS 3.00-0.3 MU													
	3	0.2	8	●		●				APU40G	10	389001 3140	
	3	0.2	8	●	●					APM45G	10	389001 3145	
ASS 4.00-0.4 MU													
	4	0.2	8	●		●				APU40G	10	389001 4240	
	4	0.2	8	●	●					APM45G	10	389001 4245	
ASS 5.00-0.4 MU	5	0.2	8	●		●				APU40G	10	389001 5240	
	5	0.2	8	●	●					APM45G	10	389001 5245	
ASS 6.00-0.5 MU	6	0.2	8	●		●				APU40G	10	389001 6140	
	6	0.2	8	●	●					APM45G	10	389001 6145	

3145

ISO	ACP20G	APM45G	APU40G
ISO P steel	Vc = 70 - 200	Vc = 60 - 150	Vc = 70 - 200
ISO M stainless steel		Vc = 60 - 180	
ISO K cast iron	Vc = 80 - 180		Vc = 80 - 200
Vc = [m/min] f = [mm/U]	f = 0.1 - 0.25	f = 0.1 - 0.2	f = 0.15 - 0.3

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Chip breaker ET - extra

- For grooving
- Specially-designed for stainless-steel workpieces
- A solution for materials that are difficult to machine such as titanium or duplex
- extremely soft cutting

 ISO designation	W mm	R mm	T max. mm	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
ASS 2.00-0.2 ET	2	0.2	8	●	●					APU40G	10	389004 2040	
	2	0.2	8	○	●			●		APM45G	10	389004 2045	
ASS 3.00-0.2 ET	3	0.2	8	●	●					APU40G	10	389004 3040	
	3	0.2	8	○	●			●		APM45G	10	389004 3045	
ASS 4.00-0.4 ET	4	0.4	8	●	●					APU40G	10	389004 4040	
	4	0.4	8	○	●			●		APM45G	10	389004 4045	
ASS 5.00-0.4 ET	5	0.4	8	●	●					APU40G	10	389004 5040	
	5	0.4	8	○	●			●		APM45G	10	389004 5045	
ASS 6.00-0.4 ET	6	0.4	8	●	●					APU40G	10	389004 6040	
	6	0.4	8	○	●			●		APM45G	10	389004 6045	

3145

ISO	APM45G	APU40G
ISO P steel	Vc = 60 - 150	Vc = 60 - 150
ISO M stainless steel	Vc = 60 - 180	Vc = 50 - 200
ISO S superalloys	Vc = 15 - 120	
Vc = [m/min] f = [mm/U]	f = 0.05 - 0.15	f = 0.08 - 0.2

Chip breaker MN - for machining aluminium

- Parting-off and grooving
- Highly positive chip breaker with sharp cutting edge finish
- Highly polished chip breaker surface
- Maximum reduction of built-up edges

 ISO designation	W mm	R mm	T max. mm	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
ASS 2.00-0.2 MN	2	0.2	8				●			AWN15G	10	389002 2016	
ASS 3.00-0.3 MN	3	0.3	8				●			AWN15G	10	389002 3116	
ASS 4.00-0.4 MN	4	0.4	8				●			AWN15G	10	389002 4216	
ASS 5.00-0.4 MN	5	0.4	8				●			AWN15G	10	389002 5216	
ASS 6.00-0.4 MN	6	0.4	8				●			AWN15G	10	389002 6216	

3145

ISO	AWN15G
ISO N Al/non-ferrous	Vc = 200 - 2000
Vc = [m/min] f = [mm/U]	f = 0.1 - 0.2

ATORN Recessing inserts ASS radius GROOVE

- **The feed rates must be adjusted to the respective cutting edge width**
- Cutting edge accuracy W ± 0.02mm

Chip breaker M - medium

- For grooving
- Negative protective chamfer
- First choice for steels with high tensile strength
- Suitable for steel and stainless steel
- Suitable for grooving, parting-off and longitudinal turning operations

 ISO designation	W mm	R mm	T max. mm	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
ASS 2.00-1.0 M	2	1	8	●	●					APU40G	10	389005 2040	
ASS 3.00-1.5 M	3	1.5	8	●	●					APU40G	10	389005 3040	
ASS 4.00-2.0 M	4	2	8	●	●					APU40G	10	389005 4040	
ASS 5.00-2.5 M	5	2.5	8	●	●					APU40G	10	389005 5040	
ASS 6.00-3.0 M	6	3	8	●	●					APU40G	10	389005 6040	

3145

ISO	APU40G
ISO P steel	Vc = 50 - 240
ISO M stainless steel	Vc = 50 - 200
Vc = [m/min] f = [mm/U]	f = 0.05 - 0.25

Chip breaker, MU - medium, universal

- Parting-off and grooving
- Recessing and recess turning operations
- Outstanding chip control
- Suitable for steel and cast steel

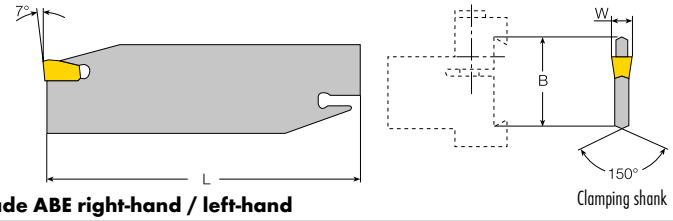
 ISO designation	W mm	R mm	T max. mm	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
ASS 2.00-1.00 MU	2	1	8	●		●				APU40G	10	389006 2040	
ASS 3.00-1.50 MU	3	1.5	8	●		●				APU40G	10	389006 3040	
ASS 4.00-2.00 MU	4	2	8	●		●				APU40G	10	389006 4040	
ASS 5.00-2.50 MU	5	2.5	8	●		●				APU40G	10	389006 5040	
ASS 6.00-3.00 MU	6	3	8	●		●				APU40G	10	389006 6040	

3145

ISO	APU40G
ISO P steel	Vc = 50 - 240
ISO K cast iron	Vc = 80 - 200
Vc = [m/min] f = [mm/U]	f = 0.05 - 0.3

ATORN Recessing blades GROOVE

- **for recessing inserts System ASS**
- for parting-off and deep grooving
- Supplied without chuck key





Recessing blade ABE right-hand / left-hand

ISO designation	Shank height mm	L mm	W mm	Suitable for	D max. mm	Right art.no.	€	Left art.no.	€
ABE R/L 26-ASS02	26	110	2.00	System ASS 2.0	50	356810 2602		356820 2602	
ABE R/L 32-ASS02	32	150	2.00	System ASS 2.0	50	356810 3202		356820 3202	
						3138		3138	



Recessing blade ABE neutral

ISO designation	Shank height mm	L mm	W mm	Suitable for	D max. mm	art.no.	€
ABE N 26-ASS03	26	110	3.00	System ASS 3.0	70	356800 2603	
ABE N 26-ASS04	26	110	4.00	System ASS 4.0	80	356800 2604	
ABE N 32-ASS03	32	150	3.00	System ASS 3.0	100	356800 3203	
ABE N 32-ASS04	32	150	4.00	System ASS 4.0	100	356800 3204	
ABE N 32-ASS05	32	150	5.00	System ASS 5.0	110	356800 3205	
ABE N 32-ASS06	32	150	6.00	System ASS 6.0	110	356800 3206	
						3138	



Recessing blade ABE right-hand / left-hand with internal cooling

ISO designation	Shank height mm	L mm	W mm	Suitable for	D max. mm	A1	B1	Right art.no.	€	Left art.no.	€
ABE R/L 26-ASS02	26	110	2.00	System ASS 2.0	50	A1	B1	356811 2602		356821 2602	
ABE R/L 32-ASS02	32	150	2.00	System ASS 2.0	50	A1	B1	356811 3202		356821 3202	
								3138		3138	



Recessing blade ABE neutral with internal cooling

ISO designation	Shank height mm	L mm	W mm	Suitable for	D max. mm	A1	B1	art.no.	€
ABE N 26-ASS03-C	26	110	3.00	System ASS 3.0	70	A1	B1	356801 2603	
ABE N 26-ASS04-C	26	110	4.00	System ASS 4.0	80	A1	B1	356801 2604	
ABE-N 32-ASS03-C	32	150	3.00	System ASS 3.0	100	A1	B1	356801 3203	
ABE-N 32-ASS04-C	32	150	4.00	System ASS 4.0	100	A1	B1	356801 3204	
								3138	

Chuck key

ISO designation	Chuck key art.no.	€
Wrench blade 2-3 mm system ASS/ABE/AD/AE	356500 0030	
Wrench blade 4-6 mm system ASS/ABE/AD/AE	356500 0040	
	3106	



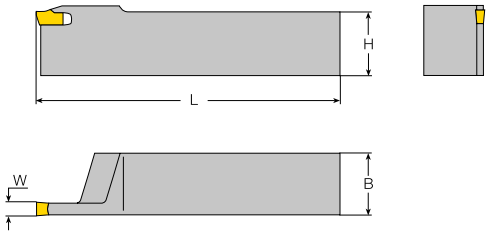
Spare parts

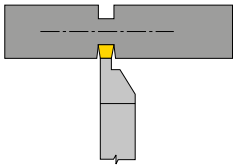
	Screw art.no.	€
A1	356100 0001	
	3106	

	TORX PLUS art.no.	€
B1	703054 0150	
	7114	

ATORN Recess tool holder GROOVE

- **for recessing inserts System ASS**
- for longitudinal turning and grooving
- Supplied with chuck key







Tool holder AME right-hand / left-hand

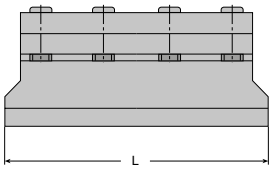
ISO designation	Shank height mm	Shank width mm	L mm	W mm	T max. mm	Suitable for	Max. tightening torque N-m			Right art.no.	€	Left art.no.	€
AME R/L 16-ASS02	16	16	125	2.00	20	System ASS 2.0	4	A1	B1	356801 0007		356802 0007	
AME R/L 16-ASS03	16	16	125	3.00	20	System ASS 3.0	4	A1	B1	356801 0001		356802 0001	
AME R/L 20-ASS02	20	20	125	2.00	20	System ASS 2.0	4	A1	B1	356801 0008		356802 0008	
AME R/L 20-ASS03	20	20	150	3.00	20	System ASS 3.0	4	A1	B1	356801 0002		356802 0002	
AME R/L 20-ASS04	20	20	125	4.00	25	System ASS 4.0	4	A1	B1	356801 0004		356802 0004	
AME R/L 20-ASS05	20	20	125	5.00	25	System ASS 5.0	4	A1	B1	356801 0010		356802 0010	
AME R/L 20-ASS06	20	20	125	6.00	25	System ASS 6.0	4	A1	B1	356801 0011		356802 0011	
AME R/L 25-ASS03	25	25	150	3.00	20	System ASS 3.0	4.8	A1	B1	356801 0003		356802 0003	
AME R/L 25-ASS04	25	25	150	4.00	25	System ASS 4.0	4.8	A1	B1	356801 0009		356802 0009	
AME R/L 25-ASS05	25	25	150	5.00	25	System ASS 5.0	4.8	A1	B1	356801 0005		356802 0005	
AME R/L 25-ASS06	25	25	150	6.00	32	System ASS 6.0	4.8	A1	B1	356801 0006		356802 0006	
										3138		3138	

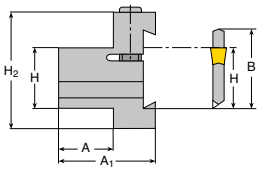
Spare parts

	Screw art.no.	€
A1	356100 0013	
	3106	

	Steel grey art.no.	€
B1	703038 0200	
	7111	

ATORN Recessing blade mount AD / AE / ASS GROOVE







Recessing blade holder AEB

- For recessing blade ABE ASS without internal cooling
- For recessing blade ABE AD without internal cooling

ISO designation	Suitable for shaft height mm	L mm	H mm	Height mm	b2 mm		art.no.	€
AEB26-2020	26	90	20	43	37	A1	356101 2620	
AEB32-2525	32	110	25	49	38	A1	356101 3225	
							3138	

Recessing blade holder AEB with internal cooling

- For recessing blade ABE AD with internal cooling
- Coolant connection hole 1/8



ISO designation	Suitable for shaft height mm	L mm	H mm	Height mm	b2 mm		art.no.	€
AEB26-2020 IK	26	82	20	43	40	A2	356100 2620	
AEB32-2525 IK	32	95	25	49	44.5	A2	356100 3225	
							3138	

Spare parts

	Screw art.no.	€
A1	356100 0003	
A2	356100 0004	
	3106	

Dümmel® DED grooving system

INFO

Recess turning tools with three-fluted indexable inserts

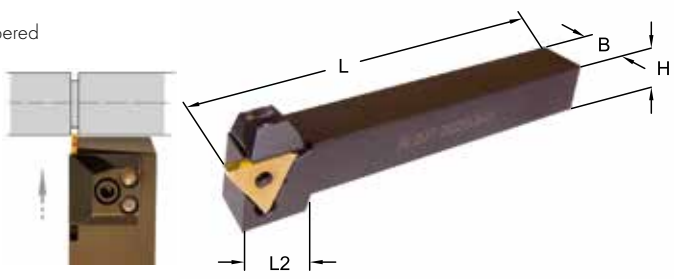


Dümmel® DED

- 3-cutting-edge system
- Quick, positionally accurate changing of blades
- For punching depths up to 6 mm depth and 8 mm width
- For grooving and parting-off, for grooves in accordance with DIN 471/472, for axial grooves
- More cost-effective with 3 cutting edges
- Soft cutting with modern coatings and ground chip breakers

Dümmel® DED grooving system holder

- **For three-edged recessing inserts**
- Solid tool holder made from 42 CrMo4V, approx. 1,300 N/mm² Hardened and tempered
- Powerful clamping element guided by two cylindrical pins



Holder type R/L..1-D

- Punching depth up to 4 mm
- **Tmax. reduced for workpiece Ø > 40 mm**

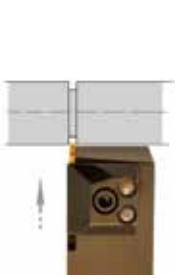
Designation	Shank height mm	Shank width mm	L mm	L2 mm	T max. mm	Suitable for					Right art.no.	€	Left-hand art.no.	€
R 207,1212,1-D	12	12	100	24	4	DED.00.. DED.01..	A1	B1		D1	350001 1212			
L 207,1616,1-D	16	16	125	22	4	DED.00.. DED.01..		B1	C1	D1			350005 1616	
R 207,1616,1-D	16	16	125	22	4	DED.00.. DED.01..	A1	B1		D1	350001 1616			
L 207,2020,1-D	20	20	125	21	4	DED.00.. DED.01..		B1	C1	D1			350005 2020	
R 207,2020,1-D	20	20	125	21	4	DED.00.. DED.01..	A1	B1		D1	350001 2020			
L 207,2525,1-D	25	25	150	-	4	DED.00.. DED.01..		B1	C1	D1			350005 2525	
R 207,2525,1-D	25	25	150	-	4	DED.00.. DED.01..	A1	B1		D1	350001 2525			
												3131		3131

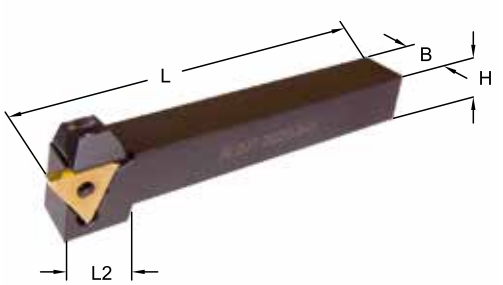
11 pcs set

- **DED grooving system**
- Holder with set of 10 indexable inserts
- **Tmax. reduced for workpiece Ø > 40 mm**

Contents	art.no.	€
1x clamp mounting R.207.2020.1-D 20 x 20 mm, punching depth up to 4 mm (for DED.00../DED.01..) 1 of each recessing insert DIN 471/472: DED.0050.00-D 0.5 mm DED.0060.00-D 0.6 mm DED.0070.00-D 0.7 mm DED.0080.00-D 0.8 mm DED.0090.00-D 0.9 mm DED.0100.00-D 1.0 mm DED.0110.00-D 1.1 mm DED.0130.00-D 1.3 mm DED.0160.00-D 1.6 mm DED.0185.00-D 1.85 mm	350600 0011	
	3131	







Holder type R/L..2-D

- Punching depth up to 6 mm
- **Tmax. reduced for workpiece Ø > 40 mm**

Designation	Shank height mm	Shank width mm	L mm	L2 mm	T max. mm	Suitable for					**Right** art.no.	€	**Left-hand** art.no.	€
L 207,1616,2-D	16	16	125	22	6	DED.02..		B1	C1	D1			350006 1616	
R 207,1616,2-D	16	16	125	22	6	DED.02..	A1	B1		D1	350002 1616			
L 207,2020,2-D	20	20	125	21	6	DED.02..		B1	C1	D1			350006 2020	
R 207,2020,2-D	20	20	125	21	6	DED.02..	A1	B1		D1	350002 2020			
L 207,2525,2-D	25	25	150	-	6	DED.02..		B1	C1	D1			350006 2525	
R 207,2525,2-D	25	25	150	-	6	DED.02..	A1	B1		D1	350002 2525			
											3131		3131	

Holder type R/L..3-D

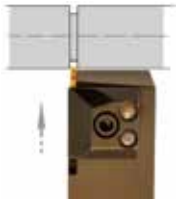
- Punching depth up to 6 mm
- **Tmax. reduced for workpiece Ø > 40 mm**

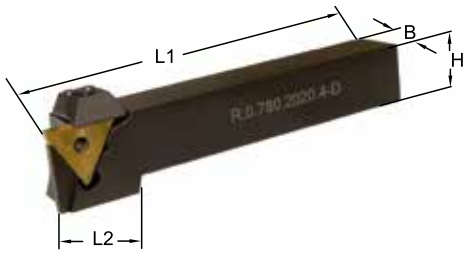
Designation	Shank height mm	Shank width mm	L mm	L2 mm	T max. mm	Suitable for					**Right** art.no.	€	**Left-hand** art.no.	€
L 207,1616,3-D	16	16	125	22	6	DED.03..		B1	C1	D1			350007 1616	
R 207,1616,3-D	16	16	125	22	6	DED.03..	A1	B1		D1	350003 1616			
L 207,2020,3-D	20	20	125	21	6	DED.03..		B1	C1	D1			350007 2020	
R 207,2020,3-D	20	20	125	21	6	DED.03..	A1	B1		D1	350003 2020			
L 207,2525,3-D	25	25	150	-	6	DED.03..		B1	C1	D1			350007 2525	
R 207,2525,3-D	25	25	150	-	6	DED.03..	A1	B1		D1	350003 2525			
											3131		3131	

Holder type R/L..4-D

- Punching depth up to 6 mm
- **Tmax. reduced for workpiece Ø > 40 mm**

Designation	Shank height mm	Shank width mm	L mm	L2 mm	T max. mm	Suitable for						**Right** art.no.	€	**Left** art.no.	€
L 207,1616,4-D	16	16	125	21	6	DED.04..	DED.05..		B1	C2	D1			350008 1616	
R 207,1616,4-D	16	16	125	21	6	DED.04..	DED.05..	A2	B1		D1	350004 1616			
L 207,2020,4-D	20	20	125	-	6	DED.04..	DED.05..		B1	C2	D1			350008 2020	
R 207,2020,4-D	20	20	125	-	6	DED.04..	DED.05..	A2	B1		D1	350004 2020			
L 207,2525,4-D	25	25	150	-	6	DED.04..	DED.05..		B1	C2	D1			350008 2525	
R 207,2525,4-D	25	25	150	-	6	DED.04..	DED.05..	A2	B1		D1	350004 2525			
												3131		3131	





Holder type R/L..2-D

- Punching depth up to 8 mm
- **Tmax. reduced for workpiece Ø > 125 mm**

Designation	Shank height mm	Shank width mm	L mm	L2 mm	T max. mm	Suitable for					Right art.no.	€	Left art.no.	€
L 0,780.2020,2D	20	20	125	24	8	DED.02..		B1	C1	D1			350012 2020	
R 0,780.2020,2D	20	20	125	24	8	DED.02..	A1	B1		D1	350009 2020			
L 0,780.2525,2D	25	25	150	-	8	DED.02..		B1	C1	D1			350012 2525	
R 0,780.2525,2D	25	25	150	-	8	DED.02..	A1	B1		D1	350009 2525			
L 0,780.3232,2D	32	32	170	-	8	DED.02..		B1	C1	D1			350012 3232	
R 0,780.3232,2D	32	32	170	-	8	DED.02..	A1	B1		D1	350009 3232			
											3131		3131	

Holder type R/L..3-D

- Punching depth up to 8 mm
- **Tmax. reduced for workpiece Ø > 125 mm**

Designation	Shank height mm	Shank width mm	L mm	L2 mm	T max. mm	Suitable for					Right art.no.	€	Left art.no.	€
L 0,780.2020,3D	20	20	125	24	8	DED.03..		B1	C1	D1			350013 2020	
R 0,780.2020,3D	20	20	125	24	8	DED.03..	A1	B1		D1	350010 2020			
L 0,780.2525,3D	25	25	150	-	8	DED.03..		B1	C1	D1			350013 2525	
R 0,780.2525,3D	25	25	150	-	8	DED.03..	A1	B1		D1	350010 2525			
L 0,780.3232,3D	32	32	170	-	8	DED.03..		B1	C1	D1			350013 3232	
R 0,780.3232,3D	32	32	170	-	8	DED.03..	A1	B1		D1	350010 3232			
											3131		3131	

Holder type R/L..4-D

- Punching depth up to 8 mm
- **Tmax. reduced for workpiece Ø > 125 mm**

Designation	Shank height mm	Shank width mm	L mm	L2 mm	T max. mm	Suitable for						Right art.no.	€	Left art.no.	€
L 0,780.2020,4D	20	20	125	24	8	DED.04..	DED.05..		B1	C2	D1			350014 2020	
R 0,780.2020,4D	20	20	125	24	8	DED.04..	DED.05..	A2	B1		D1	350011 2020			
L 0,780.2525,4D	25	25	150	-	8	DED.04..	DED.05..		B1	C2	D1			350014 2525	
R 0,780.2525,4D	25	25	150	-	8	DED.04..	DED.05..	A2	B1		D1	350011 2525			
L 0,780.3232,4D	32	32	170	-	8	DED.04..	DED.05..		B1	C2	D1			350014 3232	
R 0,780.3232,4D	32	32	170	-	8	DED.04..	DED.05..	A2	B1		D1	350011 3232			
												3131		3131	

Spare parts

	Clamping claw art.no.	€
A1	370001 0121	
A2	370001 0125	
	3131	

	Clamping screw art.no.	€
B1	370001 0200	
	3131	

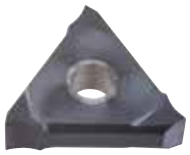
	Clamping claw art.no.	€
C1	370001 0221	
C2	370001 0225	
	3131	

	Guide pin art.no.	€
D1	370001 6325	
	3131	

Dümmel® DED grooving system inserts

Vc/fz 1100

- **3 cutting edges**
- Sintered version with incircle Ø 13.2 mm
- Positive, ground cutting geometries
- Extremely soft cutting
- Low cutting forces
- Parting-off insert with chip breaker
- High thermal and chemical stability
- Low friction coefficient
- Can be used under some circumstances for dry machining
- Universal for almost all materials
- Versions for parting-off, grooving, radius recessing, copy turning and precision turning
- **Material: AL41F ISO PMKNS fine-grain carbide TiAlN coated**

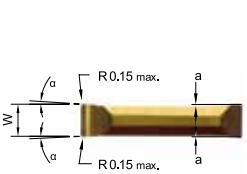


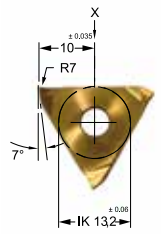
For retaining grooves in accordance with DIN 471 / 472

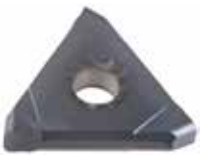
ISO P M K N S

Designation	Groove width mm	W mm	Suitable for	art.no.	€
DED.0050,00-D	0.5	0.57	R/L..1-D	360001 0050	
DED.0060,00-D	0.6	0.67	R/L..1-D	360001 0060	
DED.0070,00-D	0.7	0.77	R/L..1-D	360001 0070	
DED.0080,00-D	0.8	0.87	R/L..1-D	360001 0080	
DED.0090,00-D	0.9	0.97	R/L..1-D	360001 0090	
DED.0100,00-D	1.0	1.07	R/L..1-D	360001 0100	
DED.0110,00-D	1.1	1.24	R/L..1-D	360001 0110	
DED.0130,00-D	1.3	1.44	R/L..1-D	360001 0130	
DED.0160,00-D	1.6	1.74	R/L..1-D	360001 0160	
DED.0185,00-D	1.85	1.99	R/L..1-D	360001 0185	
DED.0215,00-D	2.15	2.29	R/L..2-D	360001 0215	
DED.0265,00-D	2.65	2.79	R/L..2-D	360001 0265	
DED.0315,00-D	3.15	3.29	R/L..3-D	360001 0315	
DED.0415,00-D	4.15	4.29	R/L..4-D	360001 0415	
DED.0515,00-D	5.15	5.29	R/L..4-D	360001 0515	

3131





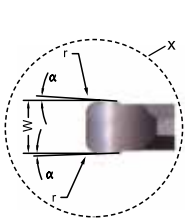


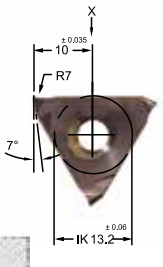
For copy and precision turning

ISO P M K N S

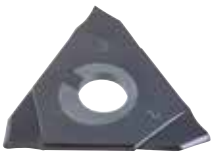
Designation	W mm	R mm	Suitable for		art.no.	€
DED.0150,02-D	1.5	0.2	R/L..1-D	1	360002 0150	
DED.0200,02-D	2.0	0.2	R/L..1-D	1	360002 0202	
DED.0200,04-D	2.0	0.4	R/L..1-D	1	360002 0204	
DED.0300,02-D	3.0	0.2	R/L..2-D	1	360002 0302	
DED.0300,06-D	3.0	0.6	R/L..2-D	5	360002 0306	
DED.0300,08-D	3.0	0.8	R/L..2-D	1	360002 0308	
DED.0400,02-D	4.0	0.2	R/L..3-D	1	360002 0402	
DED.0400,08-D	4.0	0.8	R/L..3-D	1	360002 0408	
DED.0400,12-D	4.0	1.2	R/L..3-D	1	360002 0412	

3131





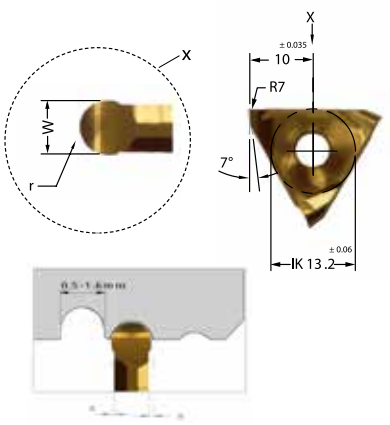




Full radius for recess turning grooves with widths from 0.5 to 1.6 mm ISO P M K N S

Designation	W mm	R mm	Suitable for	art.no.	€
DED.0002,05-D	0.5	0.25	R/L..1-D	360004 0002	
DED.0005,10-D	1.0	0.5	R/L..1-D	360004 0005	
DED.0006,12-D	1.2	0.6	R/L..1-D	360004 0006	
DED.0008,16-D	1.6	0.8	R/L..1-D	360004 0008	

3131





Full radius for recess turning grooves with widths from 2.0 to 5.0 mm ISO P M K N S

Designation	W mm	R mm	Suitable for	art.no.	€
DED.0010,20-D	2.0	1.0	R/L..2-D	360003 0010	
DED.0012,25-D	2.5	1.25	R/L..2-D	360003 0012	
DED.0015,30-D	3.0	1.5	R/L..3-D	360003 0015	
DED.0020,40-D	4.0	2.0	R/L..4-D	360003 0020	
DED.0025,50-D	5.0	2.5	R/L..4-D	360003 0025	

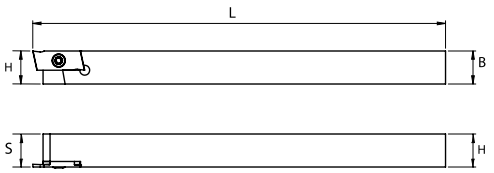
3131

palbit Grooving and parting-off system MINI

- Two cutting edges on each indexable cutting insert for extremely small-scale grooving and parting-off tasks
- Practically the entire spectrum of operations involved in grooving and parting-off work up to 2.0 mm is covered with a minimum of equipment.
- The design of the insert seat in the holder, clamped in place by means of a TORX screw, ensures a high level of repeatability and positioning precision of the cutting edge, and enables all of the indexable cutting inserts listed below to be used.

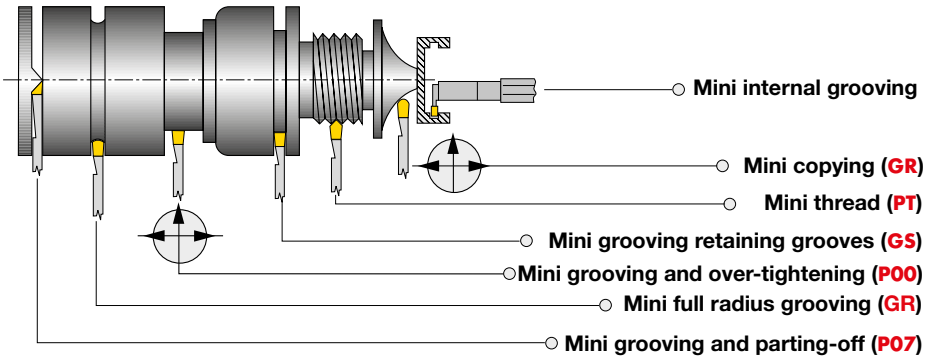
Grooving and parting-off up to 2 mm

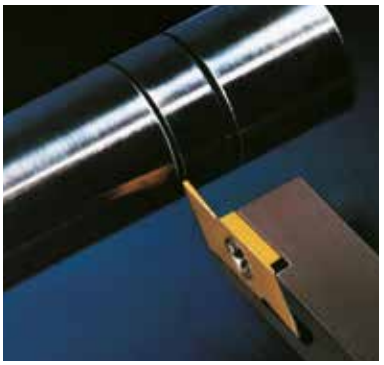




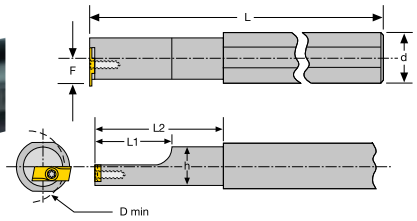
External machining

Designation	Shank width mm	Shank height mm	L mm			Right art.no.	€	Left art.no.	€
SALHER/L 0808 M07	8	8	150	A1	C1	361003 0808		361004 0808	
SALHER/L 1010 M07	10	10	150	A1	C1	361003 1010		361004 1010	
SALHER/L 1212 M07	12	12	150	A1	C1	361003 1212		361004 1212	
SALHER/L 1616 M07	16	16	150	A1	C1	361003 1616		361004 1616	
SALHER/L 2020 M07	20	20	150	A1	C1	361003 2020		361004 2020	
SALHER/L 2525 M07	25	25	150	A1	C1	361003 2525		361004 2525	
						3158		3158	









Internal machining

- For internal machining, please select right-hand inserts and left-hand holders, or left-hand inserts and right-hand holders.

Designation	D1 mm	L mm	L1 mm	L2 mm	f mm	D min. mm			Right art.no.	€	Left art.no.	€
THI -7-20	20.0	140	25	50	13.34	25.0	A1	B1	361015 0720		361016 0720	
THI -7-25	25.0	150	32	63	13.34	27.0	A1	B1	361015 0725		361016 0725	
									3158		3158	

Spare parts

	Screw art.no.	€
A1	321099 0344	
	3160	

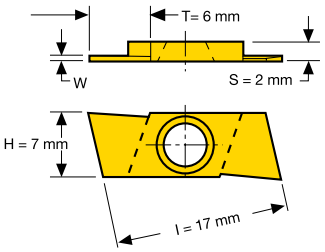
	Steel grey art.no.	€
B1	703038 0080	
	7111	

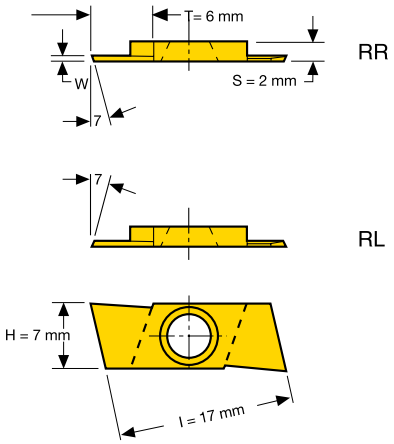
	TORX art.no.	€
C1	703053 0080	
	7114	

palbit Grooving and parting-off inserts MINI

1109

- All illustrations show RH versions





RN / LN neutral

- RN for right-hand external holder
- LN for left-hand external holder

ISO designation	W mm	T max. mm		ISO PKMS Right-hand PH 7920 art.no.	€		ISO PKMS Left-hand PH 7920 art.no.	€
SAL11P100R/LN-P00	1.00	6.00	5	361602 1050		5	361603 1050	
SAL11P150R/LN-P00	1.50	6.00	5	361602 1550		5	361603 1550	
SAL13P200R/LN-P00	2.00	6.00	5	361602 2050		5	361603 2050	
				3149			3149	



RR / RL 7°

- RR and RL for right external holders + left internal holders

ISO designation	W mm	T max. mm		ISO PKMS Right-hand PH 7920 art.no.	€		ISO PKMS Left-hand PH 7920 art.no.	€
SAL11P100RR/L-P07	1.00	6.00	5	361604 1050		5	361605 1050	
SAL11P150RR/L-P07	1.50	6.00	5	361604 1550		5	361605 1550	
SAL13P200RR/L-P07	2.00	6.00	5	361604 2050		5	361605 2050	
				3149			3149	



LR / LL 7°

- LR and LL for left external holders + right internal holders

ISO designation	W mm	T max. mm		ISO PKMS Right-hand PH 7920 art.no.	€		ISO PKMS Left-hand PH 7920 art.no.	€
SAL11P100LR/L-P07	1.00	6.00	5	361614 1050		5	361615 1050	
SAL11P150LR/L-P07	1.50	6.00	5	361614 1550		5	361615 1550	
SAL13P200LR/L-P07	2.00	6.00	5	361614 2050		5	361615 2050	
				3149			3149	



palbit Radius grooving inserts MINI

1109

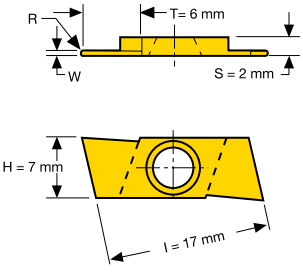
- All illustrations show RH versions



R / L

- R for right-hand external holder
- L for left-hand external holder

ISO designation	W mm	R mm		ISO PKMS Right-hand PH 7920 art.no.	€		ISO PKMS Left-hand PH 7920 art.no.	€
SAL60G100R/L-GR	1.0	0.5	5	361600 1050		5	361601 1050	
SAL60G150R/L-GR	1.5	0.75	5	361600 1550		5	361601 1550	
SAL60G200R/L-GR	2.0	1.0	5	361600 2050		5	361601 2050	
				3149			3149	



palbit Grooving inserts for retaining grooves MINI



1109

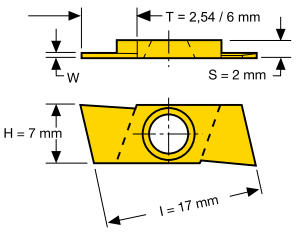
- All illustrations show RH versions

R / L

- R for right-hand external holder
- L for left-hand external holder

ISO designation	W mm	T max. mm		ISO PKMS Right-hand PH 7920 art.no.	€		ISO PKMS Left-hand PH 7920 art.no.	€
SAL25G050R/L-GS	0.50	2.50	5	361606 0550		5	361607 0550	
SAL25G070R/L-GS	0.70	2.50	5	361606 0750		5	361607 0750	
SAL25G080R/L-GS	0.80	2.50	5	361606 0850		5	361607 0850	
SAL25G090R/L-GS	0.90	2.50	5	361606 0950		5	361607 0950	
SAL60G110R/L-GS	1.10	6.00	5	361606 1050		5	361607 1050	
SAL60G130R/L-GS	1.30	6.00	5	361606 1350		5	361607 1350	
SAL60G160R/L-GS	1.60	6.00	5	361606 1650		5	361607 1650	
SAL60G185R/L-GS	1.85	6.00	5	361606 1850		5	361607 1850	
				3149			3149	





palbit Grooving inserts for thread MINI



1109

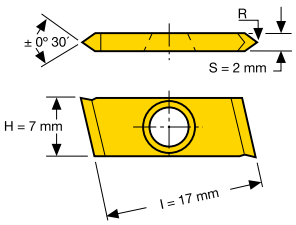
- All illustrations show RH versions

R / L 60°/55°

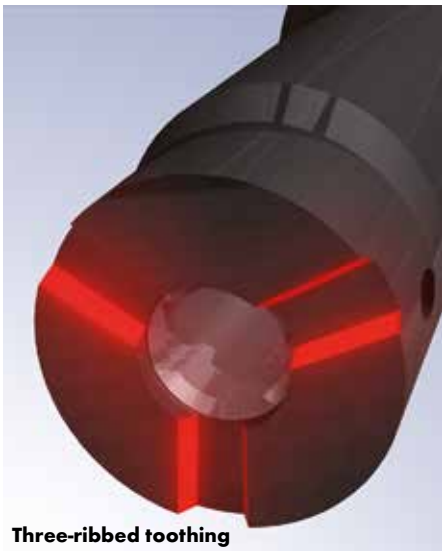
- R for right-hand external holder
- L for left-hand external holder

ISO designation	Angle °	R mm		ISO PKMS Right-hand PH 7920 art.no.	€		ISO PKMS Left-hand PH 7920 art.no.	€
SAL100H012R/L55-PT	55	0.1	5	361608 5550		5	361609 5550	
SAL100H012R/L60-PT	60	0.1	5	361608 6050		5	361609 6050	
				3149			3149	







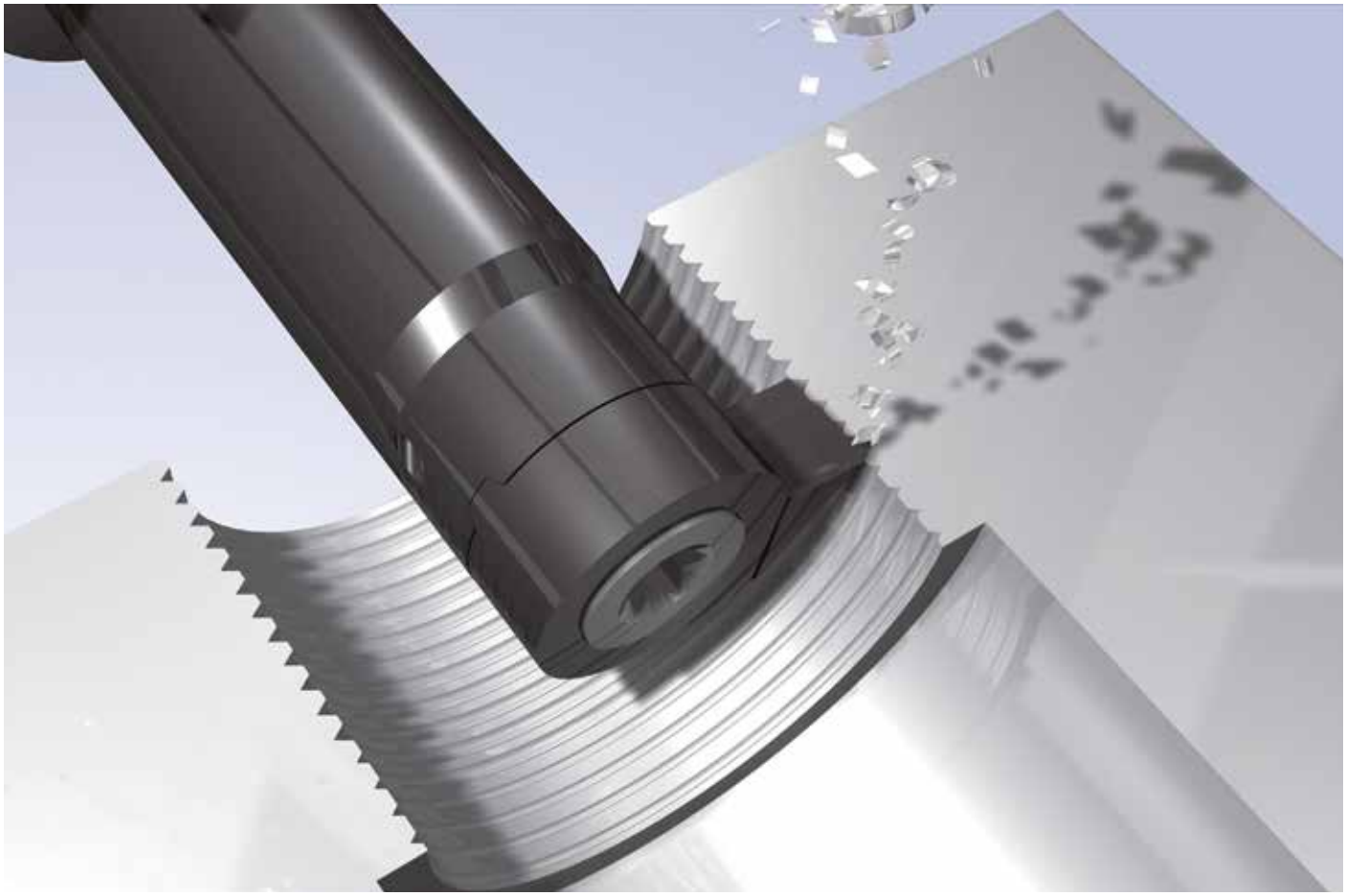


Three-ribbed toothing

Dümmel® MINI-CUT

The exchangeable carbide blades are screwed onto the front using the tried and tested three-ribbed toothing.

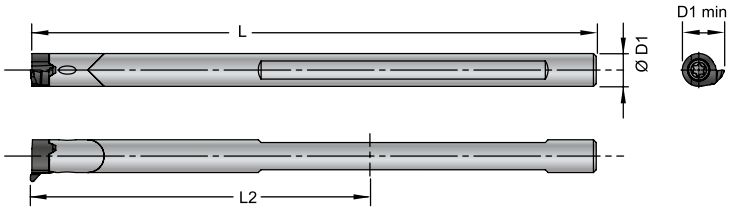
- Best repetition precision with easiest handling
- Best possible absorption of torque forces
- Very precise fixing of position of the blade at the centre of rotation



Dümmel® Tool holder MINI-CUT



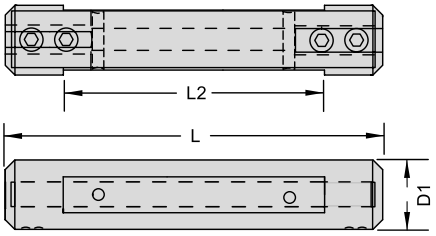
- **With internal cooling**
- For recess turning, internal turning and thread cutting (internal) from Ø 7.8 mm
- Spare clamping screws available on request
- **FLEXO** tool holder, variable clamping range from ... to ... mm (see table Clamping Length = "**L4**"
- **FLEXO** tool holder for HM cutting inserts R/LS 08 and R/LS 11
- Suitable **FLEXO** steel tool holder



FLEXO carbide tool holder

Designation	D1 mm	L mm	L2 mm	D min. mm	Suitable for	art.no.	€
V08,0006,2HM	6.0	65	18-42	8.0	R/LS08	305012 0081	
V08,0006,4HM	6.0	103.0	40-80	8.0	R/LS08	305012 0082	
V11,0008,2HM	8.0	79.0	20-55	11.0	R/LS11	305012 0111	
V11,0008,4HM	8.0	129.0	50-105	11.0	R/LS11	305012 0112	

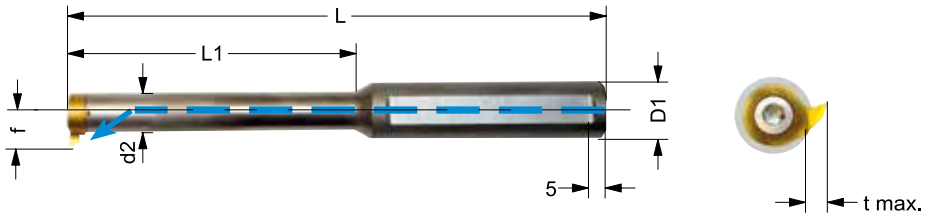
3127



FLEXO steel tool holder

Designation	D1 mm	L mm	L2 mm	art.no.	€
VG08-16	16	75	55	305013 0081	
VG08-20	20	90	70	305013 0082	
VG11-16	16	75	55	305013 0111	
VG11-20	20	90	70	305013 0112	

3127



Carbide tool holder type 608...

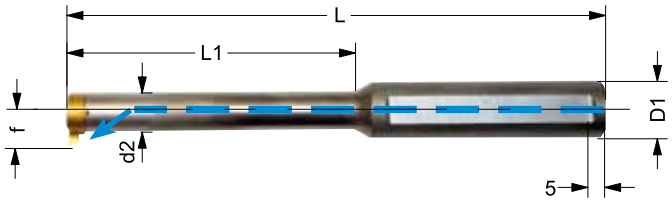
Designation	D1 mm	d2 mm	L mm	L1 mm	f mm	T max. mm	D min. mm	Suitable for		art.no.	€
608,0012,1 HM	12	6	80	21	4.8	1.0	8	R/LS08	A1	305001 0001	
608,0012,2 HM	12	6	80	30	4.8	1.0	8	R/LS08	A1	305001 0002	
608,0012,3 HM	12	6	100	42	4.8	1.0	8	R/LS08	A1	305001 0003	
608,0012,4 HM	12	6	115	50	4.8	1.0	8	R/LS08	A1	305001 0004	

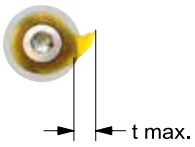
3127

Carbide tool holder 609...

Designation	D1 mm	d2 mm	L mm	L1 mm	f mm	T max. mm	D min. mm	Suitable for		art.no.	€
609,0012,1HM	12	6.6 x 7.4	90	22	5.5	1.8	9.0	R/LS09	A1	305005 0001	
609,0012,2HM	12	6.6 x 7.4	98	30	5.5	1.8	9.0	R/LS09	A1	305005 0002	
609,0012,3HM	12	6.6 x 7.4	110	42	5.5	1.8	9.0	R/LS09	A1	305005 0003	
609,0012,4HM	12	6.6 x 7.4	122	56	5.5	1.8	9.0	R/LS09	A1	305005 0004	

3127





Carbide tool holder type 611...

Designation	D1 mm	d2 mm	L mm	L1 mm	f mm	T max. mm	D min. mm	Suitable for		art.no.	€
611,0012,1 HM	12	8	95	29	6.7	2.3	11	R/LS11	A2	305002 0001	
611,0012,2 HM	12	8	110	42	6.7	2.3	11	R/LS11	A2	305002 0002	
611,0012,3 HM	12	8	120	56	6.7	2.3	11	R/LS11	A2	305002 0003	
611,0012,4 HM	12	8	130	64	6.7	2.3	11	R/LS11	A2	305002 0004	
										3127	

Carbide tool holder type 614...

Designation	D1 mm	d2 mm	L mm	L1 mm	f mm	T max. mm	D min. mm	Suitable for		art.no.	€
614,0012,1 HM	12	9.5 x 11	100	34	9	4.0/6.5	14/17	R/LS14/55/65	A3	305003 0001	
614,0012,2 HM	12	9.5 x 11	110	45	9	4.0/6.5	14/17	R/LS14/55/65	A3	305003 0002	
614,0012,3 HM	12	9.5 x 11	130	64	9	4.0/6.5	14/17	R/LS14/55/65	A3	305003 0003	
614,0016,1 HM	16	9.5 x 11	100	34	9	4.0/6.5	14/17	R/LS14/55/65	A3	305003 0004	
614,0016,2 HM	16	9.5 x 11	110	45	9	4.0/6.5	14/17	R/LS14/55/65	A3	305003 0005	
614,0016,3 HM	16	9.5 x 11	130	64	9	4.0/6.5	14/17	R/LS14/55/65	A3	305003 0006	
614,0016,4 HM	16	9.5 x 11	145	75	9	4.0/6.5	14/17	R/LS14/55/65	A3	305003 0007	
										3127	

Carbide tool holder type 616...

Designation	D1 mm	d2 mm	L mm	L1 mm	f mm	T max. mm	D min. mm	Suitable for		art.no.	€
616,0012,1 HM	12	11	130	40	10.2	4.3	16	R/LS16	A4	305004 0001	
616,0012,2 HM	12	11	130	56	10.2	4.3	16	R/LS16	A4	305004 0002	
616,0012,3 HM	12	11	150	80	10.2	4.3	16	R/LS16	A4	305004 0003	
616,0016,1 HM	16	11	130	40	10.2	4.3	16	R/LS16	A4	305004 0004	
616,0016,2 HM	16	11	130	56	10.2	4.3	16	R/LS16	A4	305004 0005	
616,0016,3 HM	16	11	150	80	10.2	4.3	16	R/LS16	A4	305004 0006	
										3127	





Carbide axial tool holder 614...

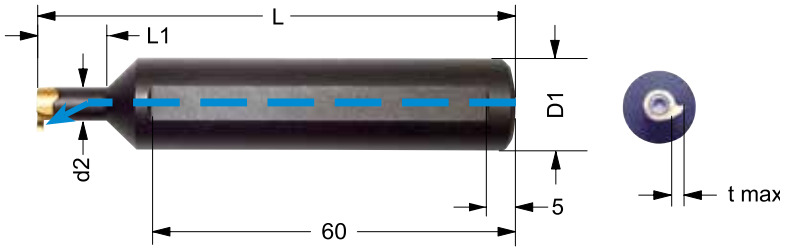
- Right-hand holder - right-hand insert
- Left-hand holder - left-hand insert

Designation	D1 mm	L mm	L1 mm	D mm	Suitable for		**Right** art.no.	€	**Left** art.no.	€
R/L614.A016,3HM	16	120	60	13.5	R/L S014	A3	305006 0003		305007 0003	
							3127		3127	

Steel axial tool holder 614...

- Right-hand holder - right-hand insert
- Left-hand holder - left-hand insert

Designation	D1 mm	L mm	L1 mm	Suitable for	D mm		**Right** art.no.	€	**Left** art.no.	€
R/L614.A016,3ST	16	90	25	R/L S014	13.5	A3	305006 0001		305007 0001	
R/L614.A016E.3ST	16	110	45	R/L S014	13.5	A3	305006 0002		305007 0002	
							3127		3127	



Steel tool holder, short

Designation	D1 mm	d2 mm	L mm	L1 mm	T max. mm	D min. mm	Suitable for		art.no.	€
608,0016,1 ST	16	6	80	12	1.0	8	R/LS08	A1	305010 0001	
609,0016,1.ST	16	6.6 x 7.4	95	14	1.8	9	R/LS09	A1	305010 0005	
611,0016,2 ST	16	8	97	16	2.3	11	R/LS11	A2	305010 0002	
614,0016,3 ST	16	9.5 x 11	100	18	4.0/6.5	14/17	R/LS14/55/65	A3	305010 0003	
616,0016,3 ST	16	11	100	22	4.3	16	R/LS16	A4	305010 0004	

3127

Steel tool holder, long

Designation	D1 mm	d2 mm	L mm	L1 mm	T max. mm	D min. mm	Suitable for		art.no.	€
608,0016,1E.ST	16	6 x 7	90	22	1.0	8	R/LS08	A1	305011 0001	
609,0016,1E.ST	16	6.6 x 7.4	105	25	1.8	9	R/LS09	A1	305011 0005	
611,0016,2E.ST	16	8 x 9.5	110	29	2.3	11	R/LS11	A2	305011 0002	
614,0016,3E.ST	16	9.5 x 11	120	38	4.0/6.5	14/17	R/LS14/55/65	A3	305011 0003	
616,0016,3E.ST	16	11 x 13.5	120	42	4.3	16	R/LS16	A4	305011 0004	

3127

Spare parts

	Screw art.no.	€
A1	305199 0026	
A2	305199 0035	
A3	305199 0040	
A4	305199 0050	

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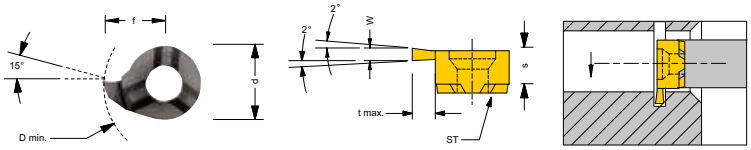
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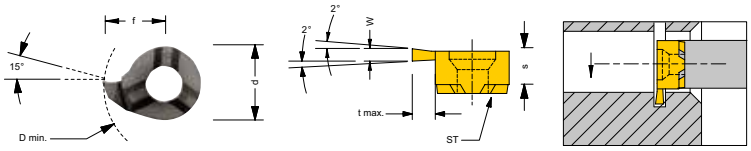
1107

Recess turning (internal)
- **For circlip grooves**
- **Carbide AL41F, TiAlN-coated**
- ST = tool holder front face
- R = right-hand, as shown
- L = left-hand, mirror image



Designation	D min. mm	T max. mm	W mm	D mm	f mm	s mm	Suitable for holder	Right-hand art.no.	€	Left-hand art.no.	€
R/LS008,0070	8	1.0	0.73	6.0	4.8	3.3	608	305020 0001		306020 0001	
R/LS008,0080	8	1.0	0.83	6.0	4.8	3.3	608	305020 0002		306020 0002	
R/LS008,0090	8	1.0	0.93	6.0	4.8	3.3	608	305020 0003		306020 0003	
R/LS008,0110	8	1.0	1.20	6.0	4.8	3.3	608	305020 0004		306020 0004	
R/LS008,0130	8	1.0	1.40	6.0	4.8	3.3	608	305020 0005		306020 0005	
R/LS008,0160	8	1.0	1.70	6.0	4.8	3.3	608	305020 0006		306020 0006	
R/LS009,0070	9	1.2	0.73	6.2	5.5	3.6	609	305020 0025		306020 0025	
R/LS009,0080	9	1.3	0.83	6.2	5.5	3.6	609	305020 0026		306020 0026	
R/LS009,0090	9	1.5	0.93	6.2	5.5	3.6	609	305020 0027		306020 0027	
R/LS009,0110	9	1.8	1.20	6.2	5.5	3.6	609	305020 0028		306020 0028	
R/LS009,0130	9	1.8	1.40	6.2	5.5	3.6	609	305020 0029		306020 0029	
R/LS009,0160	9	1.8	1.70	6.2	5.5	3.6	609	305020 0030		306020 0030	
R/LS011,0070	11	1.2	0.73	8.0	6.7	4.2	611	305020 0007		306020 0007	
R/LS011,0080	11	1.3	0.83	8.0	6.7	4.2	611	305020 0008		306020 0008	
R/LS011,0090	11	1.5	0.93	8.0	6.7	4.2	611	305020 0009		306020 0009	
R/LS011,0110	11	2.3	1.20	8.0	6.7	4.2	611	305020 0010		306020 0010	
R/LS011,0130	11	2.3	1.40	8.0	6.7	4.2	611	305020 0011		306020 0011	
R/LS011,0160	11	2.3	1.70	8.0	6.7	4.2	611	305020 0012		306020 0012	
R/LS014,0070	14	1.2	0.73	9.0	9.0	5.3	614	305020 0013		306020 0013	
R/LS014,0080	14	1.3	0.83	9.0	9.0	5.3	614	305020 0014		306020 0014	
R/LS014,0090	14	1.5	0.93	9.0	9.0	5.3	614	305020 0015		306020 0015	
R/LS014,0110	14	4.0	1.20	9.0	9.0	5.3	614	305020 0016		306020 0016	
R/LS014,0130	14	4.0	1.40	9.0	9.0	5.3	614	305020 0017		306020 0017	
R/LS014,0160	14	4.0	1.70	9.0	9.0	5.3	614	305020 0018		306020 0018	
R/LS016,0070	16	1.2	0.73	11.0	10.2	5.4	616	305020 0019		306020 0019	
R/LS016,0080	16	1.3	0.83	11.0	10.2	5.4	616	305020 0020		306020 0020	
R/LS016,0090	16	1.5	0.93	11.0	10.2	5.4	616	305020 0021		306020 0021	
R/LS016,0110	16	4.3	1.20	11.0	10.2	5.4	616	305020 0022		306020 0022	
R/LS016,0130	16	4.3	1.40	11.0	10.2	5.4	616	305020 0023		306020 0023	
R/LS016,0160	16	4.3	1.70	11.0	10.2	5.4	616	305020 0024		306020 0024	
								3127		3127	

Recess turning (internal)
- **General recess turning**
- **HM AL41F TiAlN coated**
- ST = tool holder front face
- R =right, as shown
- L = left, mirror-image

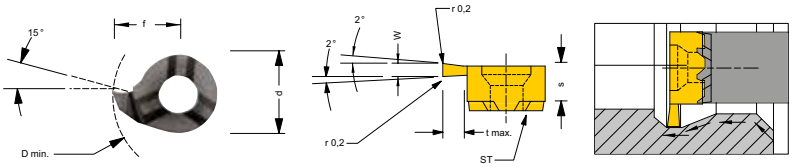


Designation	D min. mm	T max. mm	W mm	D mm	f mm	s mm	Suitable for holder	Right art.no.	€	Left-hand art.no.	€
R/LS008,0100	8	1.0	1.0	6.0	4.8	3.3	608	305021 0001		306021 0001	
R/LS008,0150	8	1.0	1.5	6.0	4.8	3.3	608	305021 0002		306021 0002	
R/LS008,0200	8	1.0	2.0	6.0	4.8	3.3	608	305021 0003		306021 0003	
R/LS009,0100	9	1.8	1.0	6.2	5.5	3.6	609	305021 0019		306021 0019	
R/LS009,0150	9	1.8	1.5	6.2	5.5	3.6	609	305021 0020		306021 0020	
R/LS009,0200	9	1.8	2.0	6.2	5.5	3.6	609	305021 0021		306021 0021	
R/LS009,0250	9	1.8	2.5	6.2	5.5	3.6	609	305021 0022		306021 0022	
R/LS009,0300	9	1.8	3.0	6.2	5.5	3.6	609	305021 0023		306021 0023	
R/LS011,0100	11	2.3	1.0	8.0	6.7	4.2	611	305021 0004		306021 0004	
R/LS011,0150	11	2.3	1.5	8.0	6.7	4.2	611	305021 0005		306021 0005	
R/LS011,0200	11	2.3	2.0	8.0	6.7	4.2	611	305021 0006		306021 0006	
R/LS011,0250	11	2.3	2.5	8.0	6.7	4.2	611	305021 0007		306021 0007	
								3127		3127	

Designation	D min. mm	T max. mm	W mm	D mm	f mm	s mm	Suitable for holder	Right art.no.	€	Left-hand art.no.	€
R/LS011,0300	11	2.3	3.0	8.0	6.7	4.2	611	305021 0008		306021 0008	
R/LS014,0150	14	4.0	1.5	9.0	9.0	5.3	614	305021 0009		306021 0009	
R/LS014,0200	14	4.0	2.0	9.0	9.0	5.3	614	305021 0010		306021 0010	
R/LS014,0250	14	4.0	2.5	9.0	9.0	5.3	614	305021 0011		306021 0011	
R/LS014,0300	14	4.0	3.0	9.0	9.0	5.3	614	305021 0012		306021 0012	
R/LS014,0318	14	4.0	3.18	9.0	9.0	5.3	614	305021 0024		306021 0024	
R/LS016,0150	16	4.3	1.5	11.0	10.2	5.4	616	305021 0013		306021 0013	
R/LS016,0200	16	4.3	2.0	11.0	10.2	5.4	616	305021 0014		306021 0014	
R/LS016,0250	16	4.3	2.5	11.0	10.2	5.4	616	305021 0015		306021 0015	
R/LS016,0300	16	4.3	3.0	11.0	10.2	5.4	616	305021 0016		306021 0016	
R/LS016,0350	16	4.3	3.5	11.0	10.2	5.4	616	305021 0017		306021 0017	
R/LS016,0400	16	4.3	4.0	11.0	10.2	5.4	616	305021 0018		306021 0018	
								3127		3127	

NC precision turning (internal)

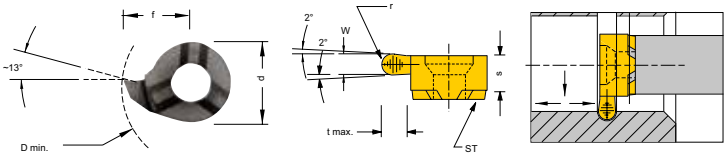
- **Carbide AL41F TiAlN-coated**
- **Ap max. = 0.2 mm (maximum cutting depth)**
- ST = tool holder front face
- R = right-hand, as shown
- L = left-hand, mirror image



Designation	D min. mm	T max. mm	W mm	D mm	f mm	s mm	Suitable for holder	Right-hand art.no.	€	Left-hand art.no.	€
R/LS08,150.02	8	1.0	1.5	6.0	4.8	3.3	608	305025 0001		306025 0001	
R/LS08,200.02	8	1.0	2.0	6.0	4.8	3.3	608	305025 0002		306025 0002	
R/LS09,150.02	9	1.8	1.5	6.2	5.5	3.6	609	305025 0008		306025 0008	
R/LS09,200.02	9	1.8	2.0	6.2	5.5	3.6	609	305025 0009		306025 0009	
R/LS09,150.02,10	10	2.8	1.5	6.2	6.5	3.6	609	305025 0010		306025 0010	
R/LS09,200.02,10	10	2.8	2.0	6.2	6.5	3.6	609	305025 0011		306025 0011	
R/LS11,100.02	11	2.3	1.0	8.0	6.7	4.2	611	305025 0012		306025 0012	
R/LS11,150.02	11	2.3	1.5	8.0	6.7	4.2	611	305025 0003		306025 0003	
R/LS11,200.02	11	2.3	2.0	8.0	6.7	4.2	611	305025 0004		306025 0004	
R/LS14,150.02	14	4.0	1.5	9.0	9.0	5.3	614	305025 0005		306025 0005	
R/LS14,200.02	14	4.0	2.0	9.0	9.0	5.3	614	305025 0006		306025 0006	
R/LS16,200.02	16	4.3	2.0	11.0	10.2	5.4	616	305025 0007		306025 0007	
								3127		3127	

Recess turning (internal)

- **Full radius**
- **HM AL41F TiAlN coated**
- ST = tool holder front face
- R =right, as shown
- L = left, mirror-image

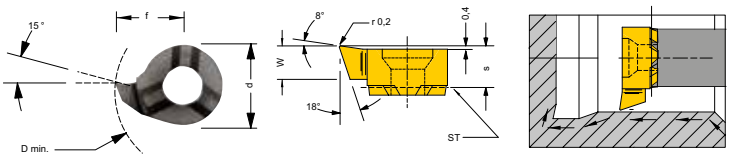


Designation	D min. mm	T max. mm	W mm	R mm	D mm	f mm	s mm	Suitable for holder	Right-hand art.no.	€	Left-hand art.no.	€
R/LS08,008R04	8	1.0	0.8	0.4	6.0	4.8	3.3	608	305030 0001		306030 0001	
R/LS08,012R06	8	1.0	1.2	0.6	6.0	4.8	3.3	608	305030 0002		306030 0002	
R/LS08,018R09	8	1.0	1.8	0.9	6.0	4.8	3.3	608	305030 0003		306030 0003	
R/LS08,020R10	8	1.0	2.0	1.0	6.0	4.8	3.3	608	305030 0018		306030 0018	
R/LS09,008R04	9	1.6	0.8	0.4	6.2	5.5	3.5	609	305030 0019		306030 0019	
R/LS09,012R06	9	1.6	1.2	0.6	6.2	5.5	3.5	609	305030 0020		306030 0020	
R/LS09,018R09	9	1.6	1.8	0.9	6.2	5.5	3.5	609	305030 0021		306030 0021	
R/LS09,020R10	9	1.6	2.0	1.0	6.2	5.5	3.5	609	305030 0022		306030 0022	
R/LS11,008R04	11	2.3	0.8	0.4	8.0	6.7	4.2	611	305030 0004		306030 0004	
R/LS11,012R06	11	2.3	1.2	0.6	8.0	6.7	4.2	611	305030 0005		306030 0005	
R/LS11,018R09	11	2.3	1.8	0.9	8.0	6.7	4.2	611	305030 0006		306030 0006	
R/LS11,020R10	11	2.3	2.0	1.0	8.0	6.7	4.2	611	305030 0007		306030 0007	
R/LS11,024R12	11	2.3	2.4	1.2	8.0	6.7	4.2	611	305030 0023		306030 0023	
R/LS11,030R15	11	2.3	3.0	1.5	8.0	6.7	4.2	611	305030 0008		306030 0008	
R/LS14,008R04	14	4.0	0.8	0.4	9.0	9.0	5.3	614	305030 0024		306030 0024	
R/LS14,012R06	14	4.0	1.2	0.6	9.0	9.0	5.3	614	305030 0009		306030 0009	
R/LS14,018R09	14	4.0	1.8	0.9	9.0	9.0	5.3	614	305030 0010		306030 0010	
R/LS14,020R10	14	4.0	2.0	1.0	9.0	9.0	5.3	614	305030 0011		306030 0011	
									3127		3127	

Designation	D min. mm	T max. mm	W mm	R mm	D mm	f mm	s mm	Suitable for holder	Right-hand art.no.	€	Left-hand art.no.	€
R/LS14,022R11	14	4.0	2.2	1.1	9.0	9.0	5.3	614	305030 0012		306030 0012	
R/LS14,030R15	14	4.0	3.0	1.5	9.0	9.0	5.3	614	305030 0013		306030 0013	
R/LS16,018R09	16	4.3	1.8	0.9	11.0	10.2	5.4	616	305030 0014		306030 0014	
R/LS16,020R10	16	4.3	2.0	1.0	11.0	10.2	5.4	616	305030 0026		306030 0026	
R/LS16,022R11	16	4.3	2.2	1.1	11.0	10.2	5.4	616	305030 0015		306030 0015	
R/LS16,024R12	16	4.3	2.4	1.2	11.0	10.2	5.4	616	305030 0027		306030 0027	
R/LS16,030R15	16	4.3	3.0	1.5	11.0	10.2	5.4	616	305030 0016		306030 0016	
R/LS16,032R16	16	4.3	3.2	1.6	11.0	10.2	5.4	616	305030 0028		306030 0028	
R/LS16,040R20	16	4.3	4.0	2.0	11.0	10.2	5.4	616	305030 0017		306030 0017	
									3127		3127	

Turning and copying (internal)

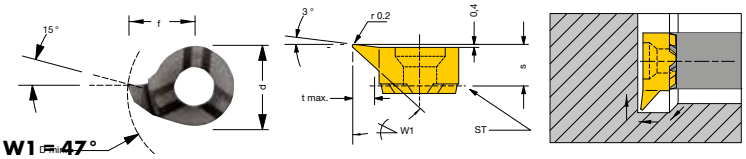
- **Carbide AL41F, TiAlN-coated**
- Ap max. = maximum cutting depth
- ST = tool holder front face
- R = right-hand, as shown
- L = left-hand, mirror image



Designation	D min. mm	ap max. mm	W mm	D mm	f mm	s mm	Suitable for holder	Right art.no.	€	Left art.no.	€
R/LS08,1846,02	7.8	0.6	3.3	6.0	4.65	3.5	608	305035 0001		306035 0001	
R/LS11,1855,02	9.8	1.0	3.9	8.0	5.50	4.2	611	305035 0002		306035 0002	
R/LS11,1867,02	11.0	1.0	3.9	8.0	6.70	4.2	611	305035 0003		306035 0003	
R/LS14,1867,02	13.8	1.5	5.0	9.0	8.70	5.3	614	305035 0004		306035 0004	
R/LS16,1897,02	15.5	1.5	5.0	11.0	9.70	5.4	616	305035 0005		306035 0005	
								3127		3127	

Internal turning, internal thread undercuts (DIN 509)

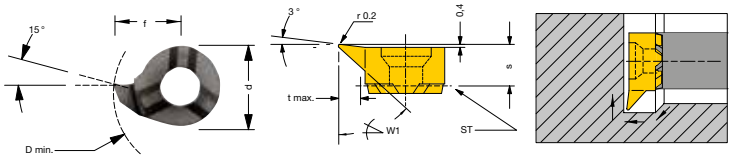
- **Carbide AL41F, TiAlN-coated**
- Ap max. = maximum cutting depth
- ST = tool holder front face
- R = right-hand, as shown
- L = left-hand, mirror image
- **Internal turning and internal thread undercuts (DIN 509), angle W1 = 47°**



Designation	D min. mm	T max. mm	ap max. mm	D mm	f mm	s mm	Suitable for holder	Right art.no.	€	Left art.no.	€
R/LS08,4746,02	7.8	1.2	0.4	6.0	4.65	3.5	608	305040 0001		306040 0001	
R/LS11,4767,02	11.0	2.3	0.6	8.0	6.70	4.2	611	305040 0002		306040 0002	
R/LS14,4787,02	13.7	3.0	0.8	9.0	8.70	5.3	614	305040 0003		306040 0003	
								3127		3127	

Copying

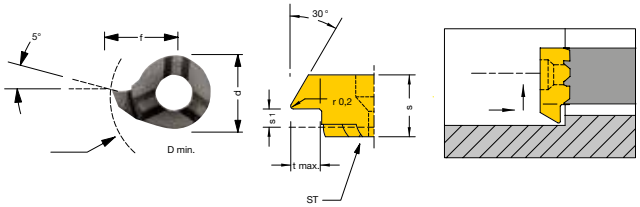
- **Carbide AL41F, TiAlN-coated**
- Ap max. = maximum cutting depth
- ST = tool holder front face
- R = right-hand, as shown
- L = left-hand, mirror image
- **Copying, angle W1 = 30°**



Designation	D min. mm	T max. mm	ap max. mm	D mm	f mm	s mm	Suitable for holder	Right art.no.	€	Left art.no.	€
R/LS08,2555,02	7.8	1.2	0.4	6.0	4.65	3.5	608	305045 0001		306045 0001	
R/LS11,2755,02	11.0	2.3	0.6	8.0	6.70	4.2	611	305045 0002		306045 0002	
R/LS14,3555,02	13.7	4.0	0.8	9.0	8.70	5.3	614	305045 0003		306045 0003	
R/LS16,4055,02	15.8	4.3	0.8	11.0	10.20	5.4	616	305045 0004		306045 0004	
								3127		3127	

Reverse turning (internal)

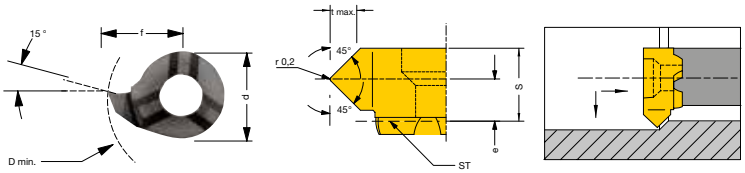
- **Carbide AL41F TiAlN-coated**
- Ap max. = maximum cutting depth
- ST = tool holder front face
- R = right-hand, as shown
- L = left-hand, mirror image



Designation	D min. mm	T max. mm	ap max. mm	D mm	f mm	s mm	Suitable for holder	Right-hand art.no.	€	Left-hand art.no.	€
R/LS08,3046,02	7.8	1.3	0.6	6.0	4.65	3.5	608	305050 0001		306050 0001	
R/LS09,3055,02	9.0	1.7	0.8	6.2	5.50	3.55	609	305050 0004		306050 0004	
R/LS09,3065,02	10.0	2.3	0.8	6.2	6.50	3.55	609	305050 0005		306050 0005	
R/LS11,3067,02	11.0	2.3	1.0	8.0	6.70	4.3	611	305050 0002		306050 0002	
R/LS14,3087,02	13.8	3.5	1.5	9.0	8.70	5.4	614	305050 0003		306050 0003	
								3127		3127	

Chamfering and turning (internal)

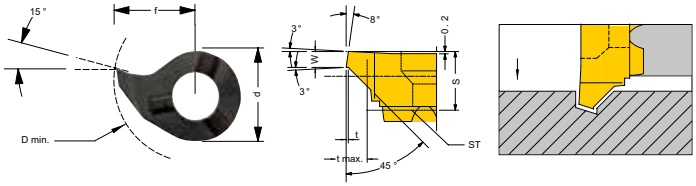
- **Carbide AL41F, TiAlN-coated**
- Ap max. = maximum cutting depth
- ST = tool holder front face
- R = right-hand, as shown
- L = left-hand, mirror image



Designation	D min. mm	T max. mm	ap max. mm	D mm	f mm	s mm	Suitable for holder	Right-hand art.no.	€	Left-hand art.no.	€
R/LS08,4545,02	8.0	1.4	0.6	6.0	4.8	3.7	608	305055 0001		306055 0001	
R/LS09,4545,02	9.0	1.3	0.8	6.2	5.5	3.55	609	305055 0004		306055 0004	
R/LS11,4545,02	11.0	1.5	1.0	8.0	6.7	4.3	611	305055 0002		306055 0002	
R/LS14,4545,02	14.0	1.5	1.2	9.0	9.0	5.35	614	305055 0003		306055 0003	
								3127		3127	

Roughing and chamfering (internal)

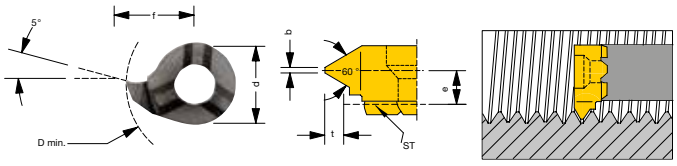
- **Carbide AL41F, TiAlN-coated**
- ST = tool holder front face
- R = right-hand, as shown
- L = left-hand, mirror image
- **t = 0.2 mm**



Designation	D min. mm	T max. mm	W mm	D mm	f mm	s mm	Suitable for holder	Right-hand art.no.	€	Left-hand art.no.	€
R/LS08,0810,45	8.0	1.0	1.0	6.0	4.8	3.3	608	305060 0001		306060 0001	
R/LS09,0810,45	9.0	1.5	1.0	6.2	5.5	3.6	609	305055 0005		306055 0005	
R/LS11,0810,45	11.0	1.5	1.0	8.0	6.7	4.2	611	305060 0002		306060 0002	
R/LS14,0815,45	14.0	1.5	1.0	9.0	9.0	5.3	614	305060 0003		306060 0003	
R/LS16,0815,45	16.0	1.5	1.0	11.0	10.2	5.4	616	305060 0004		306060 0004	
								3127		3127	

Thread turning (internal), coarse-pitch thread, partial profile 60°

- **Carbide AL41F, TiAlN-coated**
- ST = tool holder front face
- R = right-hand, as shown
- L = left-hand, mirror image
- All other thread types are available on request

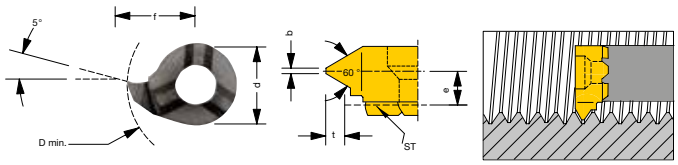


Designation	D min. mm	Pitch mm	T max. mm	D mm	f mm	s mm	Suitable for holder	Right-hand art.no.	€	Left-hand art.no.	€
R/LS08,0205,01	8.0	0.5-0.75	0.43	6.0	4.8	3.4	608	305065 0007		306065 0007	
R/LS08,0510,01	8.0	1.0-1.25	0.70	6.0	4.8	3.4	608	305065 0008		306065 0008	
R/LS08,0815,01	8.0	1.5-1.75	0.95	6.0	4.8	3.4	608	305065 0001		306065 0001	
R/LS09,0205,01	9.0	0.5-0.75	0.27	6.2	5.5	3.55	609	305065 0009		306065 0009	
R/LS09,0510,01	9.0	1.0-1.25	0.54	6.2	5.5	3.55	609	305065 0010		306065 0010	
R/LS09,0815,01	9.0	1.5-1.75	0.81	6.2	5.5	3.55	609	305065 0011		306065 0011	
R/LS09,0917,01	9.0	1.75-2.0	0.95	6.2	5.5	3.55	609	305065 0012		306065 0012	
R/LS09,1020,01	9.0	2.0-2.5	1.08	6.2	5.5	3.55	609	305065 0013		306065 0013	
R/LS09,1325,01	9.0	2.5-3.0	1.35	6.2	5.5	3.55	609	305065 0014		306065 0014	
R/LS09,1630,01	9.0	3.0-3.5	1.62	6.2	5.5	3.55	609	305065 0015		306065 0015	
R/LS11,0205,01	11.0	0.5-0.75	0.41	8.0	6.7	4.2	611	305065 0016		306065 0016	
								3127		3127	

Designation	D min. mm	Pitch mm	T max. mm	D mm	f mm	s mm	Suitable for holder	Right-hand art.no.	€	Left-hand art.no.	€
R/LS11,0510,01	11.0	1.0-1.25	0.55	8.0	6.7	4.2	611	305065 0017		306065 0017	
R/LS11,0815,01	11.0	1.5-1.75	0.81	8.0	6.7	4.2	611	305065 0018		306065 0018	
R/LS11,1020,01	11.0	2.0-2.5	1.08	8.0	6.7	4.3	611	305065 0002		306065 0002	
R/LS11,1325,01	11.0	2.5-3.0	1.35	8.0	6.7	4.3	611	305065 0003		306065 0003	
R/LS14,0510,01	14.0	1.0-1.25	0.55	9.0	9.0	5.4	614	305065 0019		306065 0019	
R/LS14,0815,01	14.0	1.5-1.75	0.81	9.0	9.0	5.4	614	305065 0020		306065 0020	
R/LS14,1020,01	14.0	2.0-2.5	1.08	9.0	9.0	5.4	614	305065 0004		306065 0004	
R/LS14,1325,01	14.0	2.5-3.0	1.35	9.0	9.0	5.4	614	305065 0005		306065 0005	
R/LS16,0510,01	16.0	1.0-1.25	0.55	11.0	10.2	5.4	616	305065 0021		306065 0021	
R/LS16,0815,01	16.0	1.5-1.75	0.81	11.0	10.2	5.4	616	305065 0022		306065 0022	
R/LS16,1020,01	16.0	2.0-2.5	1.08	11.0	10.2	5.4	616	305065 0023		306065 0023	
R/LS16,1325,01	16.0	2.5-3.0	1.35	11.0	10.2	5.4	616	305065 0006		306065 0006	
								3127		3127	

Thread turning (internal), coarse-pitch thread, full profile 60°

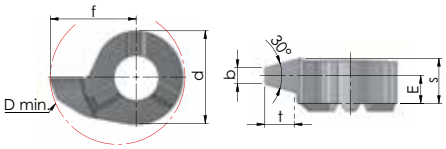
- **Carbide AL41F TiAlN-coated**
- ST = tool holder front face
- R = right-hand, as shown
- L = left-hand, mirror image
- All other thread types are available on request



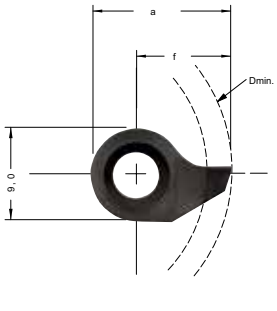
Designation	D min. mm	Pitch mm	D mm	f mm	s mm	Suitable for holder	Right-hand art.no.	€	Left-hand art.no.	€
R/LS09,0205,02	9.0	0.5	6.2	5.5	3.65	609	305075 0010		306075 0010	
R/LS09,0510,02	9.0	1.0	6.2	5.5	3.65	609	305075 0011		306075 0011	
R/LS09,0815,02	9.0	1.5	6.2	5.5	3.6	609	305075 0012		306075 0012	
R/LS09,0917,02	9.0	1.75	6.2	5.5	3.6	609	305075 0013		306075 0013	
R/LS09,1020,02	9.0	2.0	6.2	5.5	3.55	609	305075 0014		306075 0014	
R/LS09,1325,02	9.0	2.5	6.2	5.5	3.55	609	305075 0015		306075 0015	
R/LS09,1630,02	9.0	3.0	6.2	5.5	3.55	609	305075 0016		306075 0016	
R/LS11,1020,02	11	2.0	8.0	6.7	4.3	611	305075 0001		306075 0001	
R/LS11,1325,02	11	2.5	8.0	6.7	4.3	611	305075 0002		306075 0002	
R/LS11,1630,02	11	3.0	8.0	6.7	4.3	611	305075 0003		306075 0003	
R/LS14,1020,02	14	2.0	9.0	9.0	5.4	614	305075 0004		306075 0004	
R/LS14,1325,02	14	2.5	9.0	9.0	5.4	614	305075 0005		306075 0005	
R/LS16,1325,02	16	2.5	11.0	10.2	5.5	616	305075 0006		306075 0006	
R/LS16,1630,02	16	3.0	11.0	10.2	5.5	616	305075 0007		306075 0007	
R/LS16,1835,02	16	3.5	11.0	10.2	5.5	616	305075 0008		306075 0008	
R/LS16,2140,02	16	4.0	11.0	10.2	5.5	616	305075 0009		306075 0009	
							3127		3127	

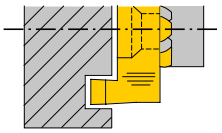
Thread turning (internal), trapezoid thread, partial profile

- **Carbide AL41F TiAlN-coated**
- ST = tool holder front face
- R = right-hand, as shown
- L = left-hand, mirror image



Designation	D min. mm	Pitch mm	T max. mm	D mm	f mm	s mm	Suitable for holder	Right art.no.	€	Left-hand art.no.	€
R/LS09,1015,01	9	1.5	0.9	6.2	5.5	3.55	609	305090 0013		306090 0013	
R/LS09,1220,01	9	2.0	1.25	6.2	5.5	3.55	609	305090 0014		306090 0014	
R/LS09,1730,01	9	3.0	1.75	6.2	5.5	3.55	609	305090 0015		306090 0015	
R/LS09,2240,01	10	4.0	2.25	6.2	6.5	3.55	609	305090 0016		306090 0016	
R/LS11,1015,01	11	1.5	0.9	8.0	6.7	4.3	611	305090 0001		306090 0001	
R/LS11,1220,01	11	2.0	1.25	8.0	6.7	4.3	611	305090 0002		306090 0002	
R/LS11,1730,01	11	3.0	1.75	8.0	6.7	4.3	611	305090 0003		306090 0003	
R/LS11,2240,01	11	4.0	2.25	8.0	6.7	4.0	611	305090 0004		306090 0004	
R/LS14,1220,01	14	2.0	1.25	9.0	9.0	5.3	614	305090 0005		306090 0005	
R/LS14,1730,01	14	3.0	1.75	9.0	9.0	5.3	614	305090 0006		306090 0006	
R/LS14,2240,01	14	4.0	2.25	9.0	9.0	5.3	614	305090 0007		306090 0007	
R/LS14,2750,01	14	5.0	2.75	9.0	9.0	5.3	614	305090 0008		306090 0008	
R/LS16,1220,01	16	2.0	1.25	11	9.7	5.5	616	305090 0009		306090 0009	
R/LS16,1730,01	16	3.0	1.75	11	9.7	5.5	616	305090 0010		306090 0010	
R/LS16,2240,01	16	4.0	2.25	11	9.7	5.5	616	305090 0011		306090 0011	
R/LS16,2750,01	16	5.0	2.75	11	10.2	5.5	616	305090 0012		306090 0012	
								3127		3127	



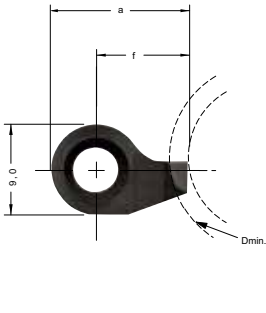


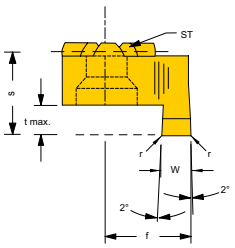
Illustrations show right-hand version

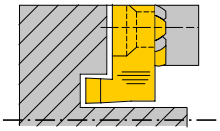
Axial grooving, right-hand cutting

- **Carbide AL41F, TiAlN-coated**
- ST = tool holder front face
- R = right, right-hand cutting insert as shown
- L = left, mirror image left-hand cutting insert

Designation	D min. mm	T max. mm	W mm	D mm	R mm	f mm	s mm	Suitable for holder	**Right** art.no.	€	**Left** art.no.	€
R/LS014,1410,00	14.0	1.5	1.0	13.5	0.2	9.0	8.3	614	305100 0001		306100 0001	
R/LS014,1415,02	14.0	2.5	1.5	13.5	0.2	9.0	8.3	614	305100 0002		306100 0002	
R/LS014,1420,02	14.0	3.0	2.0	13.5	0.2	9.0	8.3	614	305100 0003		306100 0003	
R/LS014,1420,52	14.0	5.0	2.0	13.5	0.2	9.0	10.3	614	305100 0006		306100 0006	
R/LS014,1425,02	14.0	3.0	2.5	13.5	0.2	9.0	8.3	614	305100 0004		306100 0004	
R/LS014,1425,52	14.0	5.0	2.5	13.5	0.2	9.0	10.3	614	305100 0007		306100 0007	
R/LS014,1430,02	14.0	3.0	3.0	13.5	0.2	9.0	8.3	614	305100 0005		306100 0005	
R/LS014,1430,52	14.0	5.0	3.0	13.5	0.2	9.0	10.3	614	305100 0008		306100 0008	
									3127		3127	







Axial grooving, left-hand cutting past pins

- **Carbide AL41F, TiAlN-coated**
- ST = tool holder front face
- R = right, left-hand cutting insert as shown
- L = left, mirror image right-hand cutting insert

Designation	D min. mm	T max. mm	W mm	D mm	R mm	f mm	s mm	Suitable for holder	**Right** art.no.	€	**Left** art.no.	€
R/LS014,1210,00	12.0	1.5	1.0	11.5	-	7.0	8.3	614	305095 0001		306095 0001	
R/LS014,1215,02	12.0	2.5	1.5	12.0	0.2	7.5	8.3	614	305095 0002		306095 0002	
R/LS014,1220,02	12.0	3.0	2.0	12.5	0.2	8.0	8.3	614	305095 0003		306095 0003	
R/LS014,1220,52	12.0	5.0	2.0	12.5	0.2	8.0	10.3	614	305095 0006		306095 0006	
R/LS014,1225,02	12.0	3.0	2.5	13.0	0.2	8.5	8.3	614	305095 0004		306095 0004	
R/LS014,1225,52	12.0	5.0	2.5	13.0	0.2	8.5	10.3	614	305095 0007		306095 0007	
R/LS014,1230,02	12.0	3.0	3.0	13.5	0.2	9.0	8.3	614	305095 0005		306095 0005	
R/LS014,1230,52	12.0	5.0	3.0	13.5	0.2	9.0	10.3	614	305095 0008		306095 0008	
									3127		3127	

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Dümmel WERKZEUGFABRIK Carbide metal internal turning tools mini-børe

INFO

from a diameter of 0.6 mm,
with internal coolant supply

Hollow turning, internal plunge turning, internal turning and chamfering, roughing and internal chamfering for subsequent parting as well as internal threading for small bore diameters continually pose new problems for production – problems that can often be solved only with special tools.

Mini-børe has been developed specifically to solve these problems and offers optimum conditions for cost-effective bore machining with diameters starting from 0.6 mm. The favourable cost-breakdown of the cutting inserts means that custom productions are no longer worthwhile.

The cutting inserts, available in right-hand and left-hand designs, are supported by a tool holder that can be used for both designs. The tool holder and cutting inserts are fitted with an internal coolant supply.

Cutting material

K10F uncoated, all-purpose fine-grain carbide metal, suitable for application at low and medium cutting speeds and for machining non-ferrous metals

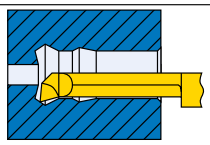
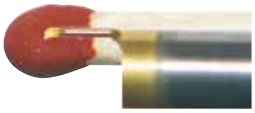
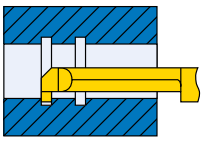
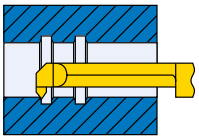
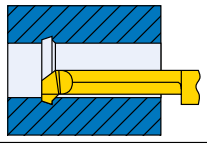
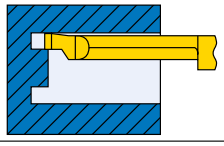
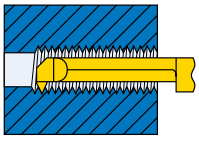
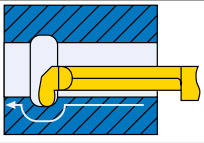
CN45F TiN coated
All-rounder, for medium to high cutting speeds, with restrictions for non-ferrous metals

AL41F TiAlN coated
High temperature resistance at high hardness levels, also very well suited to non-ferrous metals

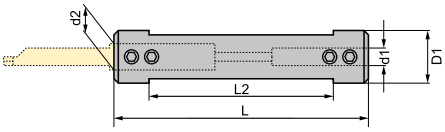
Special designs
If you have internal machining problems that cannot be handled with the cutting insert sizes listed here, we will be pleased to present you with possible solutions.



from Ø 0,2 mm

	**Hollow turning** from diameters of 0.2 mm / up to 7 x D 
	**Internal plunge turning** from diameters of 4 mm / up to 7 x D
	**Hollow turning and chamfering** from diameters of 5 mm
	**Internal roughing and chamfering** for subsequent parting-off from diameters of 5 mm
	**Axial groove turning** from external groove diameters of 15 mm
	**Internal threading** from diameters of 4 mm
	**Internal plunge turning** from diameters of 4 mm, full radius (on request)

Dümmel® Tool holder mini-børe



- **With internal coolant supply**
- For holding right-hand and left-hand cutting inserts
- Two different holder Ø measurements (d1 and d2)
- Central coolant supply through the tool holder
- Axial position of the cutting inserts in the tool holder can be precisely reproduced via a built-in depth stop
- Radial position of the cutting edge is guaranteed by tension applied to the lateral clamping surface of the cutting inserts by the clamping screws
- Size 0316 and 0320 for 304450.... and 304455.... and high-pressure applications with central cooling hole

Designation	D1 mm	d1 mm	d2 mm	L mm	L2 mm	Suitable for	art.no.	€
645,0012-D	12.0	4	5	75	55	4 / 5	304001 0012	
645,0016-D	16.0	4	5	75	55	4 / 5	304001 0016	
645,0020-D	20.0	4	5	90	70	4 / 5	304001 0020	
676,0016-D	16.0	6	7	75	55	6 / 7	304001 0216	
676,0020-D	20.0	6	7	90	70	6 / 7	304001 0220	
687,0016-D	16.0	7	8	75	55	7 / 8	304001 0316	
687,0020-D	20.0	7	8	90	70	7 / 8	304001 0320	
681,0020-D	20.0	8	10	100	80	8 / 10	304001 0420	

3125

Dümmel® Tool holder mini-børe

- **With internal coolant supply**
- Tool holder in short and long version
- Suitable reducing bush for cutting insert sizes 4 to 10



Tool holder UM.RBD 12.

Designation	D1 mm	L2 mm	L mm	Max. torque N-m		art.no.	€
UM.RBD12,0016,120	16.0	32	121.8	1.2	A1	304005 0001	
UM.RBD12,0020,60	20.0	17	61.8	1.2	A1	304005 0004	
UM.RBD12,0020,120	20.0	17	121.8	1.2	A1	304005 0005	
UM.RBD12,0020,150	20.0	17	151.8	1.2	A1	304005 0006	
UM.RBD12,0022,60	22.0	17	61.8	1.2	A1	304005 0007	
UM.RBD12,0022,120	22.0	17	121.8	1.2	A1	304005 0008	
UM.RBD12,0022,150	22.0	17	151.8	1.2	A1	304005 0009	
UM.RBD12,0025,60	25.0	17	61.8	1.2	A1	304005 0010	
UM.RBD12,0025,120	25.0	17	121.8	1.2	A1	304005 0011	
UM.RBD12,0025,150	25.0	17	151.8	1.2	A1	304005 0012	

3125

Spare parts

	Screw art.no.	€
A1	304099 0001	

3125

Reducing bushes

- For tool holder UM.RBD12

Designation	Suitable for	art.no.	€
UMHB-RBD1204	4	304006 1204	
UMHB-RBD1205	5	304006 1205	
UMHB-RBD1206	6	304006 1206	
UMHB-RBD1207	7	304006 1207	
UMHB-RBD1208	8	304006 1208	
UMHB-RBD1210	10	304006 1210	

3125



Dümmel® Tool holder mini-børe



- **With internal coolant supply**
- Manual tightening without additional wrench
- Repeatability +/- 0.005mm (high precision)
- Easy operation
- Ideal in tight spaces
- When using reverse driver or high-pressure cooling, must be tightened with wrench
- Tightening possible with open-end spanner AF15

Designation	D1 mm	L mm	L2 mm	Suitable for			art.no.	€
UM600H.S016,4	16.0	65	35	4	A1	B1	304007 0001	
UM600H.S016,5	16.0	65	35	5	A2	B1	304007 0002	
UM600H.S016,6	16.0	65	35	6	A3	B1	304007 0003	
UM600H.S016,7	16.0	65	37.5	7	A4	B1	304007 0004	
UM600H.S020,4	20.0	65	32	4	A1	B1	304007 0009	
UM600H.S020,5	20.0	65	32	5	A2	B1	304007 0010	
UM600H.S020,6	20.0	65	34	6	A3	B1	304007 0011	
UM600H.S020,7	20.0	65	34	7	A4	B1	304007 0012	
UM600H.S022,4	22.0	65	32	4	A1	B1	304007 0013	
UM600H.S022,5	22.0	65	32	5	A2	B1	304007 0014	
UM600H.S022,6	22.0	65	32	6	A3	B1	304007 0015	
UM600H.S022,7	22.0	65	34	7	A4	B1	304007 0016	
UM600H.S025,4	25.0	65	32	4	A1	B1	304007 0017	
UM600H.S025,5	25.0	65	32	5	A2	B1	304007 0018	
UM600H.S025,6	25.0	65	32	6	A3	B1	304007 0019	
UM600H.S025,7	25.0	65	32	7	A4	B1	304007 0020	

3125

Spare parts

	Union nut art.no.	€
A1	304008 0004	
A2	304008 0005	
A3	304008 0006	
A4	304008 0007	

3125

	Wedge art.no.	€
B1	304099 0002	

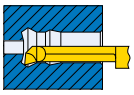
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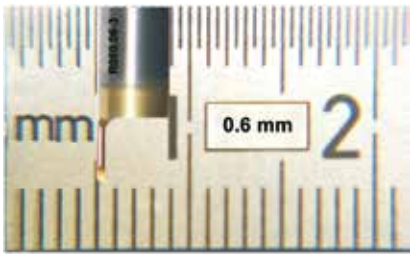
Dümmel® Cutting inserts mini-børe

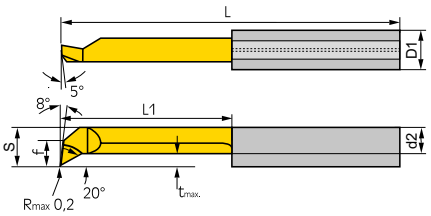
1108

- **With internal coolant supply**
- Straight shank and lateral clamping surface
- Right-hand and left-hand versions
- **Cutting material:**
  K10F finest grain carbide, uncoated,
  CN45F finest grain carbide **TiN coated,**
  AL41F superfine grain carbide **TiAlN**

From Ø 0.6 mm L1 to 7 x D





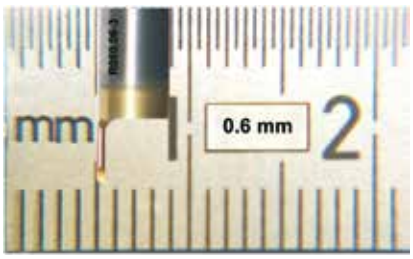


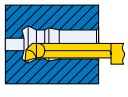


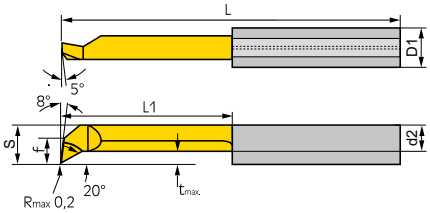
Internal turning

- From 2.0 mm bore diameter
- Cutting inserts, uncoated

Designation	D1 mm	f mm	R mm	d2 mm	s mm	L mm	L1 mm	T max. mm	D min. mm	Suitable for	ISO N K K10F right-hand art.no.	€	ISO N K K10F left-hand art.no.	€
R/L 050,2-5	4.0	-	0.05	1.5	1.7	19	5	0.1	2.0	645...	304101 0101		304105 0101	
R/L 050,2-10	4.0	-	0.05	1.5	1.7	24	10	0.1	2.0	645...	304101 0102		304105 0102	
R/L 050,2-15	4.0	-	0.05	1.5	1.7	29	15	0.1	2.0	645...	304101 0103		304105 0103	
R/L 050,3-10	4.0	0.6	0.1	2.3	2.6	24	10	0.2	2.8	645...	304101 0001		304105 0001	
R/L 050,3-16	4.0	0.6	0.1	2.3	2.6	30	16	0.2	2.8	645...	304101 0403		304105 0403	
R/L 050,3-20	4.0	0.6	0.1	2.3	2.6	34	20	0.2	2.8	645...	304101 0003		304105 0003	
R/L 050,4-10	4.0	1.5	0.1	3.0	3.5	24	10	0.3	4.0	645...	304101 0010		304105 0010	
R/L 050,4-16	4.0	1.5	0.1	3.0	3.5	30	16	0.3	4.0	645...	304101 0404		304105 0404	
R/L 050,4-20	4.0	1.5	0.1	3.0	3.5	34	20	0.3	4.0	645...	304101 0012		304105 0012	
R/L 050,5-10	5.0	1.9	0.15	3.8	4.4	25	10	0.5	5.0	645...	304101 0020		304105 0020	
R/L 050,5-15	5.0	1.9	0.15	3.8	4.4	30	15	0.5	5.0	645...	304101 0021		304105 0021	
R/L 050,5-20	5.0	1.9	0.15	3.8	4.4	35	20	0.5	5.0	645...	304101 0505		304105 0505	
R/L 050,5-25	5.0	1.9	0.15	3.8	4.4	40	25	0.5	5.0	645...	304101 0023		304105 0023	
R/L 050,5-30	5.0	1.9	0.15	3.8	4.4	45	30	0.5	5.0	645...	304101 0024		304105 0024	
R/L 050,6-15	6.0	2.3	0.15	4.5	5.3	30	15	0.5	6.0	676...	304101 0030		304105 0030	
R/L 050,6-22	6.0	2.3	0.15	4.5	5.3	37	22	0.5	6.0	676...	304101 0606		304105 0606	
R/L 050,6-25	6.0	2.3	0.15	4.5	5.3	40	25	0.5	6.0	676...	304101 0032		304105 0032	
R/L 050,6-30	6.0	2.3	0.15	4.5	5.3	45	30	0.5	6.0	676...	304101 0033		304105 0033	
R/L 050,7-20	7.0	2.8	0.15	5.5	6.3	35	20	0.6	6.8	676...	304101 0040		304105 0040	
R/L 050,7-25	7.0	2.8	0.15	5.5	6.3	40	25	0.6	6.8	676...	304101 0041		304105 0041	
R/L 050,7-30	7.0	2.8	0.15	5.5	6.3	45	30	0.6	6.8	676...	304101 0042		304105 0042	
											3125		3125	







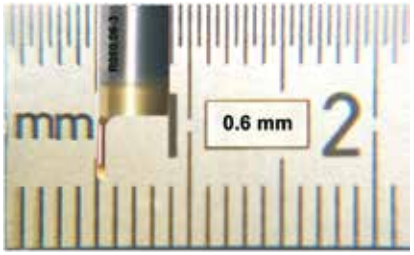


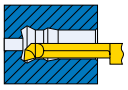
Internal turning

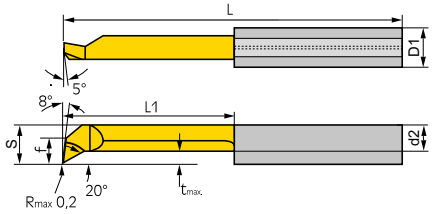
- **Coated cutting inserts CN45F**
- From 0.6 mm bore diameter

Designation	D1 mm	f mm	R mm	d2 mm	s mm	L mm	L1 mm	T max. mm	D min. mm	Suitable for	ISO P M K CN45F TiN right-hand art.no.	€	ISO P M K CN45F TiN left-hand art.no.	€
R/L 050,06-2	4.0	-	0.04	0.4	0.5	20	2	0.08	0.6	645...	304110 0050		304115 0050	
R/L 050,06-3	4.0	-	0.04	0.4	0.5	20	3	0.08	0.6	645...	304110 0051		304115 0051	
R/L 050,15-5	4.0	-	0.05	1.15	1.3	19	5	0.1	1.5	645...	304110 0060		304115 0060	
R/L 050,15-10	4.0	-	0.05	1.15	1.3	24	10	0.1	1.5	645...	304110 0061		304115 0061	
											3125		3125	

Designation	D1 mm	f mm	R mm	d2 mm	s mm	L mm	L1 mm	T max. mm	D min. mm	Suitable for	ISO P M K **CN45F TiN right-hand** art.no.	€	ISO P M K **CN45F TiN left-hand** art.no.	€
R/L 050,2-5	4.0	-	0.05	1.5	1.7	19	5	0.1	2.0	645...	304110 0101		304115 0101	
R/L 050,2-10	4.0	-	0.05	1.5	1.7	24	10	0.1	2.0	645...	304110 0102		304115 0102	
R/L 050,2-15	4.0	-	0.05	1.5	1.7	29	15	0.1	2.0	645...	304110 0103		304115 0103	
R/L 050,3-10	4.0	0.6	0.1	2.3	2.6	24	10	0.2	2.8	645...	304110 0001		304115 0001	
R/L 050,3-16	4.0	0.6	0.1	2.3	2.6	30	16	0.2	2.8	645...	304110 0403		304115 0403	
R/L 050,3-20	4.0	0.6	0.1	2.3	2.6	34	20	0.2	2.8	645...	304110 0003		304115 0003	
R/L 050,4-10	4.0	1.5	0.1	3.0	3.5	24	10	0.3	4.0	645...	304110 0010		304115 0010	
R/L 050,4-16	4.0	1.5	0.1	3.0	3.5	30	16	0.3	4.0	645...	304110 0404		304115 0404	
R/L 050,4-20	4.0	1.5	0.1	3.0	3.5	34	20	0.3	4.0	645...	304110 0012		304115 0012	
R/L 050,4-24	4.0	1.5	0.1	3.0	3.5	38	24	0.3	4.0	645...	304110 0070		304115 0070	
R/L 050,4-28	4.0	1.5	0.1	3.0	3.5	42	28	0.3	4.0	645...	304110 0071		304115 0071	
R/L 050,5-10	5.0	1.9	0.15	3.8	4.4	25	10	0.5	5.0	645...	304110 0020		304115 0020	
R/L 050,5-15	5.0	1.9	0.15	3.8	4.4	30	15	0.5	5.0	645...	304110 0021		304115 0021	
R/L 050,5-20	5.0	1.9	0.15	3.8	4.4	35	20	0.5	5.0	645...	304110 0505		304115 0505	
R/L 050,5-25	5.0	1.9	0.15	3.8	4.4	40	25	0.5	5.0	645...	304110 0023		304115 0023	
R/L 050,5-30	5.0	1.9	0.15	3.8	4.4	45	30	0.5	5.0	645...	304110 0024		304115 0024	
R/L 050,5-35	5.0	1.9	0.15	3.8	4.4	50	35	0.5	5.0	645...	304110 0080		304115 0080	
R/L 050,6-15	6.0	2.3	0.15	4.5	5.3	30	15	0.5	6.0	676...	304110 0030		304115 0030	
R/L 050,6-22	6.0	2.3	0.15	4.5	5.3	37	22	0.5	6.0	676...	304110 0606		304115 0606	
R/L 050,6-25	6.0	2.3	0.15	4.5	5.3	40	25	0.5	6.0	676...	304110 0032		304115 0032	
R/L 050,6-30	6.0	2.3	0.15	4.5	5.3	45	30	0.5	6.0	676...	304110 0033		304115 0033	
R/L 050,6-35	6.0	2.3	0.15	4.5	5.3	50	35	0.5	6.0	676...	304110 0150		304115 0150	
R/L 050,6-42	6.0	2.3	0.15	4.5	5.3	57	42	0.5	6.0	676...	304110 0151		304115 0151	
R/L 050,7-20	7.0	2.8	0.15	5.5	6.3	35	20	0.6	7.0	676...	304110 0040		304115 0040	
R/L 050,7-25	7.0	2.8	0.15	5.5	6.3	40	25	0.6	7.0	676...	304110 0041		304115 0041	
R/L 050,7-30	7.0	2.8	0.15	5.5	6.3	45	30	0.6	7.0	676...	304110 0042		304115 0042	
R/L 050,7-35	7.0	2.8	0.15	5.5	6.3	50	35	0.6	7.0	676...	304110 0160		304115 0160	
R/L 050,7-40	7.0	2.8	0.15	5.5	6.3	55	40	0.6	7.0	676...	304110 0161		304115 0161	
R/L 050,7-45	7.0	2.8	0.15	5.5	6.3	60	45	0.6	7.0	676...	304110 0162		304115 0162	
R/L 050,7-50	7.0	2.8	0.15	5.5	6.3	65	50	0.6	7.0	676...	304110 0163		304115 0163	
											3125		3125	







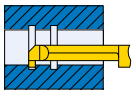


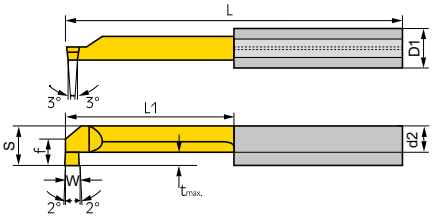
- **Coated cutting inserts AL41F**
- From 0.5 mm bore diameter

Designation	D1 mm	f mm	R mm	s mm	L mm	L1 mm	T max. mm	D min. mm	Suitable for	ISO P M K **AL41F TiAlN right-hand** art.no.	€	ISO P M K **AL41F TiAlN left-hand** art.no.	€
R/L050,05-2	4.0	-	0.04	0.4	20	2	-	0.5	645...	304120 0166		304125 0166	
R/L050,06-2	4.0	-	0.04	0.5	20	2	0.05	0.6	645...	304120 0050		304125 0050	
R/L050,06-3	4.0	-	0.04	0.5	20	3	0.05	0.6	645...	304120 0051		304125 0051	
R/L050,08-4	4.0	-	0.04	0.7	20	4	0.05	0.8	645...	304120 0052		304125 0052	
R/L050,1-5	4.0	-	0.05	0.9	20	4.5	0.1	1.0	645...	304120 0053		304125 0053	
R/L050,1-7	4.0	-	0.05	0.9	22	6.5	0.1	1.0	645...	304120 0054		304125 0054	
R/L050,1-8	4.0	-	0.05	0.9	22	8	0.1	1.0	645...	304120 0055		304125 0055	
R/L050,15-5	4.0	-	0.05	1.3	19	5	0.1	1.5	645...	304120 0060		304125 0060	
R/L050,15-10	4.0	-	0.05	1.3	24	10	0.1	1.5	645...	304120 0061		304125 0061	
R/L050,2-5	4.0	-	0.05	1.7	19	5	0.1	2.0	645...	304120 0101		304125 0101	
R/L050,2-10	4.0	-	0.05	1.7	24	10	0.1	2.0	645...	304120 0102		304125 0102	
R/L050,2-15	4.0	-	0.05	1.7	29	15	0.1	2.0	645...	304120 0103		304125 0103	
R/L050,25-5	4.0	0.2	0.05	2.2	19	5	0.15	2.5	645...	304120 0104		304125 0104	
										3125		3125	

Designation	D1 mm	f mm	R mm	s mm	L mm	L1 mm	T max. mm	D min. mm	Suitable for	ISO P M K AL41F TiAlN right-hand art.no.	€	ISO P M K AL41F TiAlN left-hand art.no.	€
R/L050,25-10	4.0	0.2	0.05	2.2	24	10	0.15	2.5	645...	304120 0105		304125 0105	
R/L050,25-16	4.0	0.2	0.05	2.2	30	16	0.15	2.5	645...	304120 0106		304125 0106	
R/L050,3-10	4.0	0.6	0.1	2.6	24	10	0.2	2.8	645...	304120 0001		304125 0001	
R/L050,3-16	4.0	0.6	0.1	2.6	30	16	0.2	2.8	645...	304120 0403		304125 0403	
R/L050,3-20	4.0	0.6	0.1	2.6	34	20	0.2	2.8	645...	304120 0003		304125 0003	
R/L050,35-10	4.0	1.1	0.1	3.1	24	10	0.25	3.5	645...	304120 0004		304125 0004	
R/L050,35-16	4.0	1.1	0.1	3.1	30	16	0.25	3.5	645...	304120 0005		304125 0005	
R/L050,35-20	4.0	1.1	0.1	3.1	34	20	0.25	3.5	645...	304120 0006		304125 0006	
R/L050,35-24	4.0	1.1	0.1	3.1	38	24	0.25	3.5	645...	304120 0007		304125 0007	
R/L050,4-10	4.0	1.5	0.1	3.5	24	10	0.3	4.0	645...	304120 0010		304125 0010	
R/L050,4-16	4.0	1.5	0.1	3.5	30	16	0.3	4.0	645...	304120 0404		304125 0404	
R/L050,4-20	4.0	1.5	0.1	3.5	34	20	0.3	4.0	645...	304120 0012		304125 0012	
R/L050,4-24	4.0	1.5	0.1	3.5	38	24	0.3	4.0	645...	304120 0070		304125 0070	
R/L050,4-28	4.0	1.5	0.1	3.5	42	28	0.3	4.0	645...	304120 0071		304125 0071	
R/L050,5-10	5.0	1.9	0.15	4.4	25	10	0.5	5.0	645...	304120 0020		304125 0020	
R/L050,5-15	5.0	1.9	0.15	4.4	30	15	0.5	5.0	645...	304120 0021		304125 0021	
R/L050,5-20	5.0	1.9	0.15	4.4	35	20	0.5	5.0	645...	304120 0505		304125 0505	
R/L050,5-25	5.0	1.9	0.15	4.4	40	25	0.5	5.0	645...	304120 0023		304125 0023	
R/L050,5-30	5.0	1.9	0.15	4.4	45	30	0.5	5.0	645...	304120 0024		304125 0024	
R/L050,5-35	5.0	1.9	0.15	4.4	50	35	0.5	5.0	645...	304120 0080		304125 0080	
R/L050,5-40	5.0	1.9	0.15	4.4	55	40	0.5	5.0	645...	304120 0025		304125 0025	
R/L050,6-15	6.0	2.3	0.15	5.3	30	15	0.5	6.0	676...	304120 0030		304125 0030	
R/L050,6-22	6.0	2.3	0.15	5.3	37	22	0.5	6.0	676...	304120 0606		304125 0606	
R/L050,6-25	6.0	2.3	0.15	5.3	40	25	0.5	6.0	676...	304120 0032		304125 0032	
R/L050,6-30	6.0	2.3	0.15	5.3	45	30	0.5	6.0	676...	304120 0033		304125 0033	
R/L050,6-35	6.0	2.3	0.15	5.3	50	35	0.5	6.0	676...	304120 0150		304125 0150	
R/L050,6-42	6.0	2.3	0.15	5.3	57	42	0.5	6.0	676...	304120 0151		304125 0151	
R/L050,7-20	7.0	2.8	0.15	6.3	35	20	0.6	6.8	676...	304120 0040		304125 0040	
R/L050,7-25	7.0	2.8	0.15	6.3	40	25	0.6	6.8	676...	304120 0041		304125 0041	
R/L050,7-30	7.0	2.8	0.15	6.3	45	30	0.6	6.8	676...	304120 0042		304125 0042	
R/L050,7-35	7.0	2.8	0.15	6.3	50	35	0.6	6.8	676...	304120 0160		304125 0160	
R/L050,7-40	7.0	2.8	0.15	6.3	55	40	0.6	6.8	676...	304120 0161		304125 0161	
R/L050,7-45	7.0	2.8	0.15	6.3	60	45	0.6	6.8	676...	304120 0162		304125 0162	
R/L050,7-50	7.0	2.8	0.15	6.3	65	50	0.6	6.8	676...	304120 0163		304125 0163	
R/L050,8-50	8.0	3.3	0.2	7.3	70	50	0.7	7.8	681...	304120 0164		304125 0164	
R/L050,8-60	8.0	3.3	0.2	7.3	80	60	0.7	7.8	681...	304120 0165		304125 0165	
										3125		3125	







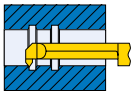
- **Internal recess turning, coated CN45F**
- From bore diameter of 4 mm

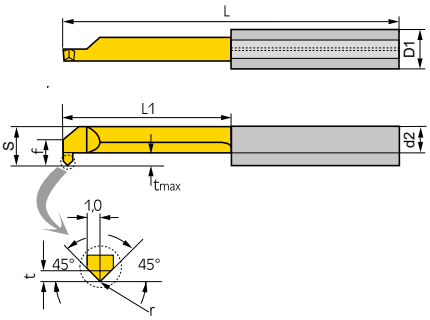
Designation	D1 mm	W mm	f mm	d2 mm	s mm	L mm	L1 mm	T max. mm	D min. mm	Suitable for		ISO P M K CN45F TiN right-hand art.no.	€		ISO P M K CN45F TiN left-hand art.no.	€
R/L 004,0100-10	4.0	1.0	1.5	2.4	3.5	24	10	0.8	4.0	645...	1	304210 0001		1	304215 0001	
R/L 004,0100-16	4.0	1.0	1.5	2.4	3.5	30	16	0.8	4.0	645...	1	304210 0404		1	304215 0404	
R/L 004,0100-20	4.0	1.0	1.5	2.4	3.5	34	20	0.8	4.0	645...	1	304210 0003		1	304215 0003	
R/L 005,0100-10	5.0	1.0	1.9	3.3	4.4	25	10	1.0	5.0	645...	1	304210 0010		1	304215 0010	
R/L 005,0100-15	5.0	1.0	1.9	3.3	4.4	30	15	1.0	5.0	645...	1	304210 0011		1	304215 0011	
R/L 005,0100-20	5.0	1.0	1.9	3.3	4.4	35	20	1.0	5.0	645...	1	304210 0505		1	304215 0505	
R/L 005,0100-25	5.0	1.0	1.9	3.3	4.4	40	25	1.0	5.0	645...	1	304210 0013		1	304215 0013	
R/L 005,0100-30	5.0	1.0	1.9	3.3	4.4	45	30	1.0	5.0	645...	1	304210 0014		1	304215 0014	
R/L 005,0100-35	5.0	1.0	1.9	3.3	4.4	50	35	1.0	5.0	645...	5	304210 0015		1	304215 0015	
R/L 005,0150-10	5.0	1.5	1.9	3.3	4.4	25	10	1.0	5.0	645...	1	304210 0020		1	304215 0020	
R/L 005,0150-15	5.0	1.5	1.9	3.3	4.4	30	15	1.0	5.0	645...	1	304210 0021		1	304215 0021	
												3125			3125	

Designation	D1 mm	W mm	f mm	d2 mm	s mm	L mm	L1 mm	T max. mm	D min. mm	Suitable for	ISO P M K	CN45F TiN right-hand art.no.	€	ISO P M K	CN45F TiN left-hand art.no.	€
R/L 005,0150-20	5.0	1.5	1.9	3.3	4.4	35	20	1.0	5.0	645...	1	304210 0515		1	304215 0515	
R/L 005,0150-25	5.0	1.5	1.9	3.3	4.4	40	25	1.0	5.0	645...	1	304210 0023		1	304215 0023	
R/L 005,0150-30	5.0	1.5	1.9	3.3	4.4	45	30	1.0	5.0	645...	1	304210 0024		1	304215 0024	
R/L 005,0200-10	5.0	2.0	1.9	3.3	4.4	25	10	1.0	5.0	645...	1	304210 0030		1	304215 0030	
R/L 005,0200-15	5.0	2.0	1.9	3.3	4.4	30	15	1.0	5.0	645...	1	304210 0031		1	304215 0031	
R/L 005,0200-20	5.0	2.0	1.9	3.3	4.4	35	20	1.0	5.0	645...	1	304210 0525		1	304215 0525	
R/L 005,0200-25	5.0	2.0	1.9	3.3	4.4	40	25	1.0	5.0	645...	1	304210 0033		1	304215 0033	
R/L 005,0200-30	5.0	2.0	1.9	3.3	4.4	45	30	1.0	5.0	645...	1	304210 0034		1	304215 0034	
R/L 006,0100-10	6.0	1.0	2.3	3.4	5.3	25	10	1.8	6.0	676...	1	304210 0040		1	304215 0040	
R/L 006,0100-15	6.0	1.0	2.3	3.4	5.3	30	15	1.8	6.0	676...	1	304210 0041		1	304215 0041	
R/L 006,0100-22	6.0	1.0	2.3	3.4	5.3	37	22	1.8	6.0	676...	1	304210 0606		1	304215 0606	
R/L 006,0100-25	6.0	1.0	2.3	3.4	5.3	40	25	1.8	6.0	676...	1	304210 0043		1	304215 0043	
R/L 006,0100-30	6.0	1.0	2.3	3.4	5.3	45	30	1.8	6.0	676...	1	304210 0044		1	304215 0044	
R/L 006,0100-35	6.0	1.0	2.3	3.4	5.3	50	35	1.8	6.0	676...	1	304210 0045		1	304215 0045	
R/L 006,0100-42	6.0	1.0	2.3	3.4	5.3	57	42	1.8	6.0	676...	1	304210 0046		1	304215 0046	
R/L 006,0150-10	6.0	1.5	2.3	3.4	5.3	25	10	1.8	6.0	676...	1	304210 0050		1	304215 0050	
R/L 006,0150-15	6.0	1.5	2.3	3.4	5.3	30	15	1.8	6.0	676...	1	304210 0051		1	304215 0051	
R/L 006,0150-22	6.0	1.5	2.3	3.4	5.3	37	22	1.8	6.0	676...	1	304210 0616		1	304215 0616	
R/L 006,0150-25	6.0	1.5	2.3	3.4	5.3	40	25	1.8	6.0	676...	1	304210 0053		1	304215 0053	
R/L 006,0150-30	6.0	1.5	2.3	3.4	5.3	45	30	1.8	6.0	676...	1	304210 0054		1	304215 0054	
R/L 006,0150-35	6.0	1.5	2.3	3.4	5.3	50	35	1.8	6.0	676...	1	304210 0055		1	304215 0055	
R/L 006,0200-10	6.0	2.0	2.3	3.4	5.3	25	10	1.8	6.0	676...	1	304210 0060		1	304215 0060	
R/L 006,0200-15	6.0	2.0	2.3	3.4	5.3	30	15	1.8	6.0	676...	1	304210 0061		1	304215 0061	
R/L 006,0200-22	6.0	2.0	2.3	3.4	5.3	37	22	1.8	6.0	676...	1	304210 0626		1	304215 0626	
R/L 006,0200-25	6.0	2.0	2.3	3.4	5.3	40	25	1.8	6.0	676...	1	304210 0063		1	304215 0063	
R/L 006,0200-30	6.0	2.0	2.3	3.4	5.3	45	30	1.8	6.0	676...	1	304210 0064		1	304215 0064	
R/L 007,0100-10	7.0	1.0	2.8	3.7	6.3	25	10	2.5	6.8	676...	1	304210 0070		1	304215 0070	
R/L 007,0100-15	7.0	1.0	2.8	3.7	6.3	30	15	2.5	6.8	676...	1	304210 0071		1	304215 0071	
R/L 007,0100-22	7.0	1.0	2.8	3.7	6.3	37	22	2.5	6.8	676...	1	304210 0072		1	304215 0072	
R/L 007,0100-25	7.0	1.0	2.8	3.7	6.3	40	25	2.5	6.8	676...	1	304210 0073		1	304215 0073	
R/L 007,0100-30	7.0	1.0	2.8	3.7	6.3	45	30	2.5	6.8	676...	1	304210 0074		1	304215 0074	
R/L 007,0100-35	7.0	1.0	2.8	3.7	6.3	50	35	2.5	7.0	676...	1	304210 0075		1	304215 0075	
R/L 007,0100-40	7.0	1.0	2.8	3.7	6.3	55	40	2.5	7.0	676...	1	304210 0076		1	304215 0076	
R/L 007,0100-45	7.0	1.0	2.8	3.7	6.3	60	45	2.5	7.0	676...	1	304210 0077		1	304215 0077	
R/L 007,0100-50	7.0	1.0	2.8	3.7	6.3	65	50	2.5	7.0	676...	1	304210 0078		1	304215 0078	
R/L 007,0150-10	7.0	1.5	2.8	3.7	6.3	25	10	2.5	6.8	676...	1	304210 0080		1	304215 0080	
R/L 007,0150-15	7.0	1.5	2.8	3.7	6.3	30	15	2.5	6.8	676...	1	304210 0081		1	304215 0081	
R/L 007,0150-22	7.0	1.5	2.8	3.7	6.3	37	22	2.5	6.8	676...	1	304210 0082		1	304215 0082	
R/L 007,0150-25	7.0	1.5	2.8	3.7	6.3	40	25	2.5	6.8	676...	1	304210 0083		1	304215 0083	
R/L 007,0150-30	7.0	1.5	2.8	3.7	6.3	45	30	2.5	6.8	676...	1	304210 0084		1	304215 0084	
R/L 007,0150-35	7.0	1.5	2.8	3.7	6.3	50	35	2.5	7.0	676...	1	304210 0085		1	304215 0085	
R/L 007,0150-40	7.0	1.5	2.8	3.7	6.3	55	40	2.5	7.0	676...	1	304210 0086		1	304215 0086	
R/L 007,0200-10	7.0	2.0	2.8	3.7	6.3	25	10	2.5	6.8	676...	1	304210 0090		1	304215 0090	
R/L 007,0200-15	7.0	2.0	2.8	3.7	6.3	30	15	2.5	6.8	676...	1	304210 0091		1	304215 0091	
R/L 007,0200-22	7.0	2.0	2.8	3.7	6.3	37	22	2.5	6.8	676...	1	304210 0092		1	304215 0092	
R/L 007,0200-25	7.0	2.0	2.8	3.7	6.3	40	25	2.5	6.8	676...	1	304210 0093		1	304215 0093	
R/L 007,0200-30	7.0	2.0	2.8	3.7	6.3	45	30	2.5	6.8	676...	1	304210 0094		1	304215 0094	
R/L 007,0200-35	7.0	2.0	2.8	3.7	6.3	50	35	2.5	7.0	676...	1	304210 0095		1	304215 0095	
												3125			3125	







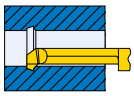


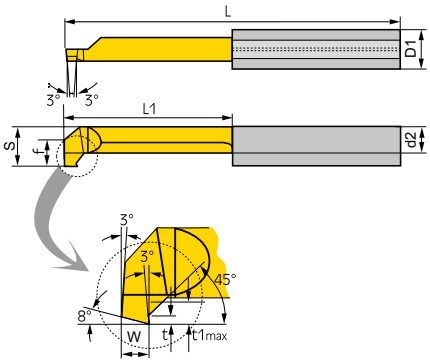
Internal turning and chamfering

- From 5 mm bore diameter
- With internal coolant supply

Designation	D1 mm	f mm	R mm	d2 mm	s mm	L mm	L1 mm	T max. mm	D min. mm	Suitable for	ISO P M K CN45F TiN right-hand art.no.	€	ISO P M K CN45F TiN left-hand art.no.	€
R/L 060,5-15	5.0	1.9	0.2	3.3	4.4	30	15	0.7	5.0	645...	304310 0001		304315 0001	
R/L 060,5-20	5.0	1.9	0.2	3.3	4.4	35	20	0.7	5.0	645...	304310 0505		304315 0505	
R/L 060,7-20	7.0	2.8	0.2	3.7	6.3	35	20	0.7	6.8	676...	304310 0010		304315 0010	
											3125		3125	





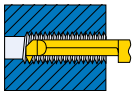


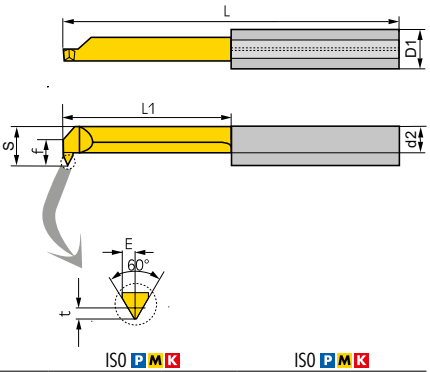
Internal roughing and chamfering for subsequent parting-off

- From 5 mm bore diameter

Designation	D1 mm	W mm	f mm	s mm	L mm	L1 mm	T max. mm	D min. mm	Suitable for	ISO P M K CN45F TiN right-hand art.no.	€	ISO P M K CN45F TiN left-hand art.no.	€
R/L 070,4-10	4.0	1.0	1.5	3.5	25	10	0.8	4.0	645...	304410 0002		304415 0002	
R/L 070,4-16	4.0	1.0	1.5	3.5	30	16	0.8	4.0	645...	304410 0003		304415 0003	
R/L 070,5-15	5.0	1.0	1.9	4.4	30	15	1.0	5.0	645...	304410 0001		304415 0001	
R/L 070,5-20	5.0	1.0	1.9	4.4	35	20	1.0	5.0	645...	304410 0505		304415 0505	
R/L 070,5-30	5.0	1.0	1.9	4.4	45	30	1.0	5.0	645...	304410 0004		304415 0004	
R/L 070,6-30	6.0	1.0	2.3	5.3	45	30	1.0	6.0	676...	304410 0005		304415 0005	
R/L 070,6-42	6.0	1.0	2.3	5.3	57	42	1.0	6.0	676...	304410 0006		304415 0006	
										3125		3125	





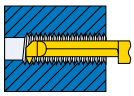


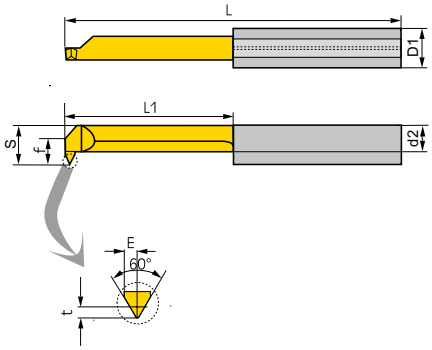
Internal thread turning

- **Metric ISO threads** from 4.8 mm bore diameter
- Partial profile, for pitches from 1.0 to 1.5 mm

Designation	Pitch mm	T max. mm	f mm	d2 mm	s mm	L mm	L1 mm	D min. mm	Suitable for	ISO P M K CN45F TiN right-hand art.no.	€	ISO P M K CN45F TiN left-hand art.no.	€
R/L 005,0510-15	1.0	0.55	1.9	3.3	4.4	30	15	4.8	645...	304501 0001		304505 0001	
R/L 005,0510-20	1.0	0.55	1.9	3.3	4.4	35	20	4.8	645...	304501 1005		304505 1005	
R/L 006,0612-15	1.25	0.68	2.3	3.4	5.3	30	15	6.0	676...	304501 0010		304505 0010	
R/L 006,0612-22	1.25	0.68	2.3	3.4	5.3	37	22	6.0	676...	304501 1256		304505 1256	
R/L 006,0815-15	1.5	0.81	2.3	3.4	5.3	30	15	6.0	676...	304501 0012		304505 0012	
R/L 006,0815-22	1.5	0.81	2.3	3.4	5.3	37	22	6.0	676...	304501 1506		304505 1506	
R/L 007,0815-15	1.5	0.81	2.7	3.8	6.3	30	15	7.0	676...	304501 0020		304505 0020	
										3125		3125	





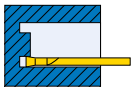


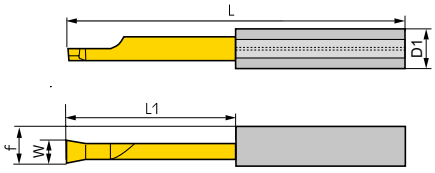
Internal fine-pitch thread turning

- **ISO fine-pitch metric thread** from 4 mm bore diameter
- Partial profile, for pitches from 0.5 to 1.0 mm

Designation	Pitch mm	T max. mm	f mm	d2 mm	s mm	L mm	L1 mm	D min. mm	Suitable for	CN45F TiN right-hand ISO P M K art.no.	€	CN45F TiN left-hand ISO P M K art.no.	€
R/L 004,0205-15	0.5	0.27	1.5	2.4	3.5	30	15	4.0	645...	304510 0504		304515 0504	
R/L 005,0205-15	0.5	0.27	1.9	3.3	4.4	30	15	5.0	645...	304510 0003		304515 0003	
R/L 005,0205-20	0.5	0.27	1.9	3.3	4.4	35	20	5.0	645...	304510 0505		304515 0505	
R/L 005,0407-15	0.75	0.4	1.9	3.3	4.4	30	15	5.0	645...	304510 0005		304515 0005	
R/L 005,0407-20	0.75	0.4	1.9	3.3	4.4	35	20	5.0	645...	304510 0755		304515 0755	
R/L 006,0510-15	1.0	0.55	2.3	3.4	5.3	30	15	6.0	676...	304510 0010		304515 0010	
R/L 006,0510-22	1.0	0.55	2.3	3.4	5.3	37	22	6.0	676...	304510 1006		304515 1006	
										3125		3125	







Axial grooving from 15 mm groove outer diameter

- Max. groove depth t max. up to 30 mm

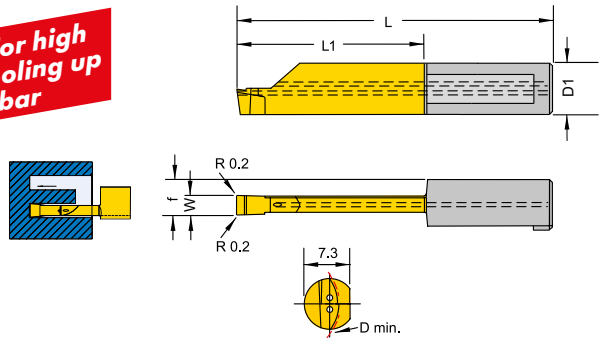
Designation	D1 mm	W mm	f mm	L mm	L1 mm	T max. mm	D min. mm	Suitable for	CN45F TiN right-hand art.no.	€	CN45F TiN left-hand art.no.	€
R/L015,1515-10	7.0	1.5	5.9	26	10	10	8.0	676...	304420 1515		304421 1515	
R/L015,2015-15	7.0	2.0	5.9	30	15	15	8.0	676...	304420 2015		304421 2015	
R/L015,2015-20	7.0	2.0	5.9	35	20	20	8.0	676...	304420 2020		304421 2020	
R/L015,2515-20	7.0	2.5	5.9	35	20	20	8.0	676...	304420 2520		304421 2520	
R/L015,3015-20	7.0	3.0	5.9	35	20	20	8.0	676...	304420 3020		304421 3020	
R/L015,3015-30	7.0	3.0	5.9	45	30	30	8.0	676...	304420 3030		304421 3030	
									3125		3125	

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Axial grooving with double coolant bore

- From Dmin. Ø 16 mm
- Groove depth tmax. up to 40 mm

Designation	D1 mm	W mm	f mm	L mm	L1 mm	T max. mm	D min. mm	Suitable for	AL41F TiAlN right-hand art.no.	€	AL41F TiAlN left-hand art.no.	€
R/L012,0200-10	8	2.0	5.0	30	10	10	12	687...	304450 0210		304455 0210	
R/L012,0200-15	8	2.0	5.0	35	15	15	12	687...	304450 0215		304455 0215	
R/L012,0250-10	8	2.5	5.0	30	10	10	12	687...	304400 2510		304455 2510	
R/L012,0250-20	8	2.5	5.0	40	20	20	12	687...	304400 2520		304455 2520	
R/L016,0300-10	8	3.0	5.5	30	10	10	16	687...	304450 0310		304455 0310	
R/L016,0300-20	8	3.0	5.5	40	20	20	16	687...	304450 0320		304455 0320	
R/L020,0300-25	8	3.0	5.5	45	25	25	20	687...	304450 0325		304455 0325	
R/L020,0300-30	8	3.0	5.5	50	30	30	20	687...	304450 0330		304455 0330	
R/L020,0300-35	8	3.0	5.5	55	35	35	20	687...	304450 0335		304455 0335	
R/L020,0300-40	8	3.0	5.5	60	40	40	20	687...	304450 0340		304455 0340	
R/L016,0400-10	8	4.0	6.0	30	10	10	16	687...	304450 0410		304455 0410	
R/L016,0400-20	8	4.0	6.0	40	20	20	16	687...	304450 0420		304455 0420	
R/L020,0400-25	8	4.0	6.0	45	25	25	20	687...	304450 0425		304455 0425	
R/L020,0400-30	8	4.0	6.0	50	30	30	20	687...	304450 0430		304455 0430	
R/L020,0400-35	8	4.0	6.0	55	35	35	20	687...	304450 0435		304455 0435	
R/L020,0400-40	8	4.0	6.0	60	40	40	20	687...	304450 0440		304455 0440	
R/L020,0500-20	8	5.0	6.5	40	20	20	20	687...	304450 0520		304455 0520	
R/L020,0500-25	8	5.0	6.5	45	25	25	20	687...	304450 0525		304455 0525	
R/L020,0500-30	8	5.0	6.5	50	30	30	20	687...	304450 0530		304455 0530	
R/L020,0500-35	8	5.0	6.5	55	35	35	20	687...	304450 0535		304455 0535	
R/L020,0500-40	8	5.0	6.5	60	40	40	20	687...	304450 0540		304455 0540	
									3125		3125	

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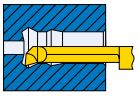
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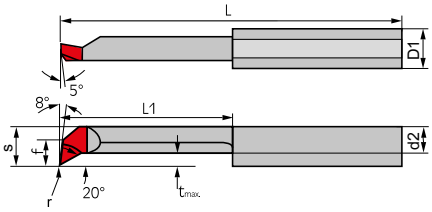
1108

For hard materials

- **Bore machining from Ø 2 mm**
- **Internal turning and copying**
- Straight shank and lateral clamping surface
- Right-hand and left-hand versions (other left-hand versions available on request)
- **Material: X2CA superfine grain carbide TiAlN+C**
- **Can be used up to HRC 66**
- **best service life results only when coolant emulsions are used**
- **Advantages over CBN:**
- No problems in machining thin-walled parts
- Few temperature changes inside the workpiece
- Can also be used in HRC 48 - 53 range without difficulty
- Feed 100 % reproducible for the workpiece
- Considerable reduction in tooling and adjustment costs







Internal turning

- From 2 mm bore diameter

Designation	D1 mm	f mm	R mm	d2 mm	s mm	L mm	L1 mm	T max. mm	D min. mm	Suitable for	ISO H **X2CA right-hand** art.no.	€	ISO H **X2CA left-hand** art.no.	€
R/L 050,2-5	4.0	-	0.05	1.5	1.7	19	5	0.1	2.0	645...	304550 0001			
R/L 050,2-10	4.0	-	0.05	1.5	1.7	24	10	0.1	2.0	645...	304550 0002		304555 0002	
R/L 050,3-10	4.0	0.6	0.1	2.3	2.6	24	10	0.2	2.8	645...	304550 0004			
R/L 050,3-16	4.0	0.6	0.1	2.3	2.6	30	16	0.2	2.8	645...	304550 0005		304555 0005	
R/L 050,4-10	4.0	1.5	0.1	3.0	3.5	24	10	0.3	4.0	645...	304550 0007			
R/L 050,4-16	4.0	1.5	0.1	3.0	3.5	30	16	0.3	4.0	645...	304550 0008		304555 0008	
R/L 050,4-20	4.0	1.5	0.1	3.0	3.5	34	20	0.3	4.0	645...	304550 0009			
R/L 050,5-10	5.0	1.9	0.15	3.8	4.4	25	10	0.5	5.0	645...	304550 0012			
R/L 050,5-15	5.0	1.9	0.15	3.8	4.4	30	15	0.5	5.0	645...	304550 0013		304555 0013	
R/L 050,5-20	5.0	1.9	0.15	3.8	4.4	35	20	0.5	5.0	645...	304550 0014			
R/L 050,5-25	5.0	1.9	0.15	3.8	4.4	40	25	0.5	5.0	645...	304550 0015			
R/L 050,6-15	6.0	2.3	0.15	4.5	5.3	30	15	0.5	6.0	676...	304550 0018			
R/L 050,6-22	6.0	2.3	0.15	4.5	5.3	37	22	0.5	6.0	676...	304550 0019		304555 0019	
R/L 050,6-25	6.0	2.3	0.15	4.5	5.3	40	25	0.5	6.0	676...	304550 0020			
R/L 050,6-30	6.0	2.3	0.15	4.5	5.3	45	30	0.5	6.0	676...	304550 0021			
R/L 050,7-20	7.0	2.8	0.15	5.5	6.3	35	20	0.6	6.8	676...	304550 0024			
R/L 050,7-25	7.0	2.8	0.15	5.5	6.3	40	25	0.6	6.8	676... 687...	304550 0025			
R/L 050,7-30	7.0	2.8	0.15	5.5	6.3	45	30	0.6	6.8	676... 687...	304550 0026		304555 0026	
R/L 050,7-35	7.0	2.8	0.15	5.5	6.3	50	35	0.6	6.8	676... 687...	304550 0027			
R/L 050,7-40	7.0	2.8	0.15	5.5	6.3	55	40	0.6	6.8	676... 687...	304550 0028			
												3125		3125

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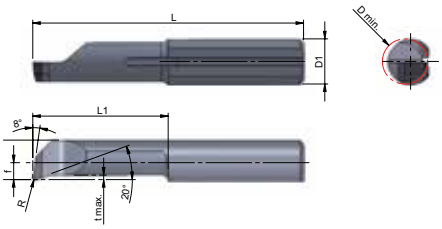
Dümmel® Cutting inserts mini-børe CBN

1108

for hard materials

- **Bore machining from Ø 1 mm**
- **Boring and copying**
- Cylindrical shank and lateral clamping surface
- Right-hand versions
- **Cutting material: CBN**
- **Usable up to 70 HRC**
- **Use without cooling or using continuous cooling emulsion**





Internal turning

- From bore diameter 1 mm

Designation	D1 mm	f mm	R mm	L mm	L1 mm	T max. mm	D min. mm	Suitable for	**CBN right-hand** art.no.	€
R 050,1-5	4.0	-	0.05	21.5	4.5	0.1	1.0	645...	304566 0001	
R 050,15-10	4.0	-	0.10	25.5	10	0.1	1.5	645...	304566 0004	
R 050,15-5	4.0	-	0.10	20.5	5	0.1	1.5	645...	304566 0003	
R 050,1-7	4.0	-	0.10	23.5	6.5	0.1	1.0	645...	304566 0002	
R 050,2-10	4.0	-	0.10	25.5	10	0.1	2.0	645...	304566 0006	
R 050,2-15	4.0	-	0.10	30.5	15	0.1	2.0	645...	304566 0007	
R 050,2-5	4.0	-	0.10	20.5	5	0.1	2.0	645...	304566 0005	
R 050,25-10	4.0	0.2	0.10	25.5	10.5	0.15	2.5	645...	304566 0009	
R 050,25-16	4.0	0.2	0.10	31.5	16	0.15	2.5	645...	304566 0010	
R 050,25-5	4.0	0.2	0.10	20.5	5	0.15	2.5	645...	304566 0008	
R 050,3-10	4.0	0.6	0.10	25.5	10	0.2	2.8	645...	304566 0011	
R 050,3-16	4.0	0.6	0.10	31.5	16	0.2	2.8	645...	304566 0012	
R 050,3-20	4.0	0.6	0.10	35.5	20	0.2	2.8	645...	304566 0013	
R 050,4-10	4.0	1.5	0.10	25.5	10	0.3	4.0	645...	304566 0014	
R 050,4-16	4.0	1.5	0.10	31.5	16	0.3	4.0	645...	304566 0015	
R 050,4-20	4.0	1.5	0.10	35.5	20	0.3	4.0	645...	304566 0016	
R 050,5-10	5.0	1.9	0.15	26.5	10	0.5	5.0	645...	304566 0017	
R 050,5-15	5.0	1.9	0.15	31.5	15	0.5	5.0	645...	304566 0018	
R 050,5-20	5.0	1.9	0.15	36.5	20	0.5	5.0	645...	304566 0019	
R 050,5-25	5.0	1.9	0.15	41.5	25	0.5	5.0	645...	304566 0020	
R 050,5-30	5.0	1.9	0.15	46.5	30	0.5	5.0	645...	304566 0021	
R 050,6-15	6.0	2.3	0.15	31.5	15	0.5	6.0	676...	304566 0022	
R 050,6-22	6.0	2.3	0.15	38.5	22	0.5	6.0	676...	304566 0023	
R 050,6-25	6.0	2.3	0.15	41.5	25	0.5	6.0	676...	304566 0024	
R 050,6-30	6.0	2.3	0.15	46.5	30	0.5	6.0	676...	304566 0025	
R 050,7-20	7.0	2.8	0.15	36.5	20	0.6	6.8	676...	304566 0026	
R 050,7-25	7.0	2.8	0.15	41.5	25	0.6	6.8	676...	304566 0027	
R 050,7-30	7.0	2.8	0.15	46.5	30	0.6	6.8	676...	304566 0028	

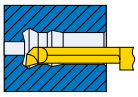
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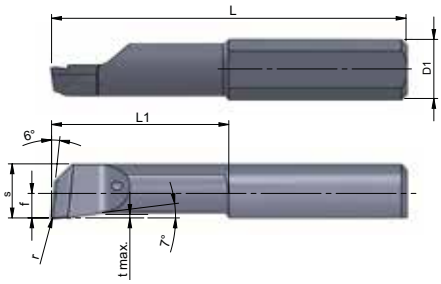
Dümmel® Cutting inserts mini-børe Xtraline

1108

- **Bore machining from Ø 1 mm**
- **Internal turning and copying**
- Straight shank and lateral clamping surface
- Right-hand and left-hand versions
- Extra stable design
- Cutting edge with chip former







Internal turning

- From 1 mm bore diameter

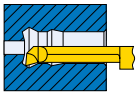
Designation	D1 mm	f mm	R mm	s mm	L mm	L1 mm	T max. mm	D min. mm	Suitable for	ISO P M K **P18C right-hand** art.no.	€	ISO P M K **P18C left-hand** art.no.	€
R/LX050,1-5R05	4.0	0.45	0.05	0.9	20	5	0.03	1.0	645...	304562 0001		304563 0001	
R/LX050,15-7R10	4.0	0.65	0.1	1.35	21	7	0.05	1.5	645...	304562 0002		304563 0002	
R/LX050,2-5R15	4.0	0.9	0.15	1.8	19	5	0.1	2.0	645...	304562 0003		304563 0003	
R/LX050,2-10R05	4.0	0.9	0.05	1.8	24	10	0.1	2.0	645...	304562 0004		304563 0004	
R/LX050,2-10R15	4.0	0.9	0.15	1.8	24	10	0.1	2.0	645...	304562 0005		304563 0005	
R/LX050,3-10R05	4.0	0.7	0.05	2.7	24	10	0.15	3.0	645...	304562 0006		304563 0006	
R/LX050,3-10R20	4.0	0.7	0.2	2.7	24	10	0.15	3.0	645...	304562 0007		304563 0007	
R/LX050,3-16R05	4.0	0.7	0.05	2.7	30	16	0.15	3.0	645...	304562 0008		304563 0008	
R/LX050,3-16R10	4.0	0.7	0.1	2.7	30	16	0.15	3.0	645...	304562 0009		304563 0009	
R/LX050,3-16R20	4.0	0.7	0.2	2.7	30	16	0.15	3.0	645...	304562 0010		304563 0010	
R/LX050,4-10R10	4.0	1.6	0.1	3.6	24	10	0.2	4.0	645...	304562 0011		304563 0011	
R/LX050,4-10R20	4.0	1.6	0.2	3.6	24	10	0.2	4.0	645...	304562 0012		304563 0012	
R/LX050,4-16R05	4.0	1.6	0.05	3.6	30	16	0.2	4.0	645...	304562 0013		304563 0013	
R/LX050,4-16R10	4.0	1.6	0.1	3.6	30	16	0.2	4.0	645...	304562 0014		304563 0014	
R/LX050,4-16R20	4.0	1.6	0.2	3.6	30	16	0.2	4.0	645...	304562 0015		304563 0015	
R/LX050,4-16R40	4.0	1.6	0.4	3.6	30	16	0.2	4.0	645...	304562 0016		304563 0016	
R/LX050,4-24R10	4.0	1.6	0.1	3.6	38	24	0.2	4.0	645...	304562 0017		304563 0017	
R/LX050,4-24R20	4.0	1.6	0.2	3.6	38	24	0.2	4.0	645...	304562 0018		304563 0018	
R/LX050,4-24R40	4.0	1.6	0.4	3.6	38	24	0.2	4.0	645...	304562 0019		304563 0019	
R/LX050,5-15R05	5.0	2.1	0.05	4.6	30	15	0.3	5.0	645...	304562 0020		304563 0020	
R/LX050,5-15R10	5.0	2.1	0.1	4.6	30	15	0.3	5.0	645...	304562 0021		304563 0021	
R/LX050,5-15R20	5.0	2.1	0.2	4.6	30	15	0.3	5.0	645...	304562 0022		304563 0022	
R/LX050,5-15R40	5.0	2.1	0.4	4.6	30	15	0.3	5.0	645...	304562 0023		304563 0023	
R/LX050,5-25R10	5.0	2.1	0.1	4.6	40	25	0.3	5.0	645...	304562 0024		304563 0024	
R/LX050,5-25R20	5.0	2.1	0.2	4.6	40	25	0.3	5.0	645...	304562 0025		304563 0025	
R/LX050,5-30R10	5.0	2.1	0.1	4.6	45	30	0.3	5.0	645...	304562 0026		304563 0026	
R/LX050,5-30R20	5.0	2.1	0.2	4.6	45	30	0.3	5.0	645...	304562 0027		304563 0027	
R/LX050,5-30R40	5.0	2.1	0.4	4.6	45	30	0.3	5.0	645...	304562 0028		304563 0028	
R/LX050,6-15R05	6.0	2.5	0.05	5.5	30	15	0.4	6.0	676...	304562 0029		304563 0029	
R/LX050,6-15R10	6.0	2.5	0.1	5.5	30	15	0.4	6.0	676...	304562 0030		304563 0030	
R/LX050,6-15R20	6.0	2.5	0.2	5.5	30	15	0.4	6.0	676...	304562 0031		304563 0031	
R/LX050,6-15R40	6.0	2.5	0.4	5.5	30	15	0.4	6.0	676...	304562 0032		304563 0032	
R/LX050,6-22R20	6.0	2.5	0.2	5.5	37	22	0.4	6.0	676...	304562 0033		304563 0033	
R/LX050,6-30R20	6.0	2.5	0.2	5.5	45	30	0.4	6.0	676...	304562 0034		304563 0034	
R/LX050,6-30R40	6.0	2.5	0.4	5.5	45	30	0.4	6.0	676...	304562 0035		304563 0035	
R/LX050,6-35R20	6.0	2.5	0.2	5.5	50	35	0.4	6.0	676...	304562 0036		304563 0036	
R/LX050,6-42R20	6.0	2.5	0.2	5.5	57	42	0.4	6.0	676...	304562 0037		304563 0037	
R/LX050,6-50R20	6.0	2.5	0.2	5.5	65	50	0.4	6.0	676...	304562 0038		304563 0038	
R/LX050,7-25R20	7.0	3	0.2	6.5	40	25	0.5	7.0	676...	304562 0039		304563 0039	
R/LX050,7-30R20	7.0	3	0.2	6.5	45	30	0.5	7.0	676...	304562 0040		304563 0040	
R/LX050,7-30R40	7.0	3	0.4	6.5	45	30	0.5	7.0	676...	304562 0041		304563 0041	
R/LX050,7-35R20	7.0	3	0.2	6.5	50	35	0.5	7.0	676...	304562 0042		304563 0042	
R/LX050,7-40R20	7.0	3	0.2	6.5	55	40	0.5	7.0	676...	304562 0043		304563 0043	
R/LX050,7-45R20	7.0	3	0.2	6.5	60	45	0.5	7.0	676...	304562 0044		304563 0044	
R/LX050,7-50R20	7.0	3	0.2	6.5	65	50	0.5	7.0	676...	304562 0045		304563 0045	
										3125		3125	

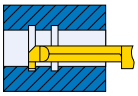
Dümmel® Cutting tool sets mini-børe

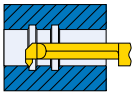
1108

mini-børe cutting tool set 1

- **Internal turning, recess turning and chamfering**
- Complete set including holder
- Internal machining from 3 mm bore ∅
- Design: **right-hand cutting**
- Cutting inserts: **CN45F, TiN-coated**
- Supplied in a case


Fig. A


Fig. E


Fig. F

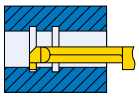


Designation	Bore hole Ø mm	L1 mm	T max. mm	W mm	Design	art.no.	€
676,0016-D	6	22	-	-	A	304601 0001	
645,0016-D	5	20	-	-	A		
111,645	5	20	-	-	F		
R 050,6-22	4	16	-	-	A		
R 050,5-20	3	16	-	-	A		
R 060,5-20	6	22	1.8	2.0	E		
R 050,4-16	6	22	1.8	1.5	E		
R 050,3-16	5	20	1.0	2.0	E		
R 006,0200-22	5	20	1.0	1.5	E		
R 006,0150-22	4	16	0.8	1.0	E		
R 005,0200-20							
R 005,0150-20							
R 004,0100-16							

3125

mini-børe cutting tool set 2

- **Internal recess turning**
- Complete set including holder
- Internal machining from 4 mm bore ∅
- Design: **right-hand cutting**
- Cutting inserts: **CN45F, TiN-coated**
- Supplied in a case


Fig. E

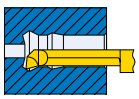


Designation	Bore hole Ø mm	L1 mm	T max. mm	W mm	Design	art.no.	€
676,0016-D	6	22	1.8	2.0	E	304601 0002	
645,0016-D	6	22	1.8	1.5	E		
111,645	5	20	1.0	2.0	E		
R 006,0200-22	5	20	1.0	1.5	E		
R 006,0150-22	4	16	0.8	1.0	E		
R 005,0200-20							
R 005,0150-20							
R 004,0100-16							

3125

mini-børe cutting tool set 3

- **Internal turning**
- Complete set including holder
- Internal machining from 3 mm bore ∅
- Design: **right-hand cutting**
- Cutting inserts: **CN45F, TiN-coated**
- Supplied in a case


Fig. A



Designation	Bore hole Ø mm	L1 mm	T max. mm	W mm	Design	art.no.	€
676,0016-D	6	-	22	-	A	304601 0003	
645,0016-D	5	-	20	-	A		
111,645	4	-	16	-	A		
R 050,6-22	3	-	16	-	A		
R 050,5-20							
R 050,4-16							
R 050,3-16							

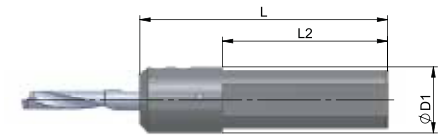
3125

Dümmel® Tool holder DT-Line

- **Multi-function tool for drilling and turning**
- Clamp mounting with 4 clamping surfaces, 90° offset
- internal coolant supply
- drilling depths up to 4 x D
- bore machining from Dmin. 2.9 mm
- cutting edge with internal coolant bore
- AL41F TiAlN high-performance coating
- large clamping depths possible when turning and solid drilling

Multifunction tool for drilling and turning







Designation	D1 mm	L mm	L2 mm	Suitable for	art.no.	€
640.DT16	16.0	60	40	DT.4	304002 0001	
640.DT20	20.0	60	40	DT.4	304002 0002	
650.DT16	16.0	60	40	DT.5	304002 0003	
650.DT20	20.0	60	40	DT.5	304002 0004	
660.DT16	16.0	60	40	DT.6	304002 0005	
660.DT20	20.0	60	40	DT.6	304002 0006	
670.DT16	16.0	60	40	DT.7	304002 0007	
670.DT20	20.0	60	40	DT.7	304002 0008	
680.DT16	16.0	60	40	DT.8	304002 0009	
680.DT20	20.0	60	40	DT.8	304002 0010	

3125

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Dümmel® Cutting inserts DT-Line

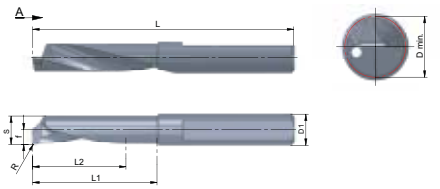
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- **Internal coolant supply**
- Clamping surface from above
- right-hand and left-hand versions
- **Cutting material: AL41F** micro-grain carbide **TiAlN**

Drilling and internal turning
- From boring diameter 2.0 mm
- Coated cutting inserts AL41F TiAlN
- L1 maximum turning depth
- L2 maximum boring depth

Multifunction tool for drilling and internal turning from Ø 2.0 mm





Designation	D1 mm	f mm	R mm	s mm	L mm	L1 mm	L2 mm	D min. mm	Suitable for	ISO P M K **AL41F TiAlN right-hand** art.no.	€	ISO P M K **AL41F TiAlN left-hand** art.no.	€
RDT.2-8R05	4.0	1.0	0.05	1.9	40	8	8	2.0	640.DT..	304564 0020			
RDT.2-8R10	4.0	1.0	0.1	1.9	40	8	8	2.0	640.DT..	304564 0021			
R/LDT.3-10	4.0	0.9	0.2	2.72	37	10	10	2.9	640.DT..	304564 0001		304565 0001	
RDT.3-10R05	4.0	0.9	0.05	2.72	37	10	10	2.9	640.DT..	304564 0022			
RDT.3-10R10	4.0	0.9	0.1	2.72	37	10	10	2.9	640.DT..	304564 0023			
R/LDT.3-13	4.0	0.9	0.2	2.72	40	13	13	2.9	640.DT..	304564 0002		304565 0002	
RDT.3-13R05	4.0	0.9	0.05	2.72	40	13	13	2.9	640.DT..	304564 0024			
RDT.3-13R10	4.0	0.9	0.1	2.72	40	13	13	2.9	640.DT..	304564 0025			
R/LDT.4-15	4.0	1.85	0.2	3.55	37	10	15	3.7	640.DT..	304564 0003		304565 0003	
RDT.4-15R10	4.0	1.85	0.1	3.55	37	10	15	3.7	640.DT..	304564 0026			
R/LDT.4-20	4.0	1.85	0.2	3.55	42	16	20	3.7	640.DT..	304564 0004		304565 0004	
R/LDT.5-15	5.0	2.35	0.2	4.55	37	10	15	4.7	650.DT..	304564 0005		304565 0005	
RDT.5-15R10	5.0	2.35	0.1	4.55	37	10	15	4.7	650.DT..	304564 0027			
R/LDT.5-20	5.0	2.35	0.2	4.55	42	15	20	4.7	650.DT..	304564 0006		304565 0006	
RDT.5-20R10	5.0	2.35	0.1	4.55	42	15	20	4.7	650.DT..	304564 0028			
R/LDT.5-25	5.0	2.35	0.2	4.55	47	20	25	4.7	650.DT..	304564 0007		304565 0007	
R/LDT.6-15	6.0	2.85	0.2	5.55	37	10	15	5.7	660.DT..	304564 0008		304565 0008	
RDT.6-15R10	6.0	2.85	0.1	5.55	37	10	15	5.7	660.DT..	304564 0029			
R/LDT.6-20	6.0	2.85	0.2	5.55	42	15	20	5.7	660.DT..	304564 0009		304565 0009	
RDT.6-20R10	6.0	2.85	0.1	5.55	42	15	20	5.7	660.DT..	304564 0030			
R/LDT.6-25	6.0	2.85	0.2	5.55	47	20	25	5.7	660.DT..	304564 0010		304565 0010	
R/LDT.6-30	6.0	2.85	0.2	5.55	52	25	30	5.7	660.DT..	304564 0011		304565 0011	
R/LDT.7-20	7.0	3.35	0.2	6.55	42	15	20	6.7	670.DT..	304564 0012		304565 0012	
R/LDT.7-25	7.0	3.35	0.2	6.55	47	20	25	6.7	670.DT..	304564 0013		304565 0013	
R/LDT.7-30	7.0	3.35	0.2	6.55	52	25	30	6.7	670.DT..	304564 0014		304565 0014	
R/LDT.7-35	7.0	3.35	0.2	6.55	57	30	35	6.7	670.DT..	304564 0015		304565 0015	
R/LDT.8-25	8.0	3.85	0.2	7.55	52	20	25	7.7	680.DT..	304564 0016		304565 0016	
R/LDT.8-30	8.0	3.85	0.2	7.55	57	25	30	7.7	680.DT..	304564 0017		304565 0017	
R/LDT.8-35	8.0	3.85	0.2	7.55	62	30	35	7.7	680.DT..	304564 0018		304565 0018	
R/LDT.8-40	8.0	3.85	0.2	7.55	67	35	40	7.7	680.DT..	304564 0019		304565 0019	
											3125		3125

Dümmel® Drilling and turning set DT-Line

- **Drilling and internal turning**
- complete set including holder
- **L1 maximum turning depth**
- **L2 maximum drilling depth**
- Version: **right-hand cutting**
- Cutting inserts: **AL41F-TiAlN-coated**
- Supplied in a case



RDT-4

- Internal machining from ∅ 3.7mm

Designation	D1 mm	L1 mm	L2 mm	D min. mm	art.no.	€
640.DT16 , RDT.4-15 , RDT.4-20	16	15 , 20	10 , 16	3.7	304602 0001	
					3125	

RDT-5

- Internal machining from ∅ 4.7mm

Designation	D1 mm	L1 mm	L2 mm	D min. mm	art.no.	€
650.DT16 , RDT.5-15 , RDT.5-25	16	15 , 25	10 , 20	4.7	304602 0002	
					3125	

RDT-6

- Internal machining from ∅ 5.7mm

Designation	D1 mm	L1 mm	L2 mm	D min. mm	art.no.	€
660.DT16 , RDT.6-15 , RDT.6-30	16	15 , 30	10 , 25	5.7	304602 0003	
					3125	

RDT-7

- Internal machining from ∅ 6.7mm

Designation	D1 mm	L1 mm	L2 mm	D min. mm	art.no.	€
670.DT16 , RDT.7-20 , RDT.7-35	16	20 , 35	15 , 30	6.7	304602 0004	
					3125	

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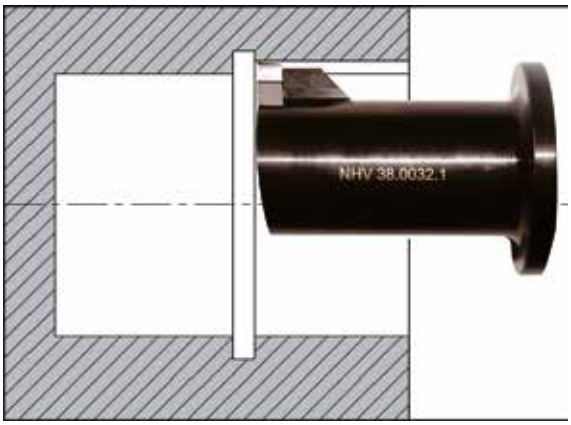
Dümmel® Systematic keyway slotting

INFO

The tool system for keyway slotting offers a cost-effective and simple solution in many areas and can be used on practically any CNC lathe, milling machine or machining centre.
Practically any common groove can be created directly on the lathe. The machining of complex and therefore often valuable workpieces or semi-finished products on a lathe is frequently one of the first work processes. The workpiece is either pre-turned or finished.
Grooves must now be applied longitudinally as a carrier or anti-twist protection.
This tool system can now be used to manufacture longitudinal grooves compliant with DIN 138 and DIN 6885 on CNC lathes and reduce costs.



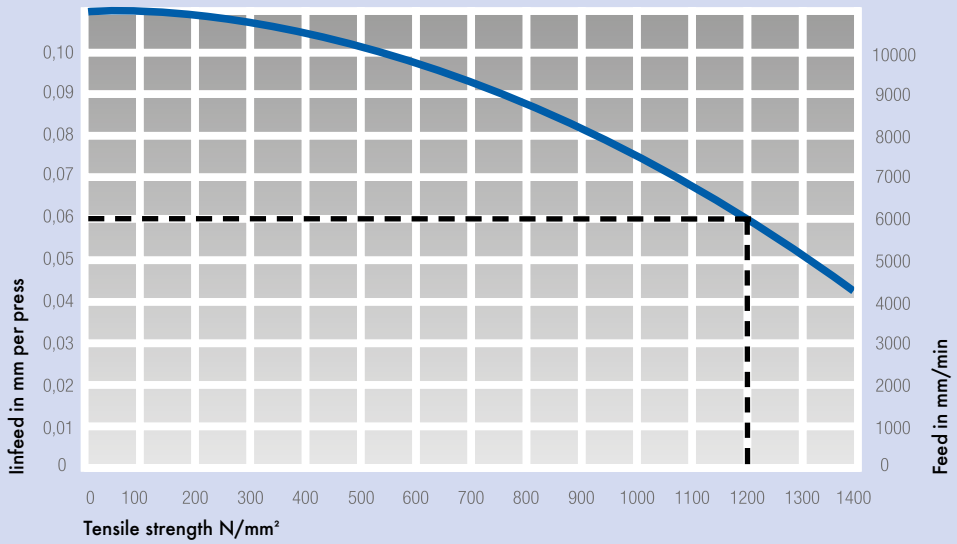




References

- an undercut is necessary at the end of the broached groove for tool run out.
- the insert should not touch the bottom of the groove as the tool retracts.
- setting of the tool is very important. Check accurate the component diameter before taking the first pass.
- using oil or emulsion helps to achieve better surface finish and flush chips out of the component.
- the tool should be set at the 12 o´ clock position to ensure that chips fall away from the groove.
- avoid interrupted cutting

Approximate value for broaching
Example: heat-treated steel for intance 42CroMo4 with1200 N/mm²
- infeed per pass 0,05-0,06 mm
- feed 5500 mm/min





Dümmel® Tool holder for keyway slotting

- Keyway slotting on CNC lathes, milling machines and machining centres
- Keyway slotting of longitudinal grooves in accordance with DIN 138 and DIN 6885

Type NHU, bore Ø from 6 mm

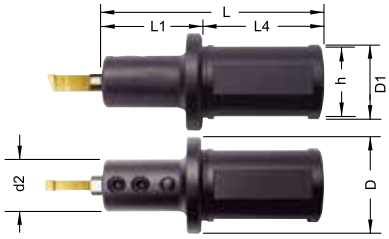
Designation	D1 mm	D mm	d2 mm	L4 mm	L mm	L1 mm	art.no.	€
NHU.0025,1	25	33	18	40	73	33	307001 0025	
NHU.0032,1	32	40	20	40	73	33	307001 0032	

3130

Type NH10, bore Ø from 10 mm

Designation	D1 mm	D mm	d2 mm	L4 mm	L mm	L1 mm	art.no.	€
NH10,0025,1	25	33	20	40	73	33	308001 0025	
NH10,0032,1	32	40	20	40	73	33	308001 0032	

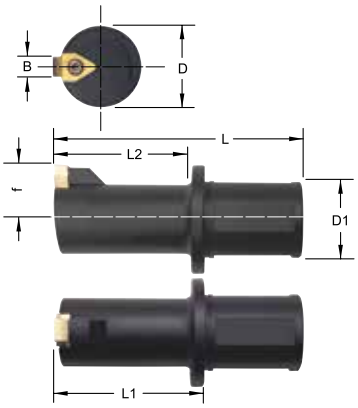
3130



Type NHV, bore Ø from 22 mm

Designation	D1 mm	D mm	f mm	L mm	L1 mm	L2 mm	D min. mm	art.no.	€
NHV.22,0025,1	25	33	12.0	100	60	50	22	309001 0022	
NHV.22,0025,2	25	33	12.0	125	85	75	22	309001 1022	
NHV.22,0025,3	25	33	12.0	175	115	105	22	309001 2022	
NHV.30,0032,1	32	45	16.5	100	60	50	30	309001 0030	
NHV.30,0032,2	32	45	16.5	125	85	75	30	309001 1030	
NHV.30,0032,3	32	45	16.5	155	115	105	30	309001 2030	
NHV.30,0032,4	32	45	16.5	220	160	150	30	309001 3030	
NHV.38,0032,1	32	45	22.0	100	60	50	38	309001 0038	
NHV.38,0032,2	32	45	22.0	125	85	75	38	309001 1038	
NHV.38,0032,4	32	45	22.0	235	175	165	38	309001 2038	
NHV.45,0040,1	40	55	24.0	120	60	50	45	309001 0045	
NHV.45,0040,3	40	55	24.0	175	115	105	45	309001 1045	
NHV.45,0040,4	40	55	24.0	225	165	155	45	309001 2045	
NHV.45,0040,5	40	55	24.0	275	215	205	45	309001 3045	

3130



Type NHV with internal coolant supply, bore hole Ø from 10mm

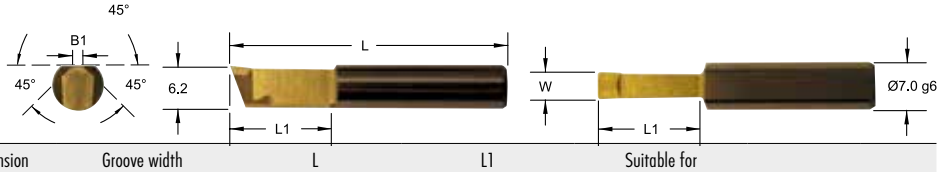
Designation	D1 mm	D mm	f mm	L mm	L1 mm	L2 mm	D min. mm	art.no.	€
NHV.10.IK25,1	25	33	4.9	70	30	22	10	309006 0010	
NHV.10.IK25,2	25	33	4.9	80	40	32	10	309006 1010	
NHV.10.IK25,3	25	33	4.9	90	50	42	10	309006 2010	
NHV.15.IK25,1	25	33	8.4	75	35	25	15	309006 0015	
NHV.15.IK25,2	25	33	8.4	90	50	40	15	309006 1015	
NHV.15.IK25,3	25	33	8.4	110	70	60	15	309006 2015	
NHV.15.IK25,4	25	33	8.4	125	85	75	15	309006 3015	

3130

Dümmel® Cutting inserts for keyway slotting

Vc/fz **1109**

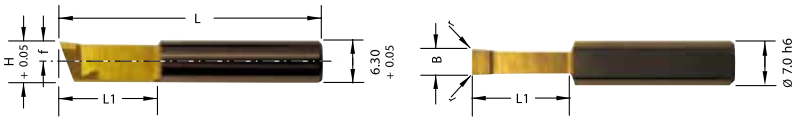
- Keyway slotting of longitudinal grooves in accordance with DIN 138 and DIN 6885
- Tolerance class C11/JS9/P9
- **Type NPU**, bore Ø from 6 mm
- **Type NP10**, bore Ø from 10 mm
- **Type NPV**, bore Ø from 22 mm
- Cutting material: **AL41F, TiAlN**-coated



Type NPU, 45°/chamfered

Designation	W mm	Nominal dimension mm	Groove width mm	L mm	L1 mm	Suitable for	art.no.	€
NPU.4545,1	6.5	3.6	4 / 5	50	25	NHU	307005 4545	

3130



Type NPU, standard, DIN 138, tolerance C11

Designation	W mm	T max. mm	Tolerance class	Nominal dimension mm	H mm	R mm	f mm	L mm	L1 mm	D min. mm	Suitable for	art.no.	€
NPU.0210,03.1	2.1	0.9	C11	2.1	5.5	0.35	2.0	38	12.5	6	NHU	307006 0210	
NPU.0310,03.1	3	1.5	C11	3.1	6.2	0.35	2.7	38	12.5	7	NHU	307006 0310	
NPU.0310,05.1	3	1.6	C11	3.1	6.2	0.50	2.7	38	12.5	7	NHU	307006 0311	
NPU.0410,05.1	4	1.7	C11	4.1	6.2	0.50	2.7	40	15.0	7	NHU	307006 0410	
NPU.0410,05.2	4	1.7	C11	4.1	6.2	0.50	2.7	50	25.0	7	NHU	307006 0411	

3130

Type NPU, loose fit, DIN 6885, tolerance JS9

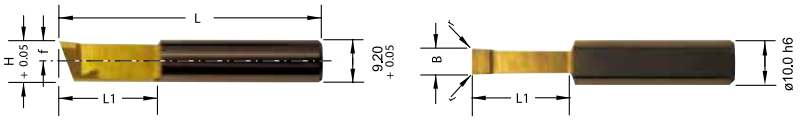
Designation	W mm	T max. mm	Tolerance class	Nominal dimension mm	H mm	R mm	f mm	L mm	L1 mm	D min. mm	Suitable for	art.no.	€
NPU.0200,01.1	2	1.0	JS9	3	5.5	0.1	2.0	38	12.5	6	NHU	307007 0200	
NPU.0300,01.1	3	1.4	JS9	3	6.2	0.1	2.7	38	12.5	7	NHU	307007 0300	
NPU.0400,01.1	4	1.8	JS9	4	6.2	0.1	2.7	40	15.0	7	NHU	307007 0400	
NPU.0400,02.1	4	1.8	JS9	4	6.2	0.2	2.7	40	15.0	7	NHU	307007 0401	
NPU.0400,02.2	4	1.8	JS9	4	6.2	0.2	2.7	50	25.0	7	NHU	307007 0402	
NPU.0500,02.2	5	2.3	JS9	5	5.8	0.2	2.3	50	25.0	7	NHU	307007 0500	

3130

Type NPU, tight fit, DIN 6885, tolerance P9

Designation	W mm	T max. mm	Tolerance class	Nominal dimension mm	H mm	R mm	f mm	L mm	L1 mm	D min. mm	Suitable for	art.no.	€
NPU.0198,01.1	2	1.0	P9	1.98	5.5	0.1	2.0	38	12.5	6	NHU	307008 0198	
NPU.0298,01.1	3	1.4	P9	2.98	6.2	0.1	2.7	38	12.5	7	NHU	307008 0298	
NPU.0398,01.1	4	1.8	P9	3.98	6.2	0.1	2.7	40	15.0	7	NHU	307008 0398	
NPU.0398,02.2	4	1.8	P9	3.98	6.2	0.2	2.7	50	25.0	7	NHU	307008 1398	
NPU.0498,02.2	5	2.3	P9	4.98	5.8	0.2	2.3	50	25.0	7	NHU	307008 0498	

3130



Type NP10, standard, DIN 138 (*non-DIN), tolerance C11

Designation	W mm	T max. mm	Tolerance class	Nominal dimension mm	H mm	R mm	f mm	L mm	L1 mm	D min. mm	Suitable for	art.no.	€
NP10,410.05,2	4	1.7	C11	4.1	9	0.5	4	50	25	10	NH10	308002 0410	
NP10,410.05,3	4	1.7	C11	4.1	9	0.5	4	66	41	10	NH10	308002 0411	
NP10,510.05,2*	5	1.7	C11	5.1	9	0.5	4	50	25	10	NH10	308002 0510	
NP10,510.05,3*	5	1.7	C11	5.1	9	0.5	4	66	41	10	NH10	308002 0511	

3130

Type NP10, loose fit, DIN 6885, tolerance JS9

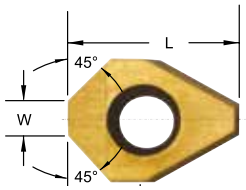
Designation	W mm	T max. mm	Tolerance class	Nominal dimension mm	H mm	R mm	f mm	L mm	L1 mm	D min. mm	Suitable for	art.no.	€
NP10,400.02,2	4	1.8	JS9	4	9	0.2	4	50	25	10	NH10	308003 0400	
NP10,400.02,3	4	1.8	JS9	4	9	0.2	4	66	41	10	NH10	308003 0401	
NP10,500.02,2	5	2.3	JS9	5	9	0.2	4	50	25	10	NH10	308003 0500	
NP10,500.02,3	5	2.3	JS9	5	9	0.2	4	66	41	10	NH10	308003 0501	

3130

Type NP10, tight fit, DIN 6885, tolerance P9

Designation	W mm	T max. mm	Tolerance class	Nominal dimension mm	H mm	R mm	f mm	L mm	L1 mm	D min. mm	Suitable for	art.no.	€
NP10,398.02,2	4	1.8	P9	3.98	9	0.2	4	50	25	10	NH10	308004 0398	
NP10,398.02,3	4	1.8	P9	3.98	9	0.2	4	66	41	10	NH10	308004 1398	
NP10,498.02,2	5	2.3	P9	4.98	9	0.2	4	50	25	10	NH10	308004 0498	
NP10,498.02,3	5	2.3	P9	4.98	9	0.2	4	66	41	10	NH10	308004 1498	

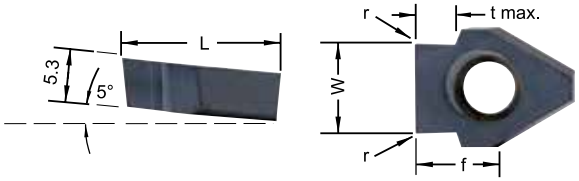
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Type NPV, 45°/chamfered

Designation	W mm	Groove width mm	L mm	Nominal dimension mm	Suitable for	art.no.	€
NPV.3045,1	3.5	8.0	17.3	6 / 7 / 8	NHV22	309002 3045	
NPV.6045,1	6.0	10.9	20.2	10	NHV38	309002 6045	

3130



Type NPV, standard, DIN 138, tolerance C11

Designation	W mm	T max. mm	Tolerance class	Nominal dimension mm	R mm	f mm	L mm	D min. mm	Suitable for	art.no.	€
NPV.0612,085	6	2.6	C11	6.12	0.85	8.0	17.3	22	NHV22	309003 0626	
NPV.0713,085	7	3.3	C11	7.13	0.85	8.0	17.3	22	NHV22	309003 0733	
NPV.0813,105	8	2.8	C11	8.13	1.05	8.0	17.3	22	NHV22 / NHV30	309003 0834	
NPV.1013,105	10	4.2	C11	10.13	1.05	10.9	20.1	40	NHV38	309003 1042	
NPV.1215,135	12	5.1	C11	12.15	1.35	10.9	20.1	40	NHV38	309003 1251	
NPV.1215,175	12	6.6	C11	12.15	1.75	10.9	20.1	40	NHV38	309003 1666	
NPV.1215,225	12	8.5	C11	12.15	2.25	10.9	20.1	40	NHV38	309003 2485	

3130

Type NPV, loose fit, DIN 6885, tolerance JS9

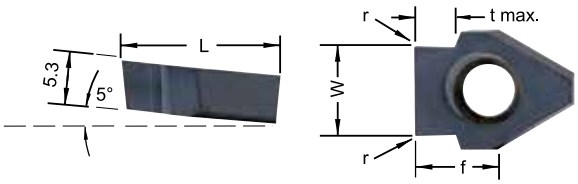
Designation	T max. mm	Depth mm	Tolerance class	Nominal dimension mm	R mm	L mm	D min. mm	Suitable for	art.no.	€
NV10,0301,02	1.8		JS9	3.01	0.2	8.2	10	NHV10	309004 0318	
NV10,0401,02	2.3		JS9	4.01	0.2	8.2	10	NHV10	309004 0423	
NV10,0501,02	2.8		JS9	5.01	0.2	8.2	10	NHV10	309004 0528	
NV15,0401,02	2.3		JS9	4.01	0.2	13	15	NHV15	309004 1423	
NV15,0501,02	2.8		JS9	5.01	0.2	13	15	NHV15	309004 0523	
NV15,0601,02	3.3		JS9	6.01	0.2	13	15	NHV15	309004 0623	
NPV.0501,02	2.7	2.3	JS9	5.01	0.2	17.3	22	NHV22	309004 0527	
NPV.0601,02	3.4	2.8	JS9	6.01	0.2	17.3	22	NHV22	309004 0634	
NPV.0801,02	4.1	3.3	JS9	8.01	0.2	17.3	22	NHV22 / NHV30	309004 0841	
NPV.1001,03	4.2	3.3	JS9	10.01	0.3	17.3	30	NHV22 / NHV30	309004 1042	
NPV.1202,03	5.7	3.3	JS9	12.02	0.3	20.1	40	NHV38	309004 1257	
NPV.1202,05	8.5	4.9	JS9	12.02	0.5	20.1	40	NHV38	309004 2085	
NPV.1402,03	7.5		JS9	14.02	0.3	20.1	45	NHV22 - NHV45	309004 1475	
NPV.1602,03	7.5		JS9	16.02	0.3	20.1	45	NHV22 - NHV45	309004 1675	
NPV.1802,05	9.5		JS9	18.02	0.4	20.1	45	NHV22 - NHV45	309004 1895	
NPV.2002,05	10		JS9	20.02	0.5	20.1	45	NHV22 - NHV45	309004 2010	

3130

Type NPV, tight fit, DIN 6885, tolerance P9

Designation	W mm	T max. mm	Tolerance class	Nominal dimension mm	R mm	L mm	D min. mm	Suitable for	art.no.	€
NV10,298.02	3	1.8	P9	2.98	0.2	8.2	10	NHV10	309005 0298	
NV10,398.02	4	2.3	P9	3.98	0.2	8.2	10	NHV10	309005 0398	
NV10,498.02	5	2.8	P9	4.98	0.2	8.2	10	NHV10	309005 0498	
NV15,398.02	4	2.3	P9	3.98	0.2	13	15	NHV15	309005 1398	
NV15,498.02	5	2.8	P9	4.98	0.2	13	15	NHV15	309005 1498	
NV15,598.02	6	3.3	P9	5.98	0.2	13	15	NHV15	309005 1598	
NPV.0498,02	5	2.7	P9	4.98	0.2	17.3	22	NHV22	309005 0490	
NPV.0598,02	6	3.4	P9	5.98	0.2	17.3	22	NHV22	309005 0598	
NPV.0798,02	8	4.1	P9	7.98	0.2	17.3	22	NHV22 / NHV30	309005 0798	
NPV.0998,03	10	4.2	P9	9.98	0.3	17.3	30	NHV30	309005 0998	
NPV.1197,03	12	5.7	P9	11.98	0.3	20.1	40	NHV38	309005 1197	
NPV.1397,03	14	7.5	P9	13.97	0.3	20.1	45	NHV22 - NHV45	309005 1397	
NPV.1597,03	16	7.5	P9	15.97	0.3	20.1	45	NHV22 - NHV45	309005 1597	
NPV.1797,05	18	9.5	P9	17.97	0.4	20.1	45	NHV22 - NHV45	309005 1797	
NPV.1997,05	20	10	P9	19.97	0.5	20.1	45	NHV22 - NHV45	309005 1997	

3130



Type NV standard DIN 138 tolerance C11

Designation	W mm	T max. mm	Tolerance class	Nominal dimension mm	R mm	L mm	D min. mm	Suitable for	art.no.	€
NV.15,0410,050	4	2.2	C11	4.1	0.5	13	15	NHV15	309009 0422	
NV.15,0510,050	5	2.5	C11	5.1	0.5	13	15	NHV15	309009 0525	
NV.15,0612,085	6	2.6	C11	6.12	0.85	13	15	NHV15	309009 0626	

3130

Type NPV standard DIN 6885 tolerance H9

Designation	W mm	T max. mm	Tolerance class	Nominal dimension mm	R mm	L mm	D min. mm	Suitable for	art.no.	€
NPV.050H.02	5	2.7	H9	5.02	0.2	17.3	22	NHV22	309007 0527	
NPV.060H.02	6	3.4	H9	6.02	0.2	17.3	22	NHV22	309007 0634	
NPV.080H.02	8	4.1	H9	8.02	0.2	17.3	30	NHV22 / NHV30	309007 0841	
NPV.100H.03	10	4.2	H9	10.02	0.3	17.3	38	NHV22 - NHV38	309007 1042	
NPV.120H.03	12	5.7	H9	12.02	0.3	20.1	38	NHV22 - NHV38	309007 1257	

3130

Type NPV standard DIN 6885 tolerance D9

Designation	W mm	T max. mm	Tolerance class	Nominal dimension mm	R mm	L mm	D min. mm	Suitable for	art.no.	€
NV10,030D.02	3	1.8	D9	3.05	0.2	8.2	10	NHV10	309008 0030	
NV10,040D.02	4	2.3	D9	4.05	0.2	8.2	10	NHV10	309008 0040	
NV10,050D.02	5	2.8	D9	5.05	0.2	8.2	10	NHV10	309008 0050	
NHV15,040D.02	4	2.3	D9	4.05	0.2	13	15	NHV15	309008 0423	
NHV15,050D.02	5	2.8	D9	5.05	0.2	13	15	NHV15	309008 0528	
NHV15,060D.02	6	3.3	D9	6.05	0.2	13	15	NHV15	309008 0633	
NPV.060D.02	6	3.4	D9	6.05	0.2	17.3	22	NHV22	309008 0634	
NPV.080D.02	8	4.1	D9	8.06	0.2	17.3	30	NHV22 / NHV30	309008 0841	
NPV.100D.03	10	4.2	D9	10.06	0.3	17.3	38	NHV22 - NHV38	309008 1042	
NPV.120D.03	12	5.7	D9	12.08	0.3	20.1	38	NHV22 - NHV38	309008 1257	
NPV.140D.03	14	20.1	D9	14.08	0.3	20.1	45	NHV22 - NHV45	309008 1475	
NPV.160D.03	16	7.5	D9	16.08	0.3	20.1	45	NHV22 - NHV45	309008 1675	
NPV.180D.05	18	9.5	D9	18.08	0.5	20.1	45	NHV22 - NHV45	309008 1895	
NPV.200D.05	20	10	D9	20.1	0.5	20.1	45	NHV22 - NHV45	309008 2010	

3130

Dümmel® Tool holder for hexagonal slotting

- Hexagonal slotting on CNC lathes, milling machines and machining centres
- From hexagonal 13 to 32
- Holder with internal cooling



Type NHV holder for hexagonal slotting

Designation	D1 mm	D mm	L mm	L1 mm	L2 mm	f mm	D min. mm	Suitable for	art.no.	€
NHV.15.SW25,2	25	33	90	50	40	6.9	13	NV15.SW13,20	309010 0015	
NHV.22.SW25,1	25	33	100	60	50	10	20	NPV.SW20,32	309010 0022	

3130



Cutting insert NV / NPV for hexagonal slotting, wrench width-across flats 13 to 32

Designation	W mm	B1 mm	R mm	L mm	Suitable for	Min. diameter mm	art.no.	€
NV15.SW13,20	10.4	6.0	0.2	11.5	SW13 - SW20	13	309011 1320	
NPV.SW20,32	16.3	9.4	0.3	16.8	SW20 - SW32	20	309011 2032	

3130



Dümmel® Keyway slotting sets for longitudinal grooves

- Keyway slotting on CNC lathes, milling machines and machining centres
- Keyway slotting of longitudinal grooves in accordance with DIN 6885
- **Cutting inserts loose fit in accordance with DIN 6885**
- Tolerance class JS9
- Cutting material: AL41F, TiAlN-coated

Economical keyway slotting even in very small production runs!







NPU 5-piece keyway slotting set, bore Ø from 6 mm

Contents	art.no.	€
1x clamp mounting, NHU.0025.1 3x cutting inserts: NPU.0200.01.1 NPU.0300.01.1 NPU.0400.01.1 1x hex key for groove widths 2 / 3 / 4 mm	307010 0001	

3130

NP10 4-piece keyway slotting set, bore Ø from 10 mm

Contents	art.no.	€
1x clamp mounting, NH10.0025.1 2x cutting inserts: NP10.400.02.3 NP10.500.02.3 1x hex key for groove widths 4 / 5 mm	308010 0001	

3130

NPV 5-piece keyway slotting set, bore Ø from 22 mm

Contents	art.no.	€
1x clamp mounting, NHV.22.0025.1 3x cutting inserts: NPV.0501.02 NPV.0601.02 NPV.0801.02 1x Torx key TX 15 for groove widths 5 / 6 / 8 mm	309010 0001	

3130

Technical information and tips for working effectively with broaches

1. Broaching

Reduce the contact pressure up to 80 % with a low feed rate due to the inclined 1° design of the wobble/broach holder. The reduction in contact pressure is achieved by concentrating on a smaller segment area of the profile to be broached. It is essential that the mandrel and the workpiece move synchronously in order to support the slight shearing of the material at a uniform feed rate on all tool cutting edges.

2. Centring and assembly of the broaching tools

The broached profile depends to a large extent on the quality of the broach in terms of dimension and geometric precision. Accurate centring of the cutting edges and the workpiece at the broach entry is also crucial here, considerably increasing the service life of the broaching tool.

The broach holder is usually rigidly clamped onto a disc turret or an adequate, fixed tool holder – the workpiece always drives the broach on the right or left. The holder spindle is mounted on special angular contact rollers or angular contact ball bearings so that it can withstand very high axial pressures. For transfer units, apply the system in reverse: the holder is driven and the workpiece is blocked/clamped. Due to the high contact forces on the workpiece, it should be clamped flat if required. If necessary, achieve the positioning of the profile by setting up a restraining arm.

3. Preparation of the bore to be broached

The bore should always be drilled slightly larger (1 %) than the largest width across flats of the hexagon. Take the ISO 4759/1 dimensions into account. Please apply the following guide values for a medium steel strength (~60 to lowering 80 dN/mm²):

1.5 - 3 mm	=	+ 0.03 / + 0.06
3 - 6 mm	=	+ 0.04 / + 0.08
6 - 10 mm	=	+ 0.06 / + 0.12
10 - 16 mm	=	+ 0.10 / + 0.20
> 16 mm	=	+ 0.15 / + 0.30

These values can be reduced for soft materials and increased for tough materials. The drilling depth for blind hole hexagonal corresponds to 1.3 to 1.5 x the broaching depth. There must be space for the resultant broaching chips in the free area. If necessary, re-drill to remove the chips. Depending on the size of the broach, the eccentricity of the pilot bore must not exceed the range of 0.02 to 0.04 mm.

4. Broach guide

You have two options here: A: The 60° or 90° countersink should be slightly larger than the broach measured over the edges. At a high speed, reworking may be necessary here. B: The best option for quality and precision: If precise profile concentricity is required, a small guide bore should be machined in the diameter of the cutting edges. After broaching, this guide shoulder can be removed. You can recognise concentration errors after broaching from unevenly occurring marks in the guide bore.

5. Speed / broaching direction

The broaching method with a rotating wobble tool allows high speeds. Depending on the application, this is between 1500 and 3000 rpm. The cutting speed is of secondary importance in this context. If the workpiece touches the broach at a constantly high speed, the broach must be dragged along up to the max. speed. Until the max. speed is reached, this causes corresponding wear to the cutting edge, especially with small broaches. This can be avoided as follows: If possible, start at low speed for the first tenths of a millimetre of the broaching process and then increase continuously up to the max. speed. The profile will always be more or less spiral – with longer profiles this can be kept within limits by programming a rotation change direction several times over the entire profile length.

6. Feed during broaching

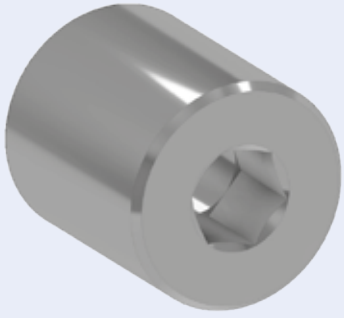
Material and profile size determine the feed rate when broaching per revolution. As a guideline for medium steel toughness: Broach diameter x 0.03 mm to 0.06 mm. With sufficient contact pressure, these values can be doubled or tripled, especially with aluminium or brass. Experience shows that you start with a low feed rate and increase it depending on the different material conditions. If larger profiles are to be machined into tough materials and the feed power of the machine is too low, the feed must be reduced to 0.01 mm. For heavy broaching operations, if possible, a mechanical stop should be used to prevent the workpiece from shifting.

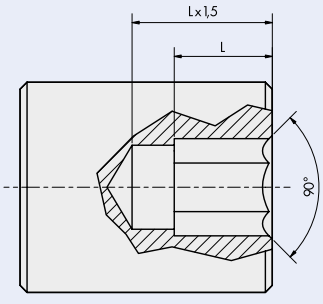
7. Cooling/ Lubrication

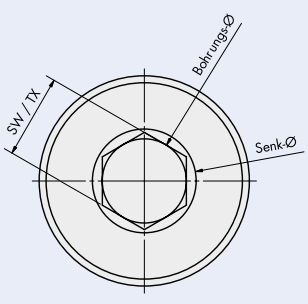
Emulsion or better cutting oil with EP additives.

8. Regrinding

In case of minor wear, broaches can be reground.







NEW Wobble holder

- Profile production in one operation
- Time-saving production with machining in one clamp
- Wide variety of shaft connections (cylinder, Morse taper, VDI)
- Extraordinary reduction of machining time to a fraction compared to conventional processes such as EDM, broaching or milling
- Production in blind hole bore possible
- Delivery without profile broaching inserts

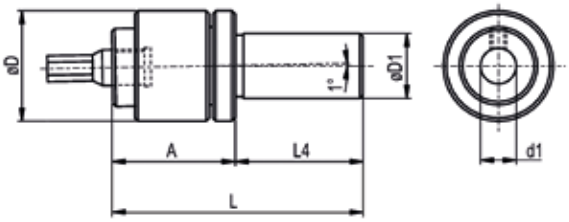




Illustration shows cylindrical version

Cylindrical holder, d1 = Ø 8 mm

D1 mm	d1 mm	A mm	L4 mm	L mm	D mm	art.no.	€
10	8	38	35	73	32	375001 0810	
12	8	38	35	73	32	375001 0812	
16	8	38	35	73	33	375001 0816	
20	8	38	50	88	33	375001 0820	
22	8	38	50	88	33	375001 0822	
25	8	38	50	88	33	375001 0825	

3146



Illustration shows cylindrical version

Cylindrical holder, d1 = Ø 12 mm

D1 mm	d1 mm	A mm	L4 mm	L mm	D mm	art.no.	€
16	12	46	50	96	44	375002 1216	
20	12	46	50	96	43.5	375002 1220	
22	12	46	50	96	44	375002 1222	
25	12	46	50	96	44	375002 1225	
32	12	46	50	96	44	375002 1232	

3146

Morse taper holder, d1 = Ø 8 mm

Shank	d1 mm	A mm	L4 mm	L mm	D mm	art.no.	€
MK 2	8	38	69	107	32	375004 0802	

3146

VDI holder, d1 = Ø 12 mm

VDI mount diameter	d1 mm	A mm	D mm	art.no.	€
VDI20	12	57	44	375007 1220	
VDI30	12	83	58	375007 1230	
VDI40	12	83	58	375007 1240	

3146

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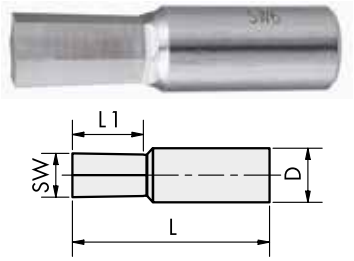


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Profile broaching insert hexagonal, holder Ø 12 mm

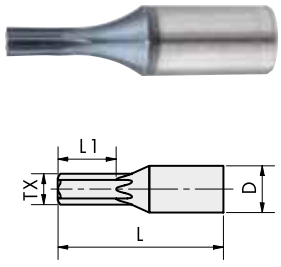
Wr. width	L1 mm	L mm	D mm	art.no.	€	**TIN-coated** art.no.	€
1.5 mm	4.5	40	12	375110 0015		375120 0015	
2 mm	6	40	12	375110 0020		375120 0020	
2.5 mm	6.5	40	12	375110 0025		375120 0025	
3 mm	7	40	12	375110 0030		375120 0030	
3.5 mm	9	40	12	375110 0035		375120 0035	
4 mm	12	40	12	375110 0040		375120 0040	
5 mm	12	40	12	375110 0050		375120 0050	
6 mm	12	40	12	375110 0060		375120 0060	
7 mm	12.5	40	12	375110 0070		375120 0070	
8 mm	13	40	12	375110 0080		375120 0080	
9 mm	14.5	40	12	375110 0090		375120 0090	
10 mm	16	40	12	375110 0100		375120 0100	
11 mm	18	40	12	375110 0110		375120 0110	
12 mm	19	40	12	375110 0120		375120 0120	
13 mm	19	40	12	375110 0130		375120 0130	
14 mm	19	40	12	375110 0140		375120 0140	
15 mm	19	40	12	375110 0150		375120 0150	
16 mm	19	40	12	375110 0160		375120 0160	
17 mm	19	40	12	375110 0170		375120 0170	
18 mm	19	40	12	375110 0180		375120 0180	
19 mm	19	40	12	375110 0190		375120 0190	
22 mm	19	40	12	375110 0220		375120 0220	
24 mm	19	40	12	375110 0240		375120 0240	
25 mm	19	40	12	375110 0250		375120 0250	
27 mm	19	40	12	375110 0270		375120 0270	
				3146		3146	



TIN version available from manufacturer's stock

Profile broaching insert TORX, holder Ø 12 mm

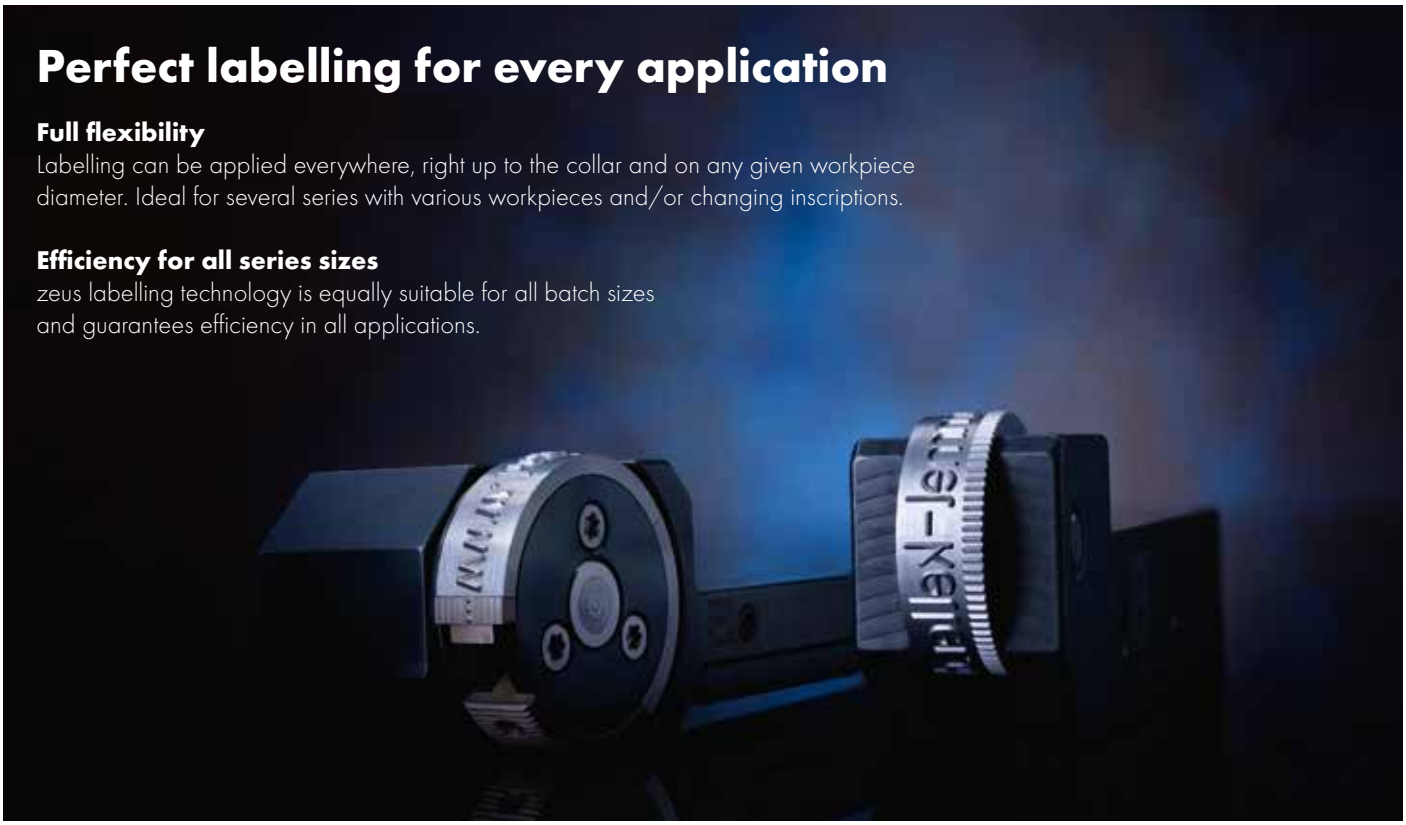
Tip size	L1 mm	L mm	D mm	**TIALN-coated** art.no.	€
TX6	2.5	40	12	375115 0006	
TX7	2.5	40	12	375115 0007	
TX8	2.5	40	12	375115 0008	
TX9	2.5	40	12	375115 0009	
TX10	3.5	40	12	375115 0010	
TX15	3.5	40	12	375115 0015	
TX20	3.5	40	12	375115 0020	
TX25	3.5	40	12	375115 0025	
TX27	3.5	40	12	375115 0027	
TX30	3.5	40	12	375115 0030	
TX40	3.5	40	12	375115 0040	
TX45	3.5	40	12	375115 0045	
TX50	5	40	12	375115 0050	
TX55	5	40	12	375115 0055	
				3146	



Perfect labelling for every application

Full flexibility
Labelling can be applied everywhere, right up to the collar and on any given workpiece diameter. Ideal for several series with various workpieces and/or changing inscriptions.

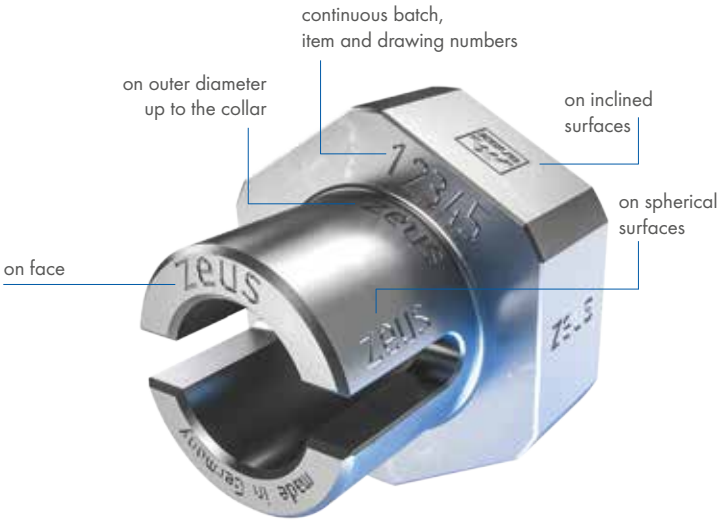
Efficiency for all series sizes
zeus labelling technology is equally suitable for all batch sizes and guarantees efficiency in all applications.



Precise in every position

Where can the workpieces be labelled?

The example shows that you can inscribe practically everywhere. Whether on spherical surfaces, on the collar, on inclined surfaces or on the face - zeus labelling technology meets your requirements.



The right labelling system

We would be happy to determined the right labelling system for your application. Send us your enquiry with your specifications. Don't hesitate to contact us in person.
We offer comprehensive advice and find the optimum solution for you!





Smoothing tool SET 510 / 520

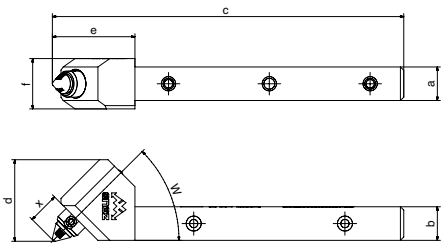
- The Zeus smoothing tool is an all-rounder in all conventional surface-smoothing operations.
- Whether on straight, conical or concave surfaces
- Planar sides can also be machined.
- Not suitable for interrupted cutting.



Smoothing tool holder SET 510

- **Properties**
  - Fixed tool head
  - **Supplied without smoothing tips**
  - Entry-level model for simple smoothing applications
  - For smoothing shafts with cylindrical surfaces
- **Recommendation**
  - Smoothing speed up to 200 m/min
  - Feed rate up to 0.2 mm/rev
  - Workpiece oversize of 0.01 mm (~RZ 10) and 0.02 mm (~RZ 20)
  - Cooling lubricant is recommended
- Tool holder SET 510-10U-35° including shank adapters 12x12 mm and 16x16 mm
- Tool holder SET 510-10U-45° including shank adapter 12x12 mm and 16x16mm





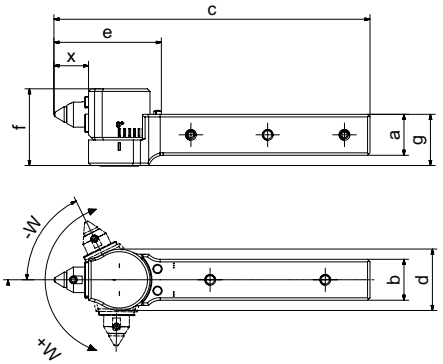
Designation	Shank width mm	Shank height mm	L mm	L1 mm	L2 mm	D mm	Angle °	art.no.	€
510-10U-45°	10	10	104.6	9.5	24.6	24	45	380200 0009	

3167

Smoothing tool holder SET 520

- **Properties**
  - Variably adjustable tool head
  - **Supplied without smoothing tips**
  - Tool for universal applications
  - Swivel range +/- 90°
  - Use up to the collar
  - The adjusting options of the tool head allow the smoothing of planar surfaces, as well as conical, convex and concave geometries.
- **Recommendation**
  - Polishing speed up to 200 m/min
  - Feed up to 0.2 mm/rev
  - Workpiece allowance of 0.01 mm (~RZ 10) and 0.02 mm (~RZ 20)
  - Cooling lubricant is recommended
- Tool holder SET 520-10 right / left including shank adapter 12x12 mm and 16x16 mm
- Tool holder SET 520-16 including shank adapter 20x20 mm and 25x25 mm





Designation	Shank width mm	Shank height mm	L mm	L1 mm	L2 mm	D mm	Angle °	**Right** art.no.	€
520-10 right	10	10	118.5	9.5	37.5	20	+90 to -90	380200 0005	
520-10 left	10	10	118.5	9.5	37.5	20	+90 to -90	380200 0006	
520-16	16	16	114.5	9.5	34.6	20	+90 to -90	380200 0007	

3167

Diamond smoothing tip

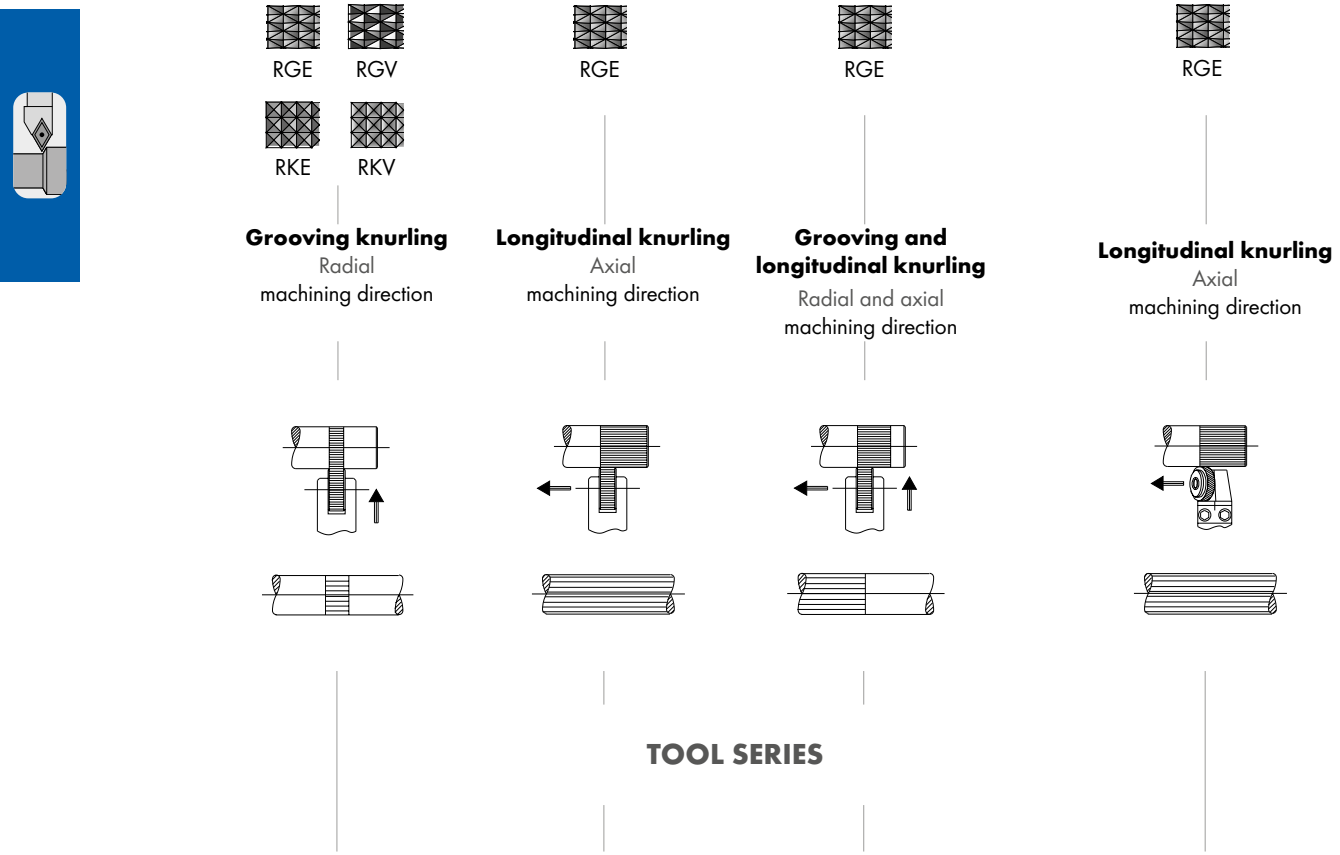
Designation	R mm	art.no.	€
Diamond smoothing tip 0.4	0.4	380205 0004	
Diamond smoothing tip 0.6	0.6	380205 0006	
Diamond smoothing tip 0.8	0.8	380205 0008	
Diamond smoothing tip 1.0	1.0	380205 0010	
Diamond smoothing tip 2.0	2.0	380205 0020	

3167



Knurl profiles according to DIN 82 – Overview of suitable tools

INFO



TOOL SERIES

Form knurling

130/131/132
all profiles

Form knurling

130/131/132
- RAA
- RBL
- RBR

141/142/161
- RAA
- RGE
- RBR
- RBL

192
- RAA
- RGE 30°
- RGE 45°

Form knurling

130/131/132
- RAA
- RBL
- RBR

141/142/161
- RAA
- RGE
- RBR
- RBL

Knurl cutting

231
- RAA
- RBL
- RBR

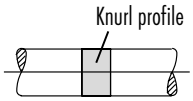
241
- RGE 30°
- RGE 45°

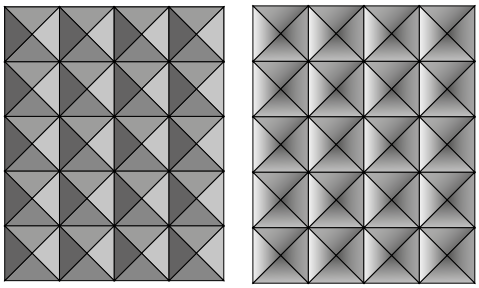
241
- RGE 30°
- RGE 45°

Selection of knurling tools

INFO

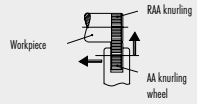
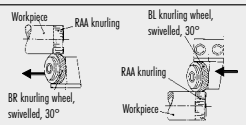
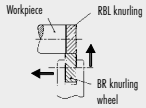
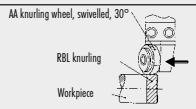
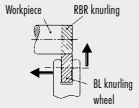
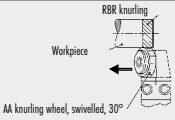
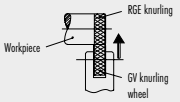
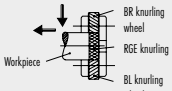
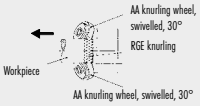
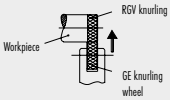
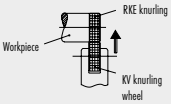
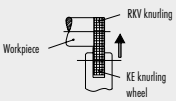
EXAMPLE:





EXPLANATION OF THE ARROWS:

- Knurl can only be produced in a radial direction (grooving knurling)
- Knurl can only be produced in an axial direction (longitudinal knurling)
- Knurl can be produced in an axial and a radial direction

Knurl profile (DIN 82)	Production process	
	Form knurling	Knurl cutting
RAA knurl with axially parallel score marks		
		
RBL left knurl		
		
RBR right knurl		
		
RGE left / right knurl, tips increased, 30°		
		
		
RGV left / right knurl, tips deepened, 30°		
RKE cross knurl, tips increased, 90°		
RKV cross knurl, tips deepened, 90°		

Knurling tool for 1 knurling wheel





- Application: Knurl forms (chipless forming), all types of knurling patterns, profiles and lettering
- Thumb wheels: all knurl forms can be used
- Machine type: Lathes and automatic lathes (conventional and CNC), point height integrated in the tool holder
- Special surface hardening for increased wear resistance
- Carbide runner pins for higher rotational speeds, faster machining, longer endurance
- **CLICK PIN system**
- Supplied without knurling wheel

Design	Shank width mm	Shank height mm	L mm	Suitable for min./max. diameter	for knurling wheel mm	Type	**Holder without wheel** art.no.	€
Right-hand version	10	10	99	3 - 50 mm	15 x 4 x 4	131	380102 1510	
Right-hand version	12	12	99	3 - 50 mm	15 x 4 x 4	131	380102 1012	
Right-hand version	16	16	99	3 - 50 mm	15 x 4 x 4	131	380102 1516	
Universal, right-hand + left-hand	20	20	109.5	8 - 200 mm	20 x 8 x 6	131	380102 0011	
Universal, right-hand + left-hand	20	25	109.5	8 - 200 mm	20 x 8 x 6	131	380102 2025	

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Knurling tool for 2 knurling wheels





- Use: Form knurling (chipless forming), workpiece knurl profile in accordance with DIN 82: RAA, RGE 30°
- Knurling wheels: **RAA** = 2x type AA; **RGE 30°** = 1x BL 30°, 1x BR 30°
- Machine type: Lathes and automated lathes (conventional and CNC), centre height integrated in the tool holder
- Modular design, knurling tool can be used universally as a right-hand and left-hand version, retooling simply involves turning the knurling head
- Special surface hardening for increased wear resistance
- Carbide runner pins for higher speeds, faster machining, longer service life
- With flexible centring
- Clearance angle correction by means of grub screws in the shank
- Supplied without knurling wheels

Design	Shank width mm	Shank height mm	L mm	Suitable for min./max. diameter	for knurling wheel mm	Type	**Holder w/o wheels** art.no.	€
Straight version	16	16	119	6 - 60 mm	15 x 4 x 4	141	380103 1516	
Straight version	20	20	130	10 - 110 mm	20 x 8 x 6	141	380103 2020	
Straight version	20	25	130	10 - 110 mm	20 x 8 x 6	141	380103 2025	

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Spare parts for knurling tools


Runner pin


Runner pin with flat surface


Runner pin with radius notch


Pressure piece


Spare parts set with greased bush

Designation	art.no.	€
Carbide runner pin, 4 x 12 mm with flat surface, suitable for 3801020103	380110 9902	
Carbide runner pin, 6 x 20 mm with flat surface, suitable for 3801090005	380110 9904	
Runner pin, 6 x 20 mm for Click Pin system, suitable for 3801020011 from 06/2017	380110 9908	
Spare parts set: bush, cover disc and screw, suitable for 3801511212	380110 9906	
Spare parts set: carbide bush, cover disc and right-hand countersunk screw, suitable for 3801502026 / 3801550525	380110 9907	

3167

Knurl cutting tool for 1 knurling wheel, 25 x 6 x 8 mm



- Use: Knurl cutting, workpiece knurl profile according to DIN 82: RAA
- Knurling wheels: RAA = 1 x BR 30° for right-hand use, RAA = 1 x BL 30° for left-hand use
- Machine type: conventional and CNC automated lathes, centre height integrated in the tool
- Modular design, tool can be used universally as a right-hand or left-hand version
- Quick retooling by simply removing and turning the knurling head, precise axis position after every reassembly thanks to 3-point support
- With position indicator for optimum initial positioning
- Fine adjustment of the knurling head via threaded spindle with scale
- Precise control for axially parallel knurling thanks to adjustable knurling head
- Clearance angle set using grub screws in the shank
- Special surface hardening for increased wear resistance
- Supplied without knurling wheel



Design	Shank width mm	Shank height mm	L mm	Suitable for min./ max. diameter	for knurling wheel mm	Type	**Holder without wheel** art.no.	€
Universal R/L	12	12	103.5	3 - 50 mm	15 x 4 x 8	231	380150 1212	
Universal R/L	16	16	103.5	3 - 50 mm	15 x 4 x 8	231	380150 1516	
Universal R/L	20	20	130.8	10 - 300 mm	25 x 6 x 8	231	380150 2520	
Universal R/L	25	25	130.8	10 - 300 mm	25 x 6 x 8	231	380150 2525	

3167

Knurl cutting tool for 2 knurling wheels

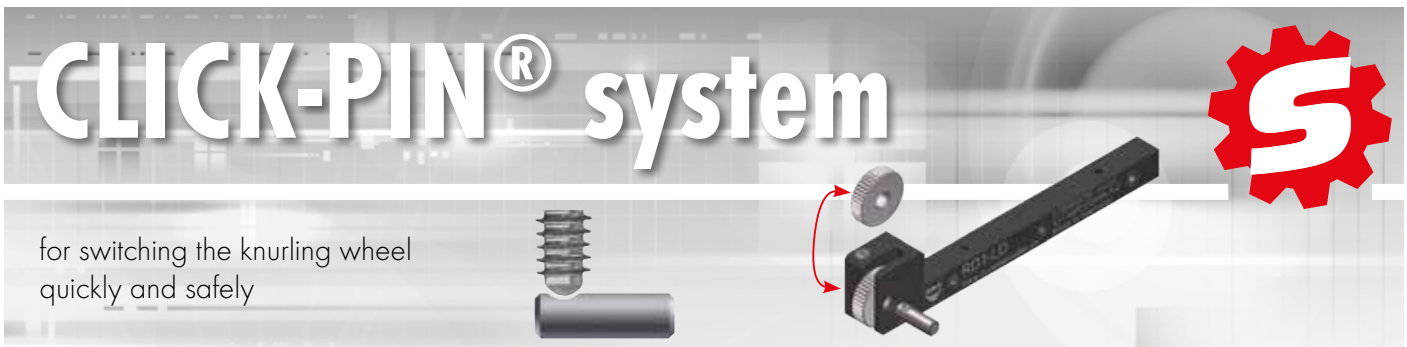


- Use: Knurl cutting, workpiece knurl profile according to DIN 82: RGE30°, RGE45°
- Knurling wheels: RGE30° = 2x type AA, RGE45° = 1x BL 15° and 1x BR 15°
- Machine type: Lathes and automated lathes, conventional and/or CNC
- Modular design: Tool can be used universally as a right-hand or left-hand version
- Fast retooling by simply removing and turning the knurling head,
- Flexible application: vertical height adjustment for use on shank sizes 20 and 25 mm
- Easy to set: setting scale and setting spindle for quickly adjusting the manufacturing diameter
- Fine adjustment of the centre height by means of cutter spindle height adjustment
- Stable construction: toothing between the tool holder and the cutter head
- Special surface hardening for increased wear resistance
- Vertical height adjustment for use on shank sizes 20 and 25 mm
- Supplied without knurling wheel



Design	Shank width mm	Shank height mm	L mm	Suitable for min./ max. diameter	for knurling wheel mm	Type	**Holder w/o wheels** art.no.	€
Universal R/L	12	12	116	3 - 50 mm	15 x 4 x 8	241	380155 1512	
Universal R/L	16	16	116	3 - 50 mm	15 x 4 x 8	241	380155 1516	
Universal R/L	20	20	134	10 - 250 mm	25 x 6 x 8	241	380155 0525	
Universal R/L	20	25	133.3	10 - 250 mm	25 x 6 x 8	241	380155 2525	

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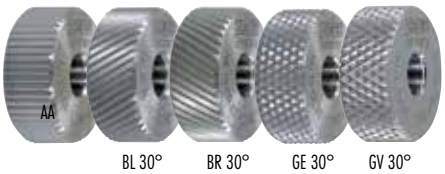


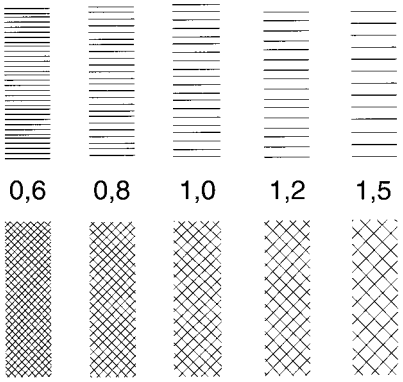
Precision knurling wheels

PM | DIN 403 | Vc/fz | 1113

PM and PM-Tenifer

- Teeth precision-milled to the exact pitch
- Fully hardened knurl, hardness HRC 61+2
- Flat faces and bore are ground
- **Chamfering on both sides for form knurling**
- **Sharp-edged for knurl cutting**
- **Material: PM, PM-Tenifer with surface treatment** to enhance service life





15 x 4 x 4 (Ø x width x bore), with chamfer

D mm	Division mm	Width mm	Bore hole Ø mm	Type	PM art.no.	€
15	0.6	4	4	AA	380130 0106	
15	0.8	4	4	AA	380130 0108	
15	1.0	4	4	AA	380130 0110	
15	1.2	4	4	AA	380130 0112	
15	1.5	4	4	AA	380130 0115	
15	0.6	4	4	BL 30°	380130 0206	
15	0.8	4	4	BL 30°	380130 0208	
15	1.0	4	4	BL 30°	380130 0210	
15	1.2	4	4	BL 30°	380130 0212	
15	1.5	4	4	BL 30°	380130 0215	
15	0.6	4	4	BR 30°	380130 0306	
15	0.8	4	4	BR 30°	380130 0308	
15	1.0	4	4	BR 30°	380130 0310	
15	1.2	4	4	BR 30°	380130 0312	
15	1.5	4	4	BR 30°	380130 0315	
15	0.6	4	4	GE 30°	380130 0406	
15	0.8	4	4	GE 30°	380130 0408	
15	1.0	4	4	GE 30°	380130 0410	
15	1.2	4	4	GE 30°	380130 0412	
15	0.8	4	4	GV 30°	380130 0508	
15	1.0	4	4	GV 30°	380130 0510	
					3167	

20 x 8 x 6 (Ø x width x bore), with chamfer



D mm	Division mm	Width mm	Bore hole Ø mm	Type	PM art.no.	€	PM-Tenifer art.no.	€
20	0.6	8	6	AA	380132 0106		380133 0106	
20	0.8	8	6	AA	380132 0108		380133 0108	
20	1.0	8	6	AA	380132 0110		380133 0110	
20	1.2	8	6	AA	380132 0112		380133 0112	
20	1.5	8	6	AA	380132 0115		380133 0115	
20	0.6	8	6	BL 30°	380132 0206		380133 0206	
20	0.8	8	6	BL 30°	380132 0208		380133 0208	
20	1.0	8	6	BL 30°	380132 0210		380133 0210	
20	1.2	8	6	BL 30°	380132 0212		380133 0212	
20	1.5	8	6	BL 30°	380132 0215		380133 0215	
20	0.6	8	6	BR 30°	380132 0306		380133 0306	
20	0.8	8	6	BR 30°	380132 0308		380133 0308	
20	1.0	8	6	BR 30°	380132 0310		380133 0310	
20	1.2	8	6	BR 30°	380132 0312		380133 0312	
20	1.5	8	6	BR 30°	380132 0315		380133 0315	
20	0.6	8	6	GE 30°	380132 0406		380133 0406	
20	0.8	8	6	GE 30°	380132 0408		380133 0408	
20	1.0	8	6	GE 30°	380132 0410		380133 0410	
20	1.2	8	6	GE 30°	380132 0412		380133 0412	
20	1.5	8	6	GE 30°	380132 0415			
20	0.8	8	6	GV 30°	380132 0508		380133 0508	
20	1.0	8	6	GV 30°	380132 0510		380133 0510	
					3167		3167	

15 x 4 x 8 (Ø x width x bore), sharp-edged

D mm	Division mm	Width mm	Bore hole Ø mm	Type	PM art.no.	€
15	0.6	4	8	AA	380190 0106	
15	0.8	4	8	AA	380190 0108	
15	1.0	4	8	AA	380190 0110	
15	1.2	4	8	AA	380190 0112	
15	0.6	4	8	BL 15°	380190 0206	
15	1.0	4	8	BL 15°	380190 0210	
15	0.6	4	8	BR 15°	380190 0306	
15	1.0	4	8	BR 15°	380190 0310	
15	0.6	4	8	BL 30°	380190 0406	
15	0.8	4	8	BL 30°	380190 0408	
15	1.0	4	8	BL 30°	380190 0410	
15	1.2	4	8	BL 30°	380190 0412	
15	0.6	4	8	BR 30°	380190 0506	
15	0.8	4	8	BR 30°	380190 0508	
15	1.0	4	8	BR 30°	380190 0510	
15	1.2	4	8	BR 30°	380190 0512	
					3167	



AA BL 15° BR 15° BL 30° BR 30°

25 x 6 x 8 (Ø x width x bore), sharp-edged

D mm	Division mm	Width mm	Bore hole Ø mm	Type	PM art.no.	€	PM-Tenifer art.no.	€
25	0.6	6	8	AA	380192 0106		380193 0106	
25	0.8	6	8	AA	380192 0108		380193 0108	
25	1.0	6	8	AA	380192 0110		380193 0110	
25	1.2	6	8	AA	380192 0112		380193 0112	
25	1.5	6	8	AA	380192 0115		380193 0115	
25	0.6	6	8	BL 15°	380192 0206		380193 0206	
25	1.0	6	8	BL 15°	380192 0210		380193 0210	
25	1.2	6	8	BL 15°	380192 0212			
25	0.6	6	8	BR 15°	380192 0306		380193 0306	
25	1.0	6	8	BR 15°	380192 0310		380193 0310	
25	1.2	6	8	BR 15°	380192 0312			
25	0.6	6	8	BL 30°	380192 0406		380193 0406	
25	0.8	6	8	BL 30°	380192 0408		380193 0408	
25	1.0	6	8	BL 30°	380192 0410		380193 0410	
25	1.2	6	8	BL 30°	380192 0412		380193 0412	
25	1.5	6	8	BL 30°	380192 0415		380193 0415	
25	0.6	6	8	BR 30°	380192 0506		380193 0506	
25	0.8	6	8	BR 30°	380192 0508		380193 0508	
25	1.0	6	8	BR 30°	380192 0510		380193 0510	
25	1.2	6	8	BR 30°	380192 0512		380193 0512	
25	1.5	6	8	BR 30°	380192 0515		380193 0515	
					3167		3167	

Examples of knurling products

INFO



TURNING TOOLS
TECHNICAL

CUTTING DATA

USAGE RECOMMENDATIONS

MACHINING NOTES

TYPE DESCRIPTIONS

ISO DESIGNATION CODES

PITCH ANGLE CALCULATIONS

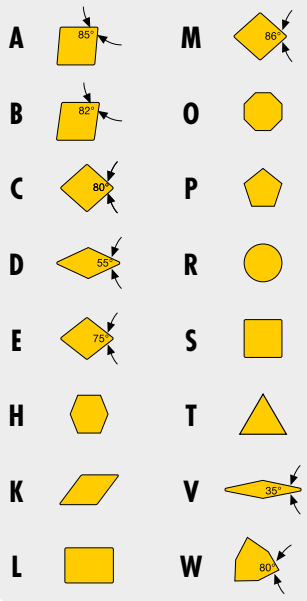
SYSTEMS OVERVIEWS



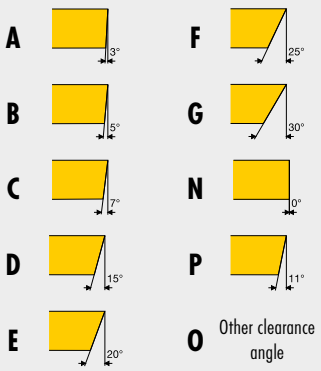
ISO designation system for indexable cutting inserts according to ISO 1832

INFO

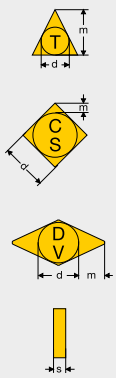
1 Insert form



2 Clearance angle



3 Tolerances



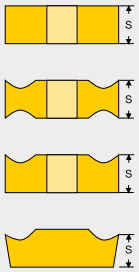
	d	m	s
A	± 0.025	± 0.005	± 0.025
C	± 0.025	± 0.013	± 0.025
E	± 0.025	± 0.025	± 0.025
F	± 0.013	± 0.005	± 0.025
G	± 0.025	± 0.025	± 0.05-0.13
H	± 0.013	± 0.013	± 0.025
J[1)]	± 0.05-0.15[2)]	± 0.005	± 0.025
K[1)]	± 0.05-0.15[2)]	± 0.013	± 0.025
L[1)]	± 0.05-0.15[2)]	± 0.013	± 0.025[1)]
M	± 0.05-0.15[2)]	± 0.08-0.20[2)]	± 0.013
M	± 0.05-0.15[2)]	± 0.08-0.20[2)]	± 0.025
N	± 0.05-0.25[2)]	± 0.13-0.38[2)]	± 0.05-0.13

[1)] Inserts with ground face-edge cutters

[2)] Each according to insert size (see ISO standard 1832)

The tolerances m and d are not dependent on the insert form.

6 Insert thickness



	s (mm)
01	1.59
T1	1.98
02	2.38
T2	2.78
03	3.18
T3	3.97
04	4.76
05	5.56
06	6.35
07	7.94
09	9.52

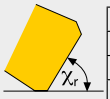
7 Corner rounding



	r (mm)
02	0.2
04	0.4
08	0.8
12	1.2
16	1.6
24	2.4

R

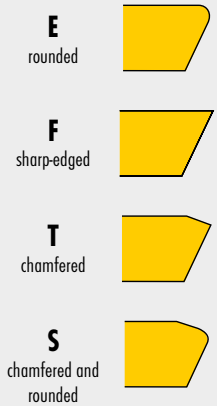
00	for diameter in inches converted into mm
M0	for diameter in metric dimensions



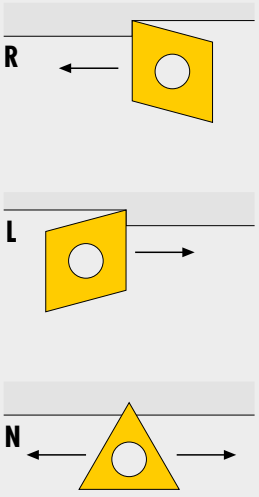
Tool cutting edge angle	
A	45°
D	60°
E	75°
F	85 °
P	90°
Z	Other

Clearance angle on the face plate	
A	3 °
B	5 °
C	7°
D	15 °
E	20 °
F	25°
G	30 °
N	0 °
P	11 °
Z	Other

8 Cutting edge formation



9 Cutting direction



ISO designation system for indexable cutting inserts according to ISO 1832

INFO

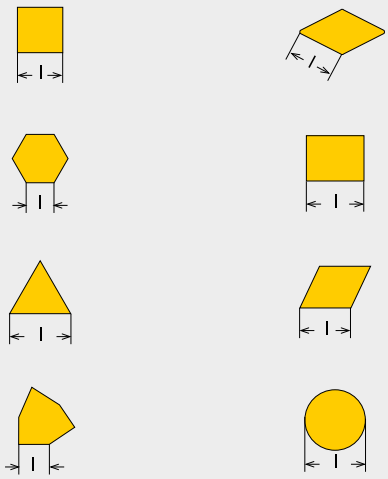
Example of indexable turning inserts

C	N	M	G	12	04	08	T	R	...
1	2	3	4	5	6	7	8	9	10

4 Cutting and fixing qualities

A		H	β = 70-90°	R	
B	β = 70-90°	J	β = 70-90°	T	β = 40-60°
C	β = 70-90°	M		U	β = 40-60°
F		N		W	β = 40-60°
G		Q	β = 40-60°	X	Diagram or precise description required

5 Cutting edge length



10 Manufacturer information

**The ISO code comprises 9 symbols, whereby symbols 8 and/or 9 are used only where necessary.
The manufacturer can affix further symbols to the ISO code with a hyphen
e.g. to indicate the chip breaker form).**



ISO system and cutting edge design of ceramic indexable cutting inserts

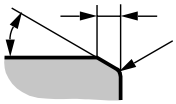
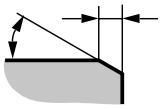
INFO

C	N	G	A	12	04	04	S02020
1	2	3	4	5	6	7	8

1 - 7 ISO designation system

The ISO designation system corresponds to the ISO designation system for indexable turning inserts according to ISO 1832.

8 Cutting edge

Symbol	Cutting edge design	Example		Shape
S	Chamfered and rounded cutting edge	CNGA 120412 **S02020**	0.20 mm x 20° chamfered and rounded cutting edge	
T	Chamfered cutting edge	CNGA 120404 **T02020**	0.20 mm x 20° chamfered cutting edge	

- Ceramic indexable cutting inserts are provided with a cutting edge chamfer.
- These cutting edge chamfers serve to introduce the applied cutting forces into the indexable cutting insert in the form of compressive forces.
- The chamfer width and chamfer angle are adapted to the cutting edge design depending on the application, e.g. for fine and finish turning of cast iron and steel materials => 0.05 mm x 20°, for finish and rough turning of cast iron materials and for medium machining of steel materials 0.20 mm x 20°
- Double chamfers are used for particularly high strain on the tool cutting edge.

ISO designation system for clamp mounting and boring bars according to ISO

INFO

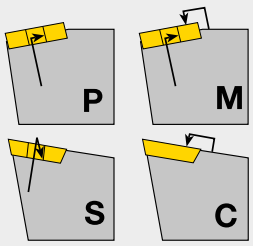
Clamp mounting

P	C	L	N	R	25	25	M	12
1	2	3	4	5	6	7	8	9

Boring bars

S	25	T	P	C	L	N	R	12
10	11	12	1	2	3	4	5	9

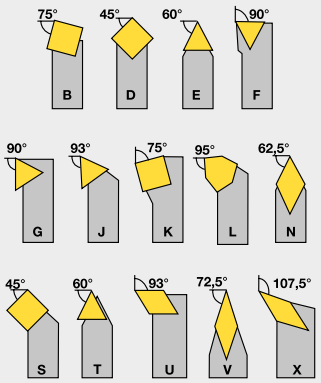
1 Clamping



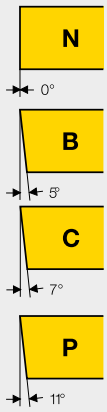
2 Insert form

C	Rhombic 80°
D	Rhombic 55°
K	Parallelogram-shaped 55°
R	Round
S	Square
T	Triangular
V	Rhombic 35°
W	Hexagonal 80°

3 Holder type



4 Clearance angle of the indexable insert



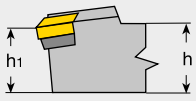
5 Cutting direction

R	Right-hand cutting
L	Left-hand cutting
N	Right-hand and left-hand cutting

6 Shank height

12	= 12 mm
25	= 25 mm
40	= 40 mm

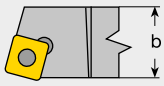
etc.



7 Shank width

12	= 12 mm
25	= 25 mm
32	= 32 mm

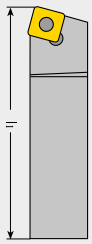
etc.



8 Clamp mounting length

	L (mm)
A	32
B	40
C	50
D	60
E	70
F	80
G	90
H	100
J	110
K	125
L	140
M	150

	L (mm)
N	160
P	170
Q	180
R	200
S	250
T	300
U	350
V	400
W	450
Y	500
X	Special



9 Cutting edges

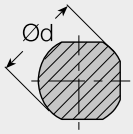
09	= 9.52 mm
12	= 12.7 mm
25	= 25.4 mm

etc.

10 Design

S	Steel shank
A	Cooling through the shank
C	Solid carbide
E	Solid carbide, cooling through the shank

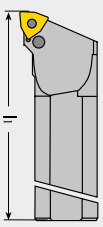
11 Shank Ø



12 Boring bar length

	L (mm)
A	32
B	40
C	50
D	60
E	70
F	80
G	90
H	100
J	110
K	125
L	140
M	150

	L (mm)
N	160
P	170
Q	180
R	200
S	250
T	300
U	350
V	400
W	450
Y	500
X	Special



palbit Type descriptions

INFO

ISO P

In the ISO-P range, general structural steel and unalloyed steel have up to 110 HB (Brinell hardness) and a carbon content of up to 0.55%. There is also low-alloy steel up to 180 HB and high-alloy steel from 200 HB – 400 HB and materials with a hardness of up to max. 48 HRc (Rockwell hardness).
The new turning grades with multilayer CVD layers are particularly suitable for cutting ISO-P materials.

Quality	ISO	Hardness	Coating	Toughness / Wear resistance	Continuous cut	Slightly interrupted cut	Significantly ninterrupted cut
PH2G 115	HC-P10-P25	HV 1580	CVD-Al_2O_3+TiN	Toughness 1 2 3 4 5 6 7 8 9 10; Wear resistance 1 2 3 4 5 6 7 8 9 10	●	○	–
PH2G 125	HC-P20-P35	HV 1520	CVD-Al_2O_3+TiN	Toughness 1 2 3 4 5 6 7 8 9 10; Wear resistance 1 2 3 4 5 6 7 8 9 10	○	●	○
PHG 115	HC-P10-P25	HV 1580	CVD-Al_2O_3+TiN	Toughness 1 2 3 4 5 6 7 8 9 10; Wear resistance 1 2 3 4 5 6 7 8 9 10	●	○	–
PHG 125	HC-P20-P35	HV 1520	CVD-Al_2O_3+TiN	Toughness 1 2 3 4 5 6 7 8 9 10; Wear resistance 1 2 3 4 5 6 7 8 9 10	○	●	○



ISO M

Indexable cutting inserts in the ISO-M area are mainly used in machining ferritic and martensitic stainless steel and austenitic stainless, usually acid-resistant steel (Ni content of over 20%). So-called duplex steel has a two-phase structure and consists of ferrite and austenite. Higher-alloyed duplex materials are also called super-duplex or hyper-duplex.

Quality	ISO	Hardness	Coating	Toughness / Wear resistance	Continuous cut	Slightly interrupted cut	Significantly ninterrupted cut
PH 7910	HC-P05-P10 HC-M05-M10 HC-S05-S15	HV 1730	PVD, AlTiN-7	Toughness 1 2 3 4 5 6 7 8 9 10 Wear resistance 1 2 3 4 5 6 7 8 9 10	●	○	–
PH 7920	HC-P10-P35 HC-M10-M25 HC-S10-S30	HV 1585	PVD, AlTiN-7	Toughness 1 2 3 4 5 6 7 8 9 10 Wear resistance 1 2 3 4 5 6 7 8 9 10	●	○	–
PHS 215	M10-M25	HV 1580	CVD-Al_2O_3+TiC	Toughness 1 2 3 4 5 6 7 8 9 10 Wear resistance 1 2 3 4 5 6 7 8 9 10	●	○	–
PHS 225	M15-M30	HV 1520	CVD-Al_2O_3+TiC	Toughness 1 2 3 4 5 6 7 8 9 10 Wear resistance 1 2 3 4 5 6 7 8 9 10	●	●	○
PHH 910	M05-M10/ S05-S15	HV-1730	AlTiN (Hipims)	Toughness 1 2 3 4 5 6 7 8 9 10 Wear resistance 1 2 3 4 5 6 7 8 9 10	●	–	–
PHH 920	M10-M25/ S15-S30	HV-1585	AlTiN (Hipims)	Toughness 1 2 3 4 5 6 7 8 9 10 Wear resistance 1 2 3 4 5 6 7 8 9 10	●	○	–

ISO N

Inserts for the ISO-N range find their main application in forgeable cast iron (GG) and nodular cast iron (GGG) as well as cast iron with vermicular graphite and bainitic cast iron with nodular graphite.

Quality	ISO	Hardness	Coating	Toughness / Wear resistance	Continuous cut	Slightly interrupted cut	Significantly ninterrupted cut
PH 0910	K5-K20	HV 1630	uncoated	Toughness 1 2 3 4 5 6 7 8 9 10 Wear resistance 1 2 3 4 5 6 7 8 9 10	●	○	–

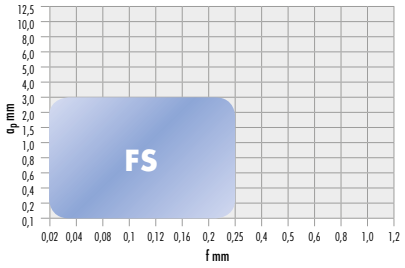
palbit Overview of positive chip breakers

INFO

Chip breaker FS

a_p	f
0,1 - 3,0 mm	0,02 - 0,25 mm/rev

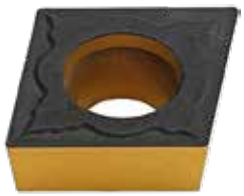


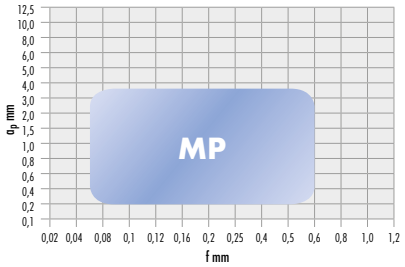


ISO P positive chip breaker / ISO M positive chip breaker		
		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	○	–

Chip breaker MP

a_p	f
0,2 - 3,6 mm	0,06 - 0,6 mm/rev



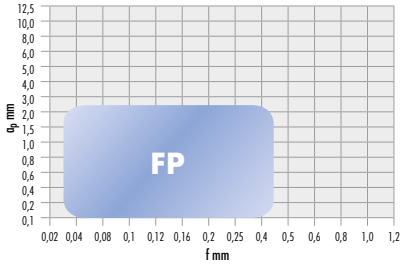


ISO P positive chip breaker		
		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
○	●	○

Chip breaker FP

a_p	f
0,1 - 2,4 mm	0,03 - 0,45 mm/rev



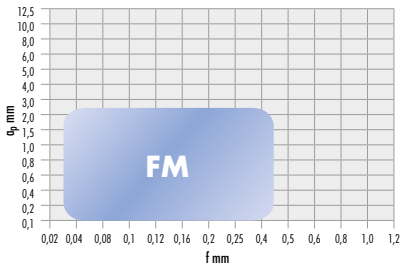


ISO P positive chip breaker		
		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	○	○

Chip breaker FM

a_p	f
0,1 - 2,4 mm	0,03 - 0,45 mm/rev



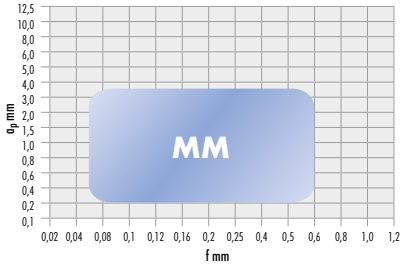


ISO M positive chip breaker		
		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	○	○

Chip breaker MM

a_p	f
0,2 - 3,6 mm	0,06 - 0,6 mm/rev





ISO M positive chip breaker		
		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
○	●	○

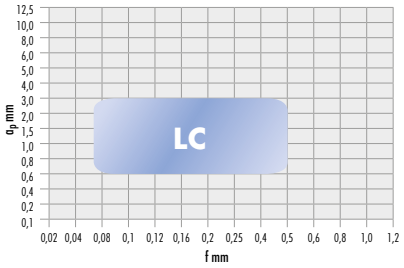
palbit Overview of negative chip breakers

INFO

Chip breaker LC

a_p	f
0,6 - 3,0 mm	0,07 - 0,5 mm/rev





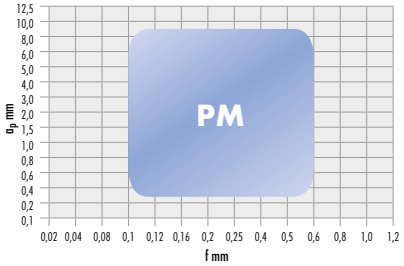
ISO P negative chip breaker

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	○	○

Chip breaker PM

a_p	f
0,3 - 9,0 mm	0,1 - 0,6 mm/rev



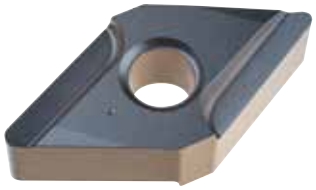


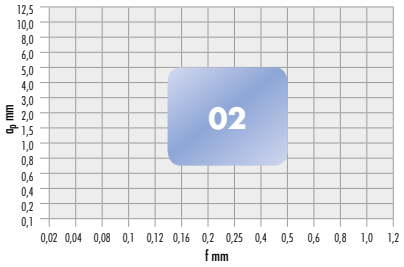
ISO P negative chip breaker

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	○

Chip breaker 02

a_p	f
0,7 - 5,0 mm	0,14 - 0,50 mm/rev





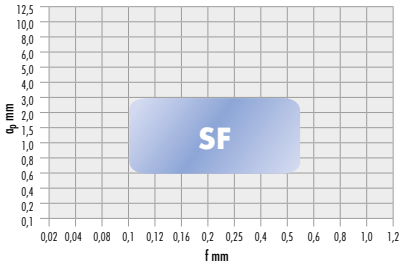
ISO P negative chip breaker

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
○	●	○

Chip breaker SF

a_p	f
0,6 - 3,0 mm	0,10 - 0,55 mm/rev



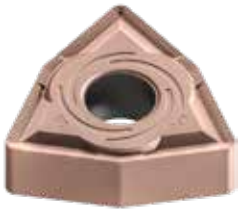


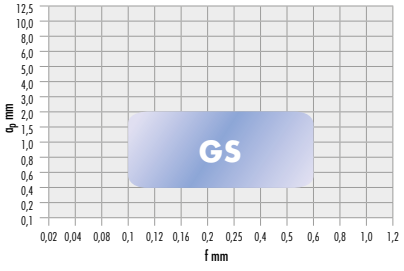
ISO M negative chip breaker

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	○	○

Chip breaker GS

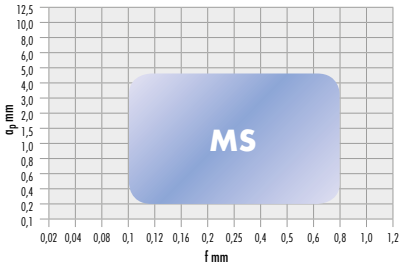
a_p	f
0,4 - 2,0 mm	0,10 - 0,60 mm/rev





ISO S negative chip breaker
ISO M negative chip breaker

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	○	–

Chip breaker MS	a_p	f	ISO N negative chip breaker		
	0,20 - 4,50 mm	0,10 - 0,80 mm/rev			
					
			Continuous cut	Slightly interrupted cut	Significantly interrupted cut
			●	○	–

ATORN Type descriptions

INFO

ISO P

In the ISO-P range, general structural steel and unalloyed steel have up to 110 HB (Brinell hardness) and a carbon content of up to 0.55%. There is also low-alloy steel up to 180 HB and high-alloy steel from 200 HB – 400 HB and materials with a hardness of up to max. 48 HRc (Rockwell hardness).
The new turning grades with multilayer CVD layers are particularly suitable for cutting ISO-P materials.

Sort designation	ISO	Hardness	Coating	Toughness / Wear resistance	Continuous cut	Slightly interrupted cut	Significantly interrupted cut
HC 7610	HC-P10 HC-K20	HV 1550	CVD-TiCN + Al_2O_3 (+ TiCN)	Toughness 1 2 3 4 5 6 7 8 9 10 Wear resistance 1 2 3 4 5 6 7 8 9 10	●	●	–
HC 7620	HC-P20 HC-K30	HV 1500	CVD-TiCN + Al_2O_3 (+ TiCN)	Toughness 1 2 3 4 5 6 7 8 9 10 Wear resistance 1 2 3 4 5 6 7 8 9 10	●	●	–
HC 7630	HC-P30 HC-K40	HV 1320	CVD-TiCN + Al_2O_3 (+ TiCN)	Toughness 1 2 3 4 5 6 7 8 9 10 Wear resistance 1 2 3 4 5 6 7 8 9 10	–	●	●
ACP15T	HC-P15 HC-M10 HC-K25	HV 1550	CVD, Ti(Cn)+Al203 18,5 µm	Toughness 1 2 3 4 5 6 7 8 9 10 Wear resistance 1 2 3 4 5 6 7 8 9 10	●	○	–
ACP25T	HC-P25 HC-K30	HV 1470	CVD-TiCN + Al_2O_3 (+ TiCN)	Toughness 1 2 3 4 5 6 7 8 9 10 Wear resistance 1 2 3 4 5 6 7 8 9 10	●	●	–
ACP35T	HC-P35 HC-M30 HC-K35	HV 1460	CVD, Ti(Cn)+Al203 13 µm	Toughness 1 2 3 4 5 6 7 8 9 10 Wear resistance 1 2 3 4 5 6 7 8 9 10	○	●	●
ACU20T	HC-P20 HC-M20 HC-K30	HV 1450	CVD, Ti(Cn)+Al203 13 µm	Toughness 1 2 3 4 5 6 7 8 9 10 Wear resistance 1 2 3 4 5 6 7 8 9 10	●	○	–
ACU40T	HC-P40 HC-M35	HV 1300	CVD, Ti(Cn)+Al203 13,0 µm	Toughness 1 2 3 4 5 6 7 8 9 10 Wear resistance 1 2 3 4 5 6 7 8 9 10	●	○	○
ATU10T	HT-P15 HT-M10 HT-K10	HV 1620		Toughness 1 2 3 4 5 6 7 8 9 10 Wear resistance 1 2 3 4 5 6 7 8 9 10	●	–	–

ISO M

Indexable cutting inserts in the ISO-M area are mainly used in machining ferritic and martensitic stainless steel and austenitic stainless, usually acid-resistant steel (Ni content of over 20%). So-called duplex steel has a two-phase structure and consists of ferrite and austenite. Higher-alloyed duplex materials are also called super-duplex or hyper-duplex.

Sort designation	ISO	Hardness	Coating	Toughness / Wear resistance	Continuous cut	Slightly interrupted cut	Significantly interrupted cut
HC 7220	HC-M20 HC-S20	HV 1520	PVD-TiAlN + Al_2O_3 (+ ZrCN)	**Toughness** 1 2 3 4 5 6 7 8 9 10 **Wear resistance** 1 2 3 4 5 6 7 8 9 10	●	○	–
HC 7510	HC-M10 HC-P15	HV 1500	CVD-TiAlN + Al_2O_3 (+ ZrCN)	**Toughness** 1 2 3 4 5 6 7 8 9 10 **Wear resistance** 1 2 3 4 5 6 7 8 9 10	●	○	–
HC 7520	HC-M20 HC-P25	HV 1450	CVD-TiAlN + Al_2O_3 (+ ZrCN)	**Toughness** 1 2 3 4 5 6 7 8 9 10 **Wear resistance** 1 2 3 4 5 6 7 8 9 10	●	●	○
HC 7530	HC-M30 HC-P30	HV 1350	CVD-TiAlN + Al_2O_3 (+ ZrCN)	**Toughness** 1 2 3 4 5 6 7 8 9 10 **Wear resistance** 1 2 3 4 5 6 7 8 9 10	–	●	●
HC 7810	HC-M10 HC-S10	HV 1820	PVD-TiAlN + Al_2O_3 (+ ZrCN)	**Toughness** 1 2 3 4 5 6 7 8 9 10 **Wear resistance** 1 2 3 4 5 6 7 8 9 10	●	●	–
HC 7820	HC-M20 HC-S20	HV 1520	PVD-TiAlN + Al_2O_3 (+ ZrCN)	**Toughness** 1 2 3 4 5 6 7 8 9 10 **Wear resistance** 1 2 3 4 5 6 7 8 9 10	●	●	●
ACM20T	HC-M20 HC-P30	HV 1470	CVD-TiCN + Al_2O_3 (+ TiCN)	**Toughness** 1 2 3 4 5 6 7 8 9 10 **Wear resistance** 1 2 3 4 5 6 7 8 9 10	●	●	–
APM20T	HC-M20 HC-K20	HV 1560	PVD, TiAlN, 2 – 5 µm	**Toughness** 1 2 3 4 5 6 7 8 9 10 **Wear resistance** 1 2 3 4 5 6 7 8 9 10	●	–	–
APM25T	HC-P35 HC-M25	HV 1460	PVD, TiN / TiAlN, 6 µm	**Toughness** 1 2 3 4 5 6 7 8 9 10 **Wear resistance** 1 2 3 4 5 6 7 8 9 10	●	○	–
APM35T	HC-P35 HC-M35	HV 1330	PVD, TiN / TiAlN, 6 µm	**Toughness** 1 2 3 4 5 6 7 8 9 10 **Wear resistance** 1 2 3 4 5 6 7 8 9 10	○	●	●

ISO K

Indexable cutting inserts for the ISO-K area are mainly used for cast iron that can be forged (GG) and spheroidal graphite iron (GGG), as well as for cast iron with vermicular graphite and bainitic cast iron with spheroidal graphite iron.

Sort designation	ISO	Hardness	Coating	Toughness / Wear resistance	Continuous cut	Slightly interrupted cut	Significantly interrupted cut
ACK10T	HC-K10 HC-P05	HV 1810	CVD-TiCN + Al_2O_3	Toughness 1 2 3 4 5 6 7 8 9 10 Wear resistance 1 2 3 4 5 6 7 8 9 10	○	●	–
ACK20T	HC-P10 HC-K20	HV 1630	CVD, i(C,N)+Al203, 15,5 µm	Toughness 1 2 3 4 5 6 7 8 9 10 Wear resistance 1 2 3 4 5 6 7 8 9 10	●	●	○

ISO N

Indexable cutting inserts for the ISO-N area are mainly used in machining aluminium and aluminium alloys (cast and forgeable alloys) with an Si content <13%. Non-metallic materials such as thermosets and fibre-reinforced plastics can also be machined with this turning type.

Sort designation	ISO	Hardness	Coating	Toughness / Wear resistance	Continuous cut	Slightly interrupted cut	Significantly interrupted cut
HC 8310	HC-N10	HV 1750	PVD-TiCN	Toughness 1 2 3 4 5 6 7 8 9 10 Wear resistance 1 2 3 4 5 6 7 8 9 10	●	○	–
AWN15T	HW-K15	HV 1630		Toughness 1 2 3 4 5 6 7 8 9 10 Wear resistance 1 2 3 4 5 6 7 8 9 10	●	●	○
APN15T	HW-K15	HV 1630	PVD, TiN/ TiAlN, 6 µm	Toughness 1 2 3 4 5 6 7 8 9 10 Wear resistance 1 2 3 4 5 6 7 8 9 10	●	●	○

ISO S

Indexable cutting inserts for the ISO-S range are mainly used in machining highly heat-resistant alloys based on nickel-iron and cobalt. Titanium in its pure form or in alpha and beta alloys complete this ISO-S area. These materials which are extremely difficult to machine require a machining strategy adapted to the component which also depends on the machine.

Sort designation	ISO	Hardness	Coating	Toughness / Wear resistance	Continuous cut	Slightly interrupted cut	Significantly interrupted cut
APS10T	HC-M15 HC-S15	HV 1820	PVD (Ti, Al) N, 4 µm	**Toughness** 1 2 3 4 5 6 7 8 9 10 **Wear resistance** 1 2 3 4 5 6 7 8 9 10	●	○	–
APS15T	HC-M15 HC-S15	HV 1820	PVD TiN + (Ti, Al) N + TiN, 4 µm	**Toughness** 1 2 3 4 5 6 7 8 9 10 **Wear resistance** 1 2 3 4 5 6 7 8 9 10	●	○	–
APS40T	HC-M40 HC-S30	HV 1330	CVD TiN-TiB2 Multilayer	**Toughness** 1 2 3 4 5 6 7 8 9 10 **Wear resistance** 1 2 3 4 5 6 7 8 9 10	○	●	●

ATORN Overview of positive chip breakers

INFO

The new chip breakers from the range for positive indexable cutting inserts (5° and 7°)

The newly calculated chip breakers for individual use have been adapted to users' needs. The guarantee of optimised chip breaking properties in daily use was the priority here.

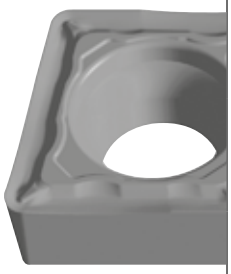
Adapted cutting edge preparation and enhanced surface treatment make the geometries even more efficient and more soft cutting. This is evident both in daily use and in series production as a result of an extended service life and lower machine loads. The latest insights in the development and modern cutting strategies of the individual ISO classes P, M, K, S and N were applied in the development of the chip breaker.

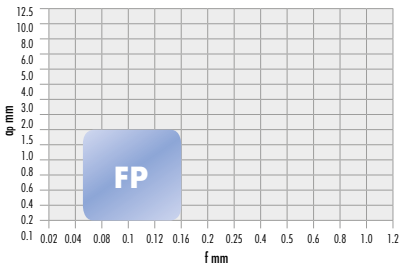
The benefits to the customer in terms of effectiveness, process reliability and material removal rate are the result. Elegant solutions are available for fine and ultra-fine finishing, medium machining and light roughing for positive geometries.
The new TURN provides the best possible chip control even with small cutting depths and feeds, very good chip breaking properties even with exotic materials with a significantly reduced tendency to form burrs, and the best possible surface qualities.

Chip breaker FP

ap	f
0.1 – 1.5 mm	0.05 – 0.16 mm/rev

- Long service life
- Optimised chip breaker prevents crack formation and is temperature-resistant
- Universal application





ISO P chip breaker, positive

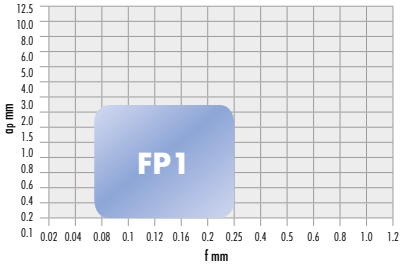
	Continuous cut	Slightly interrupted cut	Significantly interrupted cut
	●	○	–

Chip breaker FP1

ap	f
0.1 – 2.5 mm	0.07 - 0.25 mm/rev

- Long service life
- Optimised chip breaker for best possible chip control
- Soft chipping





ISO P chip breaker, positive

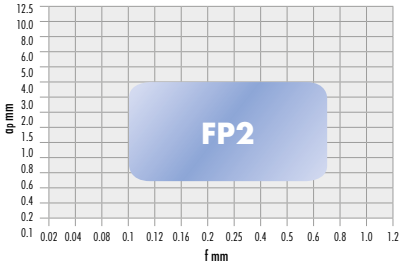
	Continuous cut	Slightly interrupted cut	Significantly interrupted cut
	●	○	–

Chip breaker FP2

ap	f
0.5 – 4.0 mm	0.1 - 0.7 mm/rev

- Maximum surface quality
- Double feed possible with the same Ra
- Soft cutting
- Also for non-rusting materials





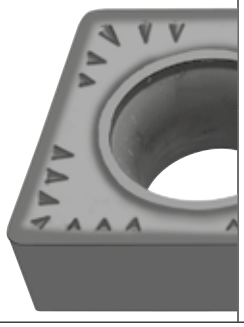
ISO P chip breaker, positive/negative

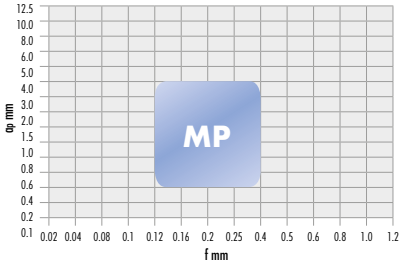
	Continuous cut	Slightly interrupted cut	Significantly interrupted cut
	●	●	–

Chip breaker MP

ap	f
0.4 – 4.0 mm	0.12-0.4 mm/rev

- Long service life
- Optimised chip breaker prevents crack formation and is temperature-resistant
- Universal application





ISO P chip breaker, positive

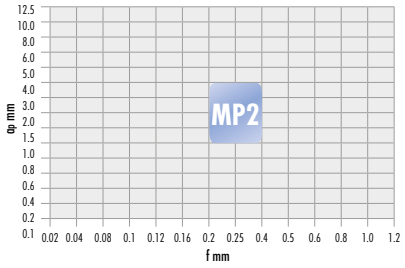
	Continuous cut	Slightly interrupted cut	Significantly interrupted cut
	●	●	○

Chip breaker MP2

ap	f
1.0 - 4.0 mm	0.2 - 0.4 mm/rev

- Long service life
- Optimised chip breaker prevents crack formation and is temperature-resistant
- Universal application





ISO P chip breaker, positive

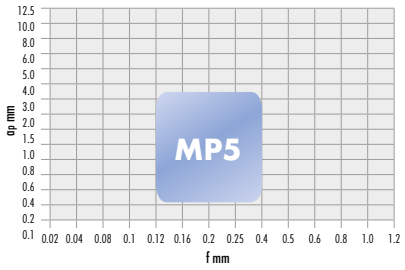
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	–

Chip breaker MP5

ap	f
0.25-3.5 mm	0.12-0.4 mm/rev

- Long service life
- Optimised chip breaker prevents crack formation and is temperature-resistant
- Universal application





ISO P chip breaker, positive

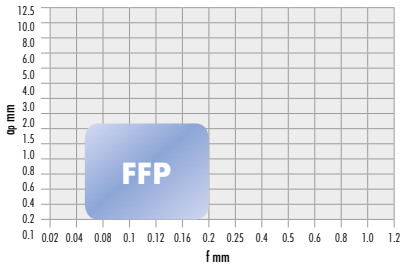
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	○	–

Chip breaker FFP, CERMET version

ap	f
0.1 - 1.65 mm	0.05 - 0.2 mm/rev

- Long service life
- Optimised chip breaker prevents crack formation and is temperature-resistant
- For best surface qualities





ISO P chip breaker, positive
ISO M chip breaker, positive

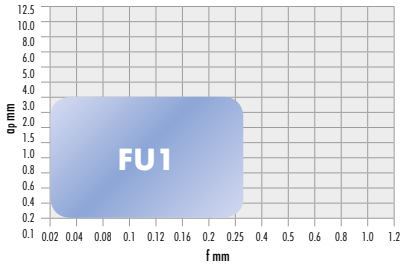
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	–	–

Chip breaker FU1

ap	f
0.1 - 3.0 mm	0.02 - 0.3 mm/rev

- Optimised chip breaker for best possible chip control
- Universal application
- Long service life





ISO P chip breaker, positive
ISO M chip breaker, positive

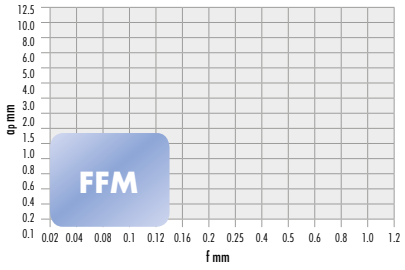
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	○	–

Chip breaker FFM, version for stainless steel

ap	f
0.05 - 1.35 mm	0.02 - 0.14 mm/rev

- Special chip breaker for chrome-nickel steel and titanium machining
- "Sharp" chip breaker
- Soft chipping
- Extremely good chip control





ISO M chip breaker, positive

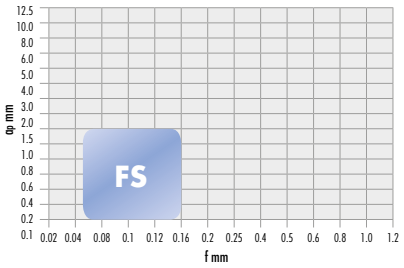
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	–	–

Chip breaker FS

ap	f
0.1 – 1.5 mm	0.05 – 0.16 mm/rev

- Long service life
- Soft chipping
- Universal application





ISO M chip breaker, positive

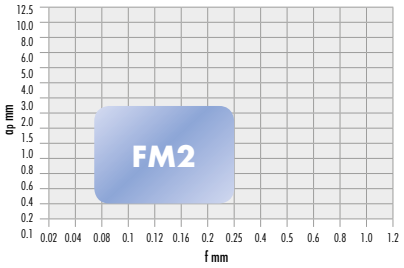
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	○	–

Chip breaker FM2

ap	f
0.2 – 2.5 mm	0.07 - 0.25 mm/rev

- Long service life
- Optimised chip breaker for best possible chip control in stainless steel
- Soft chipping





ISO M chip breaker, positive

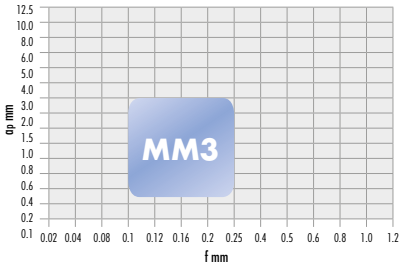
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	–	–

Chip breaker MM3

ap	f
0.3 – 3.0 mm	0.1 - 0.25 mm/rev

- Long service life
- Optimised chip breaker prevents crack formation and is temperature-resistant
- Universal application





ISO M chip breaker, positive

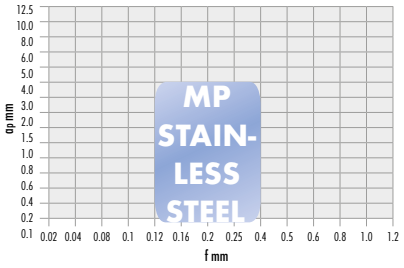
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	○	○

Chip breaker MP stainless steel

ap	f
0.4 – 4.0 mm	0.12-0.4 mm/rev

- Long service life
- Optimised chip breaker prevents crack formation and is temperature-resistant
- Universal application in stainless steel





ISO M chip breaker, positive

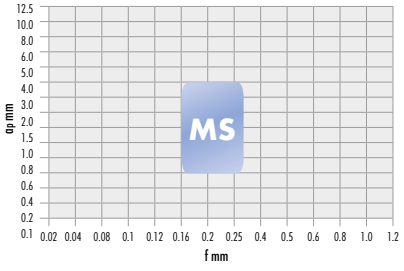
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	○	–

Chip breaker MS

ap	f
0.6 – 4.0 mm	0.16 – 0.3 mm/rev

- Long service life
- Optimised chip breaker prevents crack formation and is temperature-resistant
- Universal application in stainless steel





ISO M chip breaker, positive

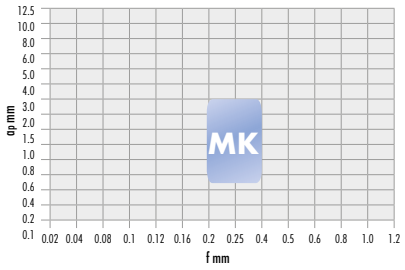
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	○

Chip breaker MK

ap	f
0.5 – 3.0 mm	0.2 - 0.4 mm/rev

- Long service life
- Optimised chip breaker prevents crack formation and is temperature-resistant
- Universal application





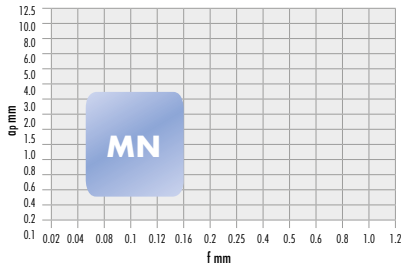
ISO K chip breaker, positive		
		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	○	○

Chip breaker MN

ap	f
0.3 – 3.5 mm	0.05 – 0.16 mm/rev

- Chip breaker for aluminium machining
- Also suitable for plastics and non-ferrous metals
- High rake angle
- Also suitable for austenitic quenched steel up to a chip depth of 0.4 mm





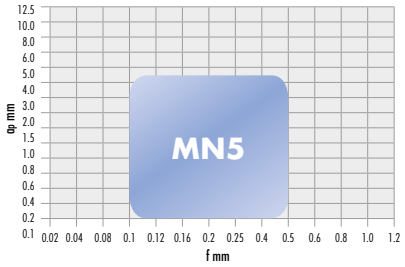
ISO N chip breaker, positive		
		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	–	–

Chip breaker MN5

ap	f
0.1 – 4.5 mm	0.1 - 0.5 mm/rev

- Chip breaker for aluminium machining
- Also suitable for plastics and non-ferrous metals
- High rake angle
- Also suitable for austenitic quenched steel up to a chip depth of 0.4 mm





ISO N chip breaker, positive		
		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	●

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ATORN Overview of negative chip breakers

INFO

The new chip breakers from the range for negative indexable cutting inserts (0°)

The newly calculated chip breakers for individual use have been adapted to users' needs. The guarantee of optimised chip breaking properties in daily use was the priority here.

Adapted cutting edge preparation and enhanced surface treatment make the geometries even more efficient and more soft cutting. This is evident both in daily use and in series production as a result of an extended service life and lower machine loads. The latest insights in the development and modern cutting strategies of the individual ISO classes P, M, K, S and N were applied in the development of the chip breaker.

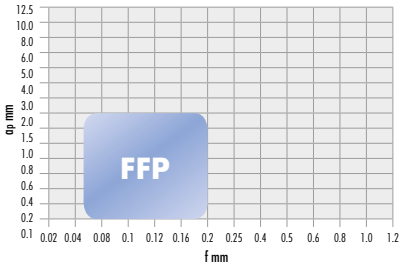
The benefits to the customer in terms of effectiveness, process reliability and material removal rate are the result. Elegant solutions are available for fine and ultra-fine finishing, medium machining and light roughing for negative geometries.
The new TURN provides the best possible chip control even with small cutting depths and feeds, very good chip breaking properties even with exotic materials with a significantly reduced tendency to form burrs, and the best possible surface qualities.

Chip breaker FFP, CERMET version

ap	f
0.1 - 2.0 mm	0.05 - 0.2 mm/rev

- Long service life
- Optimised chip breaker prevents crack formation and is temperature-resistant
- For best surface qualities





ISO P chip breaker, negative

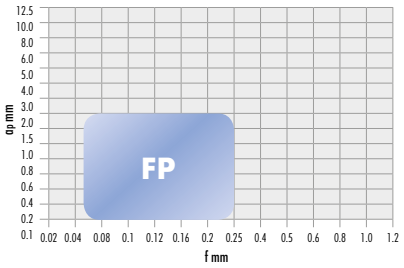
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	–	–

Chip breaker FP

ap	f
0.1 - 2.0 mm	0.05 - 0.25 mm/rev

- Long service life
- Optimised chip breaker prevents crack formation and is temperature-resistant
- Universal application





ISO P chip breaker, negative

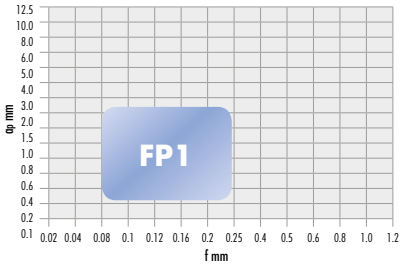
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	○	–

Chip breaker FP1

ap	f
0.25 - 2.4 mm	0.08 - 0.24 mm/rev

- Long service life
- Optimised chip breaker for best possible chip control
- Soft chipping





ISO P chip breaker, negative

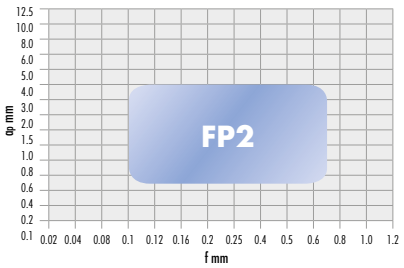
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	–

Chip breaker FP2

ap	f
0.5 - 4.0 mm	0.1 - 0.7 mm/rev

- Maximum surface quality
- Double feed possible with the same Ra
- Soft cutting
- Also for non-rusting materials





ISO P chip breaker, positive/negative

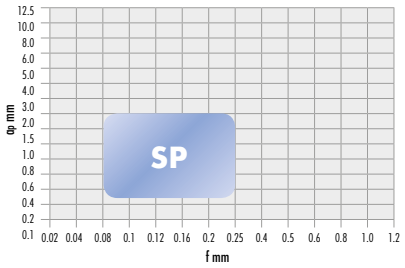
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	–

Chip breaker SP

ap	f
0.3 - 2.0 mm	0.08 - 0.25 mm/rev

- Long service life
- Soft chipping
- Universal application





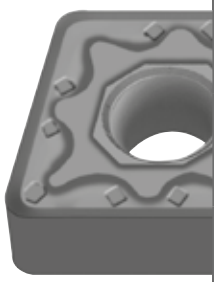
ISO P chip breaker, negative

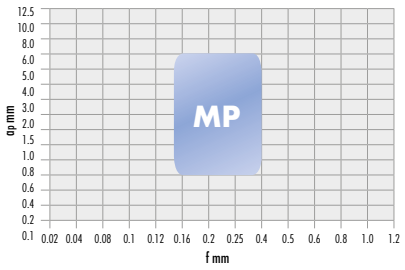
		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	○	–

Chip breaker MP

ap	f
0.6 - 6.0 mm	0.15-0.4 mm/rev

- Long service life
- Optimised chip breaker prevents crack formation and is temperature-resistant
- Universal application





ISO P chip breaker, negative

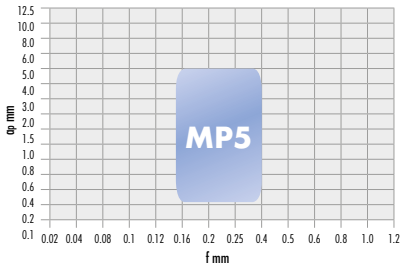
		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	○

Chip breaker MP5

ap	f
0.25-5 mm	0.15-0.4 mm/rev

- Long service life
- Optimised chip breaker prevents crack formation and is temperature-resistant
- Universal application





ISO P chip breaker, negative

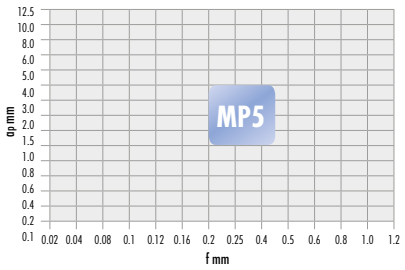
		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	○	–

Chip breaker MP5-HP

ap	f
1.0 - 4.0 mm	0.2 - 0.45 mm/rev

- Long service life
- Optimised chip breaker prevents crack formation and is temperature-resistant
- Universal application





ISO P chip breaker, negative

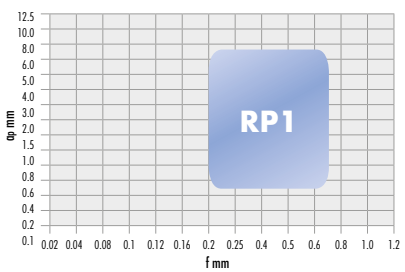
		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	○

Chip breaker RP1

ap	f
0.5 - 7.5 mm	0.2 - 0.7 mm/rev

- Optimised chip breaker prevents crack formation and is temperature-resistant
- Improved cutting edge stability, prevents notching effect and notch impact





ISO P chip breaker, negative

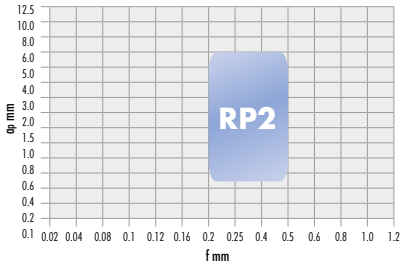
		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	○

Chip breaker RP2

ap	f
0.5 – 6 mm	0.2 - 0.5 mm/rev

- Optimised chip breaker prevents crack formation and is temperature-resistant
- Improved cutting edge stability, prevents notching effect and notch impact
- Stabilised contact surfaces





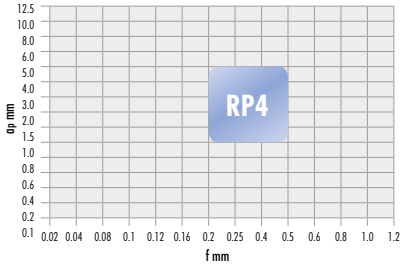
ISO P chip breaker, negative		
		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	○	○

Chip breaker RP4

ap	f
1.0 – 5.0 mm	0.2 – 0.5 mm/rev

- Optimised chip breaker prevents crack formation and is temperature-resistant
- Improved cutting edge stability, prevents notching effect and notch impact





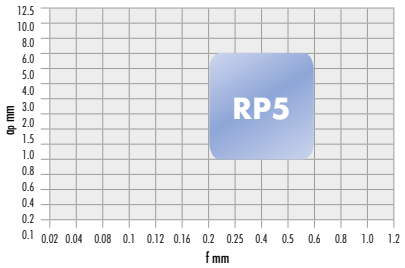
ISO P chip breaker, negative		
		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	○	–

Chip breaker RP5

ap	f
0.8 – 6.0 mm	0.2 – 0.6 mm/rev

- for medium to coarse machining
- Chip breaker for difficult cuts
- For universal applications





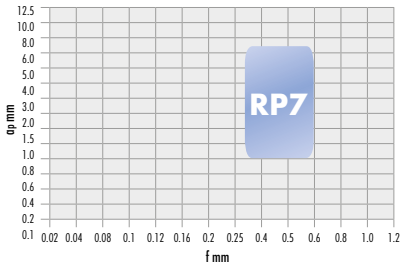
ISO P chip breaker, negative		
		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	●

Chip breaker RP7

ap	f
0.8 – 7.0 mm	0.3 - 0.6 mm/rev

- One-sided chip breaker
- Maximum machining reliability
- Chip breaker for difficult cuts
- Increased cutting force, temperature and vibration tendency





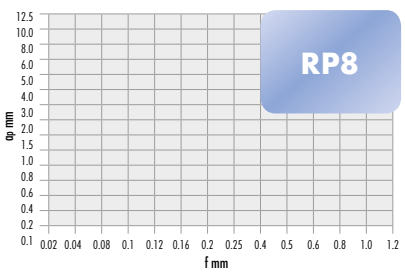
ISO P chip breaker, negative		
		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	●

Chip breaker RP8

ap	f
2.5 – 13 mm	0.4 – 1.3 mm/rev

- One-sided chip breaker
- Maximum machining reliability
- Chip breaker for difficult cuts
- Increased cutting force, temperature and vibration tendency





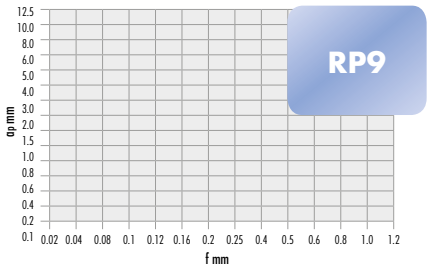
ISO P chip breaker, negative		
		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	●

Chip breaker RP9

ap	f
2.0 – 13 mm	0.5 – 1.5 mm/rev

- One-sided chip breaker
- Maximum machining reliability
- Chip breaker for difficult cuts
- Increased cutting force, temperature and vibration tendency





ISO P chip breaker, negative

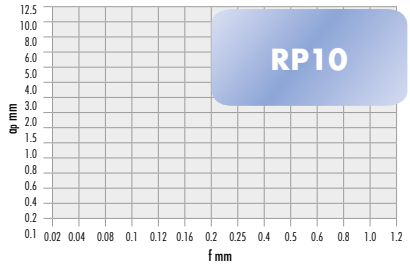
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	●

Chip breaker RP10

ap	f
2.5 – 12 mm	0.2 – 1.3 mm/rev

- One-sided chip breaker
- Maximum machining reliability
- Chip breaker for difficult cuts
- Reduced cutting force, temperature and vibration tendency





ISO P chip breaker, negative

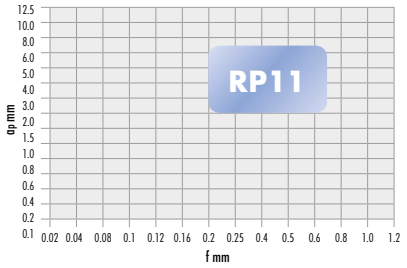
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	●

Chip breaker RP11

ap	f
2.0 – 7.0 mm	0.2 - 0.7 mm/rev

- One-sided chip breaker
- Maximum machining reliability
- Increased cutting force, temperature and vibration tendency





ISO P chip breaker, negative

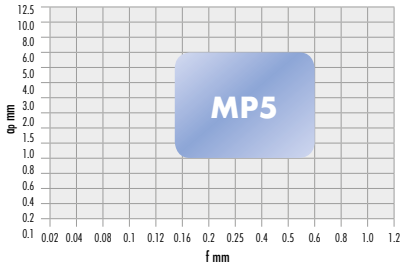
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	●

Chip breaker MP5

ap	f
0.8 – 6 mm	0.15 – 0.6 mm/rev

- Long service life
- Optimised chip breaker prevents crack formation and is temperature-resistant
- Universal application





ISO P chip breaker, negative

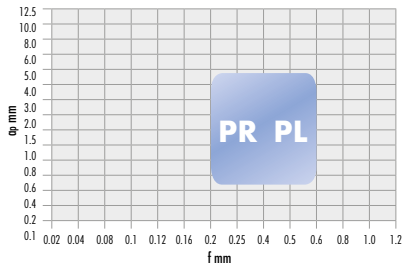
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
○	●	●

Chip breaker PR and PL

ap	f
0.5 – 4.8 mm	0.2 – 0.6 mm/rev

- Soft chipping
- "Sharp" cutting edge
- Universal application
- Established chip level





ISO P chip breaker, negative
ISO M chip breaker, negative

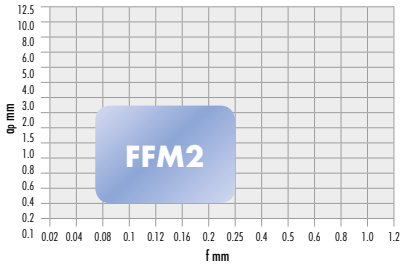
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	–

Chip breaker FFM2

ap	f
0.2 – 2.5 mm	0.07 - 0.25 mm/rev

- Long service life
- Optimised chip breaker prevents crack formation and is temperature-resistant
- For best surface qualities





ISO M chip breaker, negative

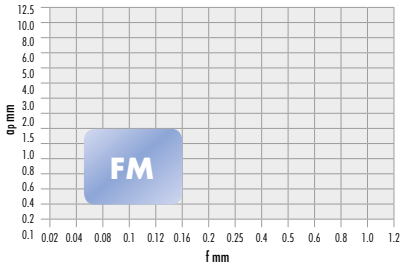
		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	–	–

Chip breaker FM

ap	f
0.3 – 9.0 mm	0.1 – 0.6 mm/rev

- Long service life
- For best surface quality





ISO M chip breaker, negative

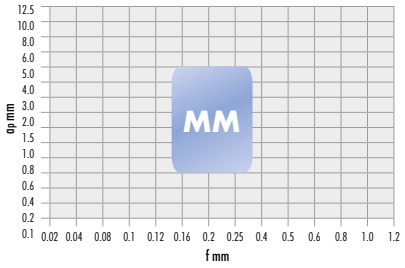
		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	○	–

Chip breaker MM

ap	f
0.6 – 5.0 mm	0.15 – 0.35 mm/rev

- Long service life
- Low cutting forces





ISO M chip breaker, negative

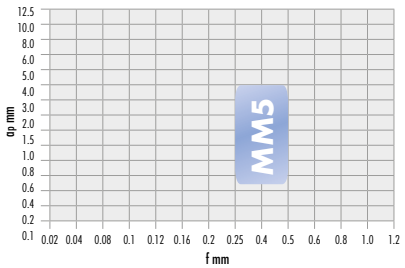
		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	○

Chip breaker MM5

ap	f
0.5 – 4.0 mm	0.25 – 0.5 mm/rev

- Specially developed for low cutting forces
- Optimised chip breaker to prevent burr formation
- For best surface qualities





ISO M chip breaker, negative

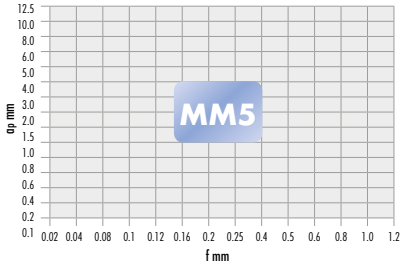
		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	–

Chip breaker MM5-HP

ap	f
1.0 – 4.0 mm	0.15-0.4 mm/rev

- Specially developed for low cutting forces
- Optimised chip breaker to prevent burr formation
- For best surface qualities





ISO M chip breaker, negative

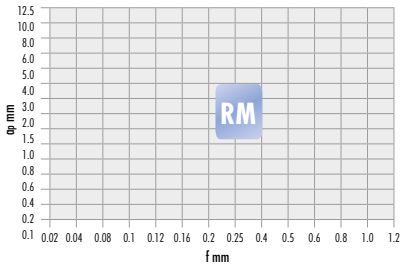
		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	○	–

Chip breaker RM

ap	f
1.2 - 4.0 mm	0.22 - 0.4 mm/rev

- for medium to coarse machining
- Chip breaker for difficult cuts





ISO M chip breaker, negative

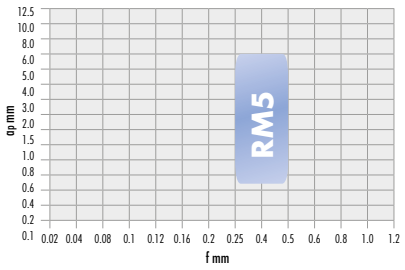
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	●

Chip breaker RM5

ap	f
0.5 - 6.0 mm	0.25 - 0.5 mm/rev

- Specially developed for low cutting forces
- Optimised chip breaker to prevent burr formation
- For best surface qualities
- For light to medium roughing





ISO M chip breaker, negative

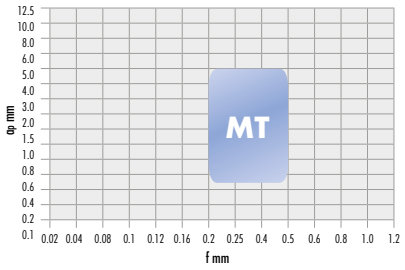
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	–

Chip breaker MK

ap	f
0.5 - 5.0 mm	0.2 - 0.5 mm/rev

- Long service life
- Optimised chip breaker prevents crack formation and is temperature-resistant
- Universal application





ISO K chip breaker, negative

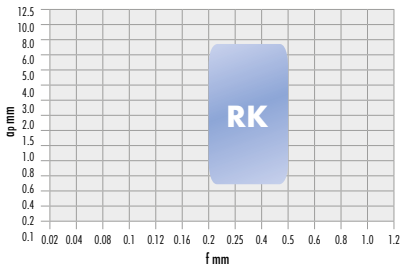
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	○

Chip breaker RK

ap	f
0.5 - 7.5 mm	0.2 - 0.5 mm/rev

- Prevents crack formation and is temperature-resistant
- Universal application





ISO K chip breaker, negative

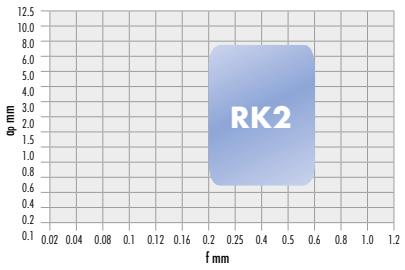
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	●

Chip breaker RK2

ap	f
0.5 - 7.5 mm	0.2 - 0.6 mm/rev

- Long service life
- Optimised chip breaker prevents crack formation and is temperature-resistant
- Light to medium roughing work





ISO K chip breaker, negative

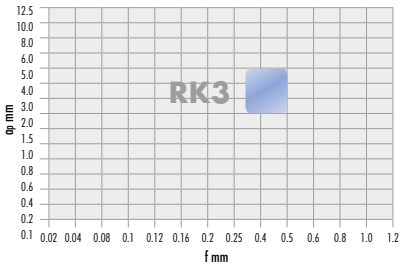
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	○

Chip breaker RK3

ap	f
2.0 – 5.0 mm	0.3 – 0.5 mm/rev

- Long service life
- Optimised chip breaker prevents crack formation and is temperature-resistant
- Light to medium roughing work





ISO K chip breaker, negative

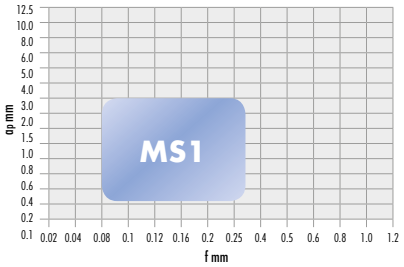
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	–

Chip breaker MS1

ap	f
0.25 – 3.0 mm	0.08 – 0.3 mm/rev

- Especially for chrome-nickel steel
- Soft chipping
- "Sharp" cutting edge





ISO S chip breaker, negative

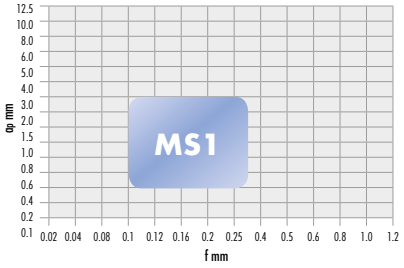
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	–	–

Chip breaker MS1-HP

ap	f
0.4 – 3.0 mm	0.1 – 0.3 mm/rev

- Especially for chrome-nickel steel
- Soft chipping
- Sharp cutting edge





ISO S chip breaker, negative

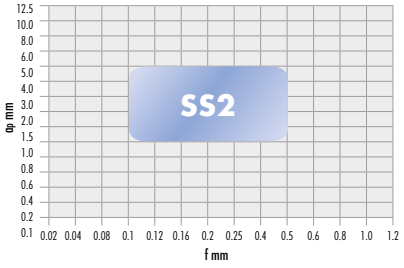
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	○	–

Chip breaker SS2

ap	f
1.0– 5.0 mm	0.1 - 0.5 mm/rev

- Especially for chrome-nickel steel
- Soft chipping
- "Sharp" cutting edge
- for medium to coarse machining





ISO S chip breaker, negative

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	○

ATORN Cutting data recommendations CBN

INFO

ISO	Materials group		ABC H25-B			ABC H25-D			ABC H25-G			ABC H40-C			ABC H40-F		
			Vc m/min	ap mm	f mm/rev	Vc m/min	ap mm	f mm/rev	Vc m/min	ap mm	f mm/rev	Vc m/min	ap mm	f mm/rev	Vc m/min	ap mm	f mm/rev
H	Hardened steel up to 72 HRC	min.	100	0,01	0,01	100	0,01	0,01	100	0,01	0,01	100	0,01	0,01	80	0,01	0,01
		max.	300	1,5	0,5	260	1,5	0,5	260	1	0,4	240	1	0,4	220	1	0,4
	Ball bearing and spring steel	min.	100	0,01	0,01	100	0,01	0,01	100	0,01	0,01	100	0,01	0,01	80	0,01	0,01
		max.	400	1	0,3	360	1	0,5	360	0,5	0,5	360	0,5	0,5	200	0,4	0,3
	Case hardening steel	min.	100	0,01	0,01	100	0,01	0,01	100	0,01	0,01	100	0,01	0,01	80	0,01	0,01
		max.	300	1,5	0,5	260	1,5	0,5	260	1	0,4	240	1	0,4	220	1	0,4
	Cast iron, hardened	min.	80	0,01	0,01	80	0,01	0,01	80	0,01	0,01	80	0,01	0,01	60	0,01	0,01
		max.	220	1,5	0,5	200	1	0,5	200	1	0,5	200	1	0,5	180	0,5	0,3
	Sintered steel, hardened	min.	100	0,01	0,01	100	0,01	0,01	100	0,01	0,01	100	0,01	0,01	80	0,01	0,01
		max.	300	1,5	0,5	260	1,5	0,5	260	1	0,4	240	1	0,4	220	1	0,4

ISO	Werkstoffgruppe		ABC X15-B			ABC X20-D			AB K10-B			AB K15-D			AB S10-C		
			Vc m/min	ap mm	f mm/rev	Vc m/min	ap mm	f mm/rev	Vc m/min	ap mm	f mm/rev	Vc m/min	ap mm	f mm/rev	Vc m/min	ap mm	f mm/rev
H	Hardened steel up to 72 HRC	min.															
		max.															
	Ball bearing and spring steel	min.															
		max.															
	Case hardening steel	min.															
		max.															
	Cast iron, hardened	min.															
		max.															
	Sintered steel, hardened	min.															
		max.															
	Tool steel, hardened up to 72 HRC	min.	100	0,01	0,01	60	0,01	0,01									
		max.	260	1	0,4	180	0,5	0,3									
	PM steels, hardened up to 72 HRC	min.	60	0,01	0,01	60	0,01	0,01									
		max.	220	0,5	0,4	180	0,3	0,3									
	Stainless steel, hardened	min.	80	0,01	0,01	60	0,01	0,01									
		max.	200	2	0,4	160	0,5	0,3									
	Stelite	min.	60	0,01	0,01	40	0,01	0,01									
		max.	160	0,5	0,3	120	0,3	0,3									
K	Grey cast iron	min.							500	0,01	0,01	450	0,01	0,01			
		max.							2000	2,8	0,4	1400	2,8	0,35			
	Ductile cast iron	min.							500	0,01	0,01	200	0,01	0,01			
		max.							2000	2,8	0,35	1000	2,8	0,3			
S	Ni, Co, Fe and Cr alloys	min.													80	0,01	0,01
		max.													350	0,5	0,3
	Titanium	min.													80	0,01	0,01
		max.													240	0,5	0,3

palbit Cutting data recommendations CBN

- Please adjust these guideline values according to clamping operation and machine set-up!

ISO	Materials group	Strength/ Hardness N/mm²	Material example chemical	Material number	Cutting speed Vc m/min	f mm/rev
S	Superalloys	Up to 1300	X45CrSi 9 3	1.4718	50-300	0,05 - 0,3
H	Hardened materials up to 64 HRC		100Cr6	1.2067	70-180	0,05 - 0,3

palbit Cutting data recommendations PKD

- Please adjust these guideline values according to clamping operation and machine set-up!

ISO	Materials group	Strength/ Hardness N/mm²	Material example chemical	Material number	Cutting speed Vc m/min	f mm/rev
N	Al. alloy long-chipping	Up to 500	AlMg 3	3.3535	800 - 3000	0,05 - 0,3
	Al. alloy short-chipping	Up to 500	G-AlSi 12	3.2581	800 - 3000	0,05 - 0,3
	Copper alloy (bronze) short-chipping	Up to 850	CuNi12Zn24	2.0730	700 - 1500	0,05 - 0,3
	Copper alloy (brass) short-chipping	Up to 600	Cu Zn 39 Pb 3	2.0381	700 - 1500	0,05 - 0,3
	Fibre-reinforced plastics		CFK, GFK		300 - 2000	0,05 - 0,3
	Graphite		C8000		300 - 2000	0,05 - 0,3

Vibration-dampened boring bars

INFO

Selecting the right indexable cutting insert

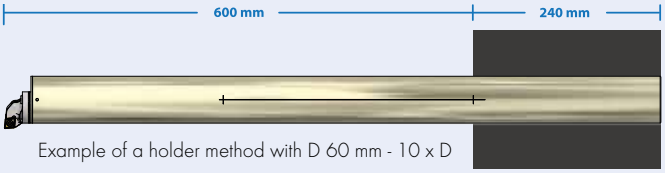
Selecting the right insert can have a major positive impact when machining with vibration-dampened boring bars. The indexable cutting insert can improve machining stability by minimising cutting forces.

- Where possible, always use the shortest tool length.
- To reduce radial forces to a minimum, ensure the entry angle is as close to 90° as possible.
- To reduce the total cutting force, select the smallest possible indexable cutting insert angle.
- To reduce the cutting forces, select the smallest possible corner radius.
- The machining depth (ap) should be greater than the corner radius of the indexable cutting insert.
- If possible, use an indexable cutting insert with a positive geometry to reduce the cutting pressure.

Clamping the boring bar

Overhang and clamping length

Vibration-dampened boring bars have a defined overhang and a defined clamping length. For a 60 mm boring bar with an overhang length of 10 x D, the total length of 840 mm incl. holding fixtures is divided as shown here. If the boring bar reaches beyond the specified overhang length, dampener operation is no longer fully guaranteed. A clamping length that is too short will produce the same result. It is important for the function of the boring bar that the specified parameters are observed.



Example of a holder method with D 60 mm - 10 x D

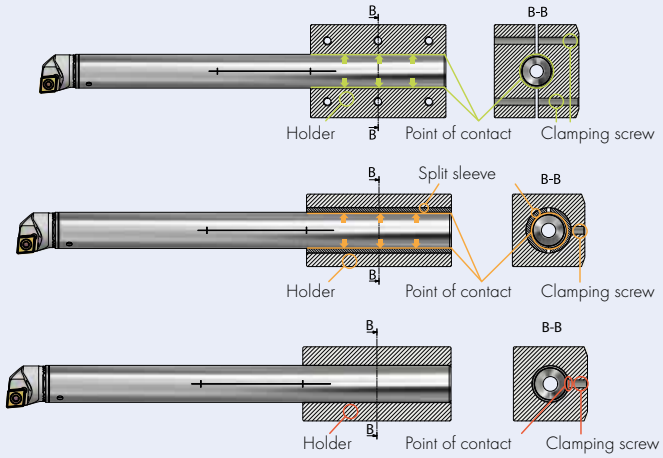
Clamping of vibration-dampened boring bars

The clamping length of vibration-dampened boring bars should be no less than 4 x D.

Many clamping systems offer the option of slotted boring bar holders for full wrap-around clamping. Unfortunately, these systems often lack the necessary clamping length or a suitable diameter. In such cases, slotted clamping sleeves are used. These reduce to the required diameter and generally increase the clamping length.

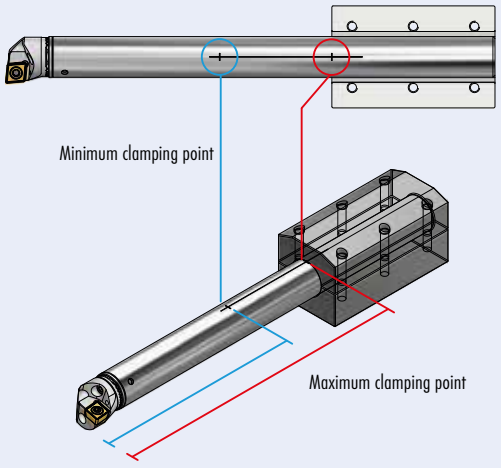
Another option is to clamp using a split bushing in a boring bar holder. In this case, the boring bar is clamped over the bushing and the bushing completely encircles the boring bar. The three clamping screws on the boring bar holder clamp the full bushing, thus achieving good rigidity.

Where possible, do not use a boring bar holder without a bushing. If the boring bar is locked using only one screw there is only one point of contact, resulting in very poor rigidity. In addition, the screw can damage the surface of the boring bar and this makes positioning more difficult.



Minimum and maximum overhang

Vibration-dampened boring bars have two markings at 90° angles to the central axis. These mark the minimum and maximum overhang.



5 x D		
Ø mm	Min.	Max.
20	40	100
25	45	125
32	52	160
40	72	200
50	82	250
60	92	300

8 x D		
Ø mm	Min.	Max.
20	105	160
25	120	250
32	142	256
40	180	320
50	215	400
60	247	480

10 x D		
Ø mm	Min.	Max.
20	120	200
25	140	250
32	165	320
40	200	400
50	245	500
60	280	600

12 x D		
Ø mm	Min.	Max.
20	135	240
25	159	300
32	188	384
40	215	480
50	270	600
60	325	720

14 x D		
Ø mm	Min.	Max.
20	152	280
25	281	350
32	216	488

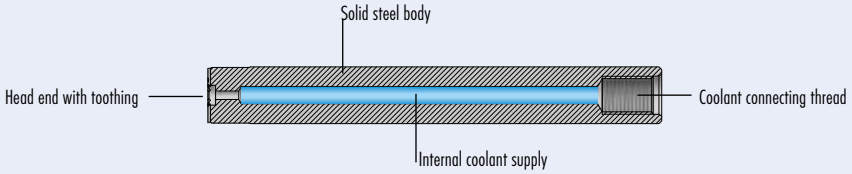
Vibration-dampened boring bars

INFO

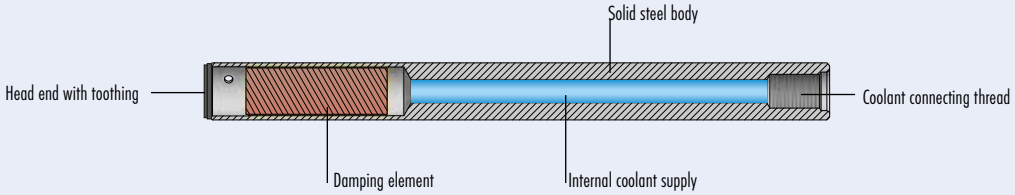
Design of boring bars

Design types of conventional boring bars and boring bars with vibration-dampening elements

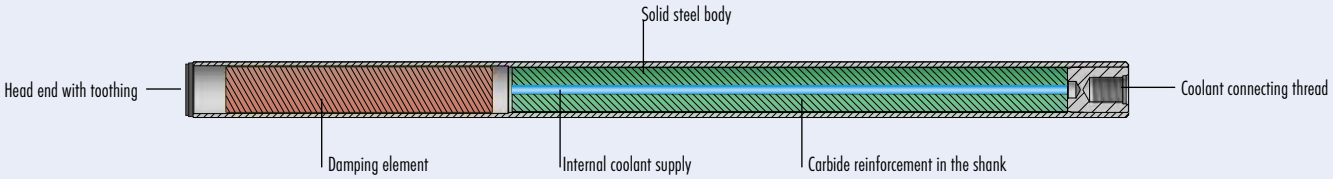
Conventional steel boring bars with internal coolant feed



Vibration-dampened boring bars with internal coolant feed



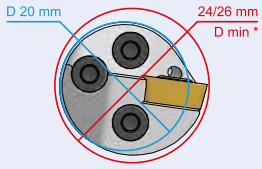
Vibration-dampened boring bars with carbide-reinforced shank and internal coolant feed

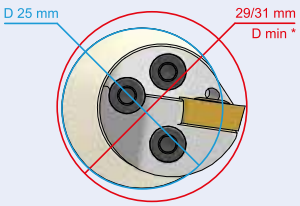


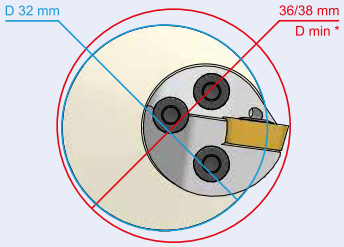
Available space in the bore

The different boring bar diameters result in different spatial conditions in the machine or in the component. In order to ensure an optimum result, it is important to take into account the resulting chip volume and the available space in the bore and, where necessary, reconsider the geometry of the selected insert or version. Poor results are often due to insufficient space in the bore.

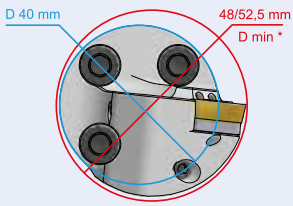
QC20: positive inserts only

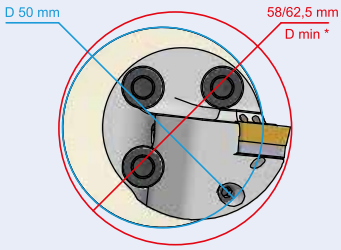


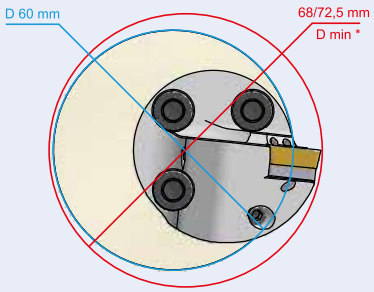




DM40: positive and negative inserts







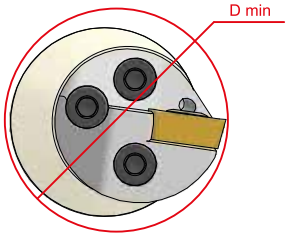
* The minimum diameter depends on the holding fixtures.

Vibration-dampened boring bars

INFO

Minimum diameter of the existing bore hole

The minimum diameter is dependent on the choice of boring bar in conjunction with the boring head used.



System QC-20

	D min / mm		
	Boring bars – Ø 20	Boring bars – Ø 25	Boring bars – Ø 32
A20-SCLC-R/L 09	24	29	36
A20-SDNC-R/L 11	26	31	38
A20-SDQC-R/L 07	24	29	36
A20-SDQC-R/L 11	26	31	38
A20-SDUC-R/L 07	24	29	36
A20-SDUC-R/L 11	26	31	38
A20-SDXC-R/L 11	26	31	38
A20-SIR/L-16	26	31	38
A20-STUC-R/L 11	24	29	36
A20-STUC-R/L 11 small	22	27	39
A20-STUC-R/L 16	26	31	38
A20-SVUC-R/L 11	26	31	38

System DM-40

	D min / mm		
	Boring bars – Ø 40	Boring bars – Ø 50	Boring bars – Ø 60
A40-DLCN-R/L 12	48	58	68
A40-DLCN-R/L 16	48	58	68
A40-DLCN-R/L 19	48	58	68
A40-DDQN-R/L 15	48	58	68
A40-DDUN-R/L 15	48	58	68
A40-DIR/L-16	48	58	68
A40-DIR/L-16U	48	58	68
A40-DIR/L-22	48	58	68
A40-DIR/L-22U	48	58	68
A40-DTUN-R/L 16	42	52	62
A40-DTUN-R/L 16 small	42	52	62
A40-DTUN-R/L 22	48	58	68
A40-DVUN-R/L 16	48	58	68
A40-DWLN-R/L 08	48	58	68
A40-SCLC-R/L 12	49	59	69
A40-SDQC-R/L 11	48	58	68
A40-SDUC-R/L 11	49	59	69
A40-SDUC-R/L 15	48	58	68
A40-STUC-R/L 16	49	59	69
A40-STUC-R/L 16 small	49	59	69
A40-SVUC-R/L 11	49	59	69
A40-SVUC-R/L 16	49	59	69

Designations and formulae (turning)

INFO

Dc	Cutting diameter	mm
ae	Radial cutting width	mm
ap	Axial cutting depth	mm
f	Feed per revolution	mm/rev
fz	Feed per tooth	mm/rev

Vc	Cutting speed	m/min.
Q	Material removal rate	cm^3/min.
Vf	Feed rate	m/min.
zn	Number of cutting corners in the tool	
n	Rotational speed	rpm

Cutting speed	$V_c = \frac{\pi \times D_c \times n}{1000} = m/min.$
Feed	$V_f = f_z \times n \times z_n = mm/min.$
Feed per revolution	$f_n = \frac{V_f}{n} = mm/U$

Rotational speed	$n = \frac{V_c \times 1000}{\pi \times D_c} = U/min.$
Material removal rate	$Q = \frac{a_p \times a_e \times V_f}{1000} = cm^3/min.$

ATORN Model descriptions GROOVE

The new range captivates with 4 models for a wide range of uses and applications.

The **APU40G** is an extremely reliable all-rounder for general applications using steel, stainless steel and cast iron. The high edge stability of the substrate is optimally protected by the customised TiAlN-PVD coating. Protection from the temperature influences that inevitably occur during machining.

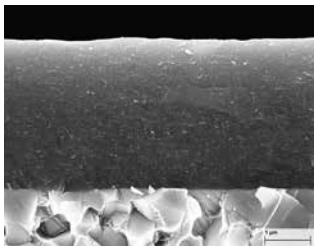
The tougher **APM45G** has the strongest substrate in the range and was specially developed for use with austenitic and stainless steels in unstable conditions. The PVD-TiATaN coating guarantees a high degree of machining reliability with excellent toughness even with materials that are difficult to machine, which is reflected in its process reliability.

The **ACP20G** rounds off the range, for maximum cutting speeds and excellent protection against diffusion wear. The TiCN-Al^2O^3-CVD coating protects this medium-tough variant from the excessive temperature influences that occur during recess turning in particular.

The uncoated **AWN16G** is a special substrate for machining non-ferrous materials and aluminium.

APU40G (universal model)

- HC-P30
  HC-M25
  HC-K30
  HC-S30



Toughness

1	2	3	4	5	6	7	8	9	10

Wear resistance

1	2	3	4	5	6	7	8	9	10

Composition
Co 9%,
Composite carbides 2%,
WC balance

Grain size
0.7 – 1 µm

Hardness
HV_{30} 1590

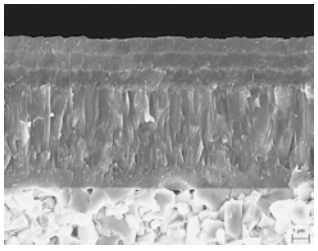
Coating
PVD TiAlN

Recommendation for use
Excellent and universal multi-grade model for use in steel, stainless steel, cast iron and heat-resistant chrome nickel alloys (killed)

ISO	Materials group	Strength/ Hardness N/mm²	Material example chemical	Material number	Cutting speed Vc m/min
P	Machining steel	Up to 700	9 SMn 28	1.0715	80 - 240
	Unalloyed structural steel	Up to 700	St-52	1.0052	80 - 200
	Structural steel	700 - 950	Ck45	1.1191	50 - 180
	Tempering steel	500 - 950	42 CrMo4	1.7225	80 - 220
	Cast steel	Up to 950	GS 40	1.0416	60 - 150
	Case-hardened steel	Up to 1200	16 MnCr 5	1.7131	80 - 210
	Tempering steel	950 -1300	43CrMo4	1.3563	50 - 120
	Nitriding steel	950 - 1300	31CrMoV9	1.8519	50 - 120
	Tool steel	950 - 1400	X38 CrMoV 5 1	1.2343	50 - 120
M	Stainless steel, ferritic	500 - 950	X10 Cr13	1.4006	50 - 180
	Stainless steel, martens. tempered	Up to 330 HB	X19 CrNi17-2	1.4057	50 - 80
	Stainless steel, austenitic	500 - 950	X5 CrNi 18 10	1.4301	50 - 200
	Duplex	700 - 950	X2 CrNiMoN 22-5-3	1.4462	50 - 100
K	Grey cast iron	Up to 260 HB	GG 25	0.6025	100 - 200
	Alloyed grey cast iron	Up to 310 HB	GGL-NiCr 35 2	0.6678	80 - 150
	Ductile iron	Up to 280 HB	GGG 60	0.7060	100 - 180
	Malleable cast iron	Up to 280 HB	GTS 55	0.8155	80 - 160

ACP20G

- HC-P35
  HC-M30
  HC-K35



Toughness

1	2	3	4	5	6	7	8	9	10

Wear resistance

1	2	3	4	5	6	7	8	9	10

Composition
Co 10.5%,
composite carbides 2%,
WC balance

Grain size
1 µm

Hardness
HV_{30} 1400

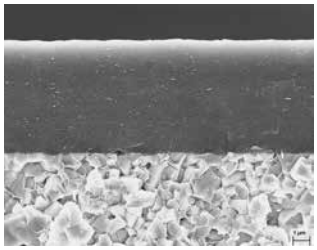
Coating
CVD TiCN-AL_2O_3

Recommendation for use
reliable model for machining steel and cast iron

ISO	Materials group	Strength/ Hardness N/mm²	Material example chemical	Material number	Cutting speed Vc m/min
P	Machining steel	Up to 700	9 SMn 28	1.0715	80 - 240
	Unalloyed structural steel	Up to 700	St-52	1.0052	80 - 200
	Structural steel	700 - 950	Ck45	1.1191	50 - 180
	Tempering steel	500 - 950	42 CrMo4	1.7225	80 - 220
	Cast steel	Up to 950	GS 40	1.0416	60 - 150
	Case-hardened steel	Up to 1200	16 MnCr 5	1.7131	80 - 210
	Tempering steel	950 -1300	43CrMo4	1.3563	50 - 120
	Nitriding steel	950 - 1300	31CrMoV9	1.8519	50 - 120
	Tool steel	950 - 1400	X38 CrMoV 5 1	1.2343	50 - 120
M	Stainless steel, ferritic	500 - 950	X10 Cr13	1.4006	50 - 180
K	Grey cast iron	Up to 260 HB	GG 25	0.6025	100 - 200
	Alloyed grey cast iron	Up to 310 HB	GGL-NiCr 35 2	0.6678	80 - 150
	Ductile iron	Up to 280 HB	GGG 60	0.7060	100 - 180
	Malleable cast iron	Up to 280 HB	GTS 55	0.8155	80 - 160

APM45G

- HC-P45
  HC-M40
  HC-S40



Toughness

1	2	3	4	5	6	7	8	9	10

Wear resistance

1	2	3	4	5	6	7	8	9	10

Composition
Co 12.5%,
Composite carbides 2%,
WC balance

Grain size
1 - 1.5 µm

Hardness
HV_{30} 1380

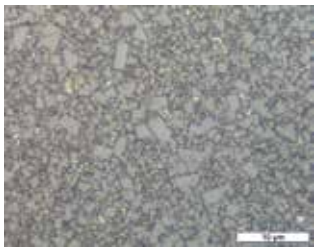
Coating
PVD TiAlTaN

Recommendation for use
first choice for austenitic steels and stainless steel materials under unstable conditions (interrupted cutting)

ISO	Materials group	Strength/ Hardness N/mm²	Material example chemical	Material number	Cutting speed Vc m/min
P	Gen. steels, interrupted cutt.	Up to 700			40 - 120
M	Stainless steel, ferritic	500 - 950	X10 Cr13	1.4006	100 - 180
	Stainless steel, martens. tempered	Up to 330 HB	X19 CrNi17-2	1.4057	60 - 90
	Stainless steel, austenitic	500 - 950	X5 CrNi 18 10	1.4301	80 - 150
	Duplex	700 - 950	X2 CrNiMoN 22-5-3	1.4462	70 - 110
S	Titanium alloys	Up to 1300	TiAl6Sn 2	3.7174	50 - 120
	Nickel-based alloys	Up to 1300	NiCr19Fe19NbMo	Inconel 718	15 - 45
	Superalloys	Up to 1300	X45CrSi 9 3	1.4718	20 - 60

AWN16G

- HW-N15
  HW-K15



Toughness

1	2	3	4	5	6	7	8	9	10

Wear resistance

1	2	3	4	5	6	7	8	9	10

Composition
Co 6%,
WC balance

Grain size
1 µm

Hardness
HV_{30} 1630

Coating
Uncoated

Recommendation for use
first choice for aluminium and non-ferrous metals

ISO	Materials group	Strength/ Hardness N/mm²	Material example chemical	Material number	Cutting speed Vc m/min
N	Al. alloys, long-chipping	Up to 500	AlMg 3	3.3535	400 - 1,500
	Al. alloys, short-chipping	Up to 500	G-AlSi 12	3.2581	200 - 2,000
	Copper alloy (bronze), long-chipping	Up to 1200	CuSn4	2.1016	200 - 600
	Copper alloy (bronze), short-chipping	Up to 850	CuNi12Zn24	2.0730	200 - 600
	Copper alloy (brass), long-chipping	Up to 600	Cu ZN 20	2.0250	200 - 600
	Copper alloy (brass), short-chipping	Up to 600	Cu Zn 39 Pb 3	2.0381	200 - 600
	Thermoplastic		PVC		200 - 5,000
	Thermoset		Melamine		200 - 5,000
	Fibre-reinforced plastics		CFRP, GFRP		50 - 200

ATORN Overview of chip breakers GROOVE

INFO

The new **AD** (ATORN double) chip breakers are designed with dual cutting edges and are suitable for a depth of 24 mm.
The name **AE** (ATORN single) refers to a single cutting edge design and is suitable for punching depths of more than 24 mm.

The **chip breaker M** is suitable for universal use and for all materials. Thanks to the negative edge rounding, it is also suitable for use with high-alloy materials.

The **chip breaker F** was developed to guarantee very soft cutting. This is particularly important for thin-walled materials or pipes. Despite this positive cutting property, it has very strong edges and offers excellent chip control even at low feed rates. Another positive effect of this chip breaker is the low tendency towards built-up edges, which can offer significant advantages particularly for stainless steel materials.

In addition to the chip breaker F the **chip breaker ET** is a further alternative and a problem-solver in steel machining. Thanks to its high processes reliability, it is the first choice even for the toughest materials like titanium and duplex materials in conjunction with the SP45MG.
The **chip breaker TR** was developed for recess turning, grooving and parting-off. Optimum chip control is guaranteed, even with low infeed.

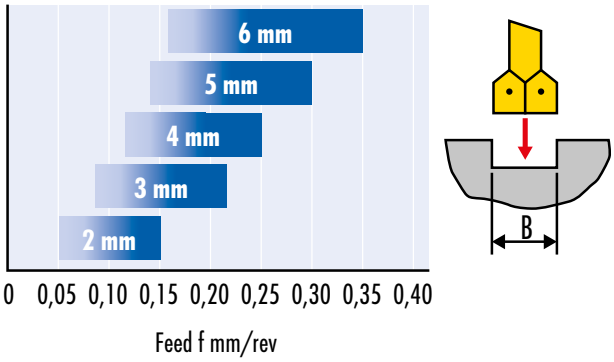
The rotating **chip breaker R** is designed for radius indexable cutting inserts and allows chip control with various materials and also stabilises cutting.

Completing the range is the **chip breaker LC**, which was developed for aluminium.

Chip breaker M-medium, universal

- Recessing insert with slightly negative edge rounding
- Also suitable for high-strength steel
- Suitable for almost all areas of application
- Main application area steel and cast iron

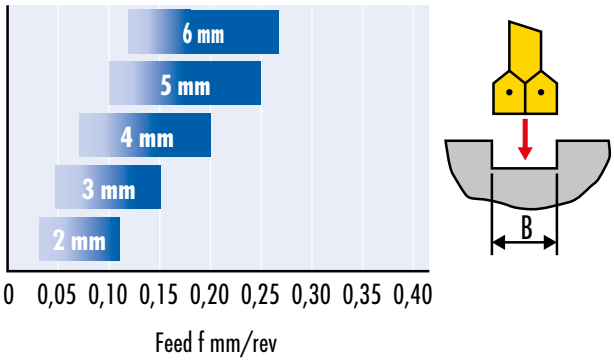




Chip breaker F-fine

- Excellent, very soft cutting geometry with very low cutting forces
- For materials with low minimum tensile strength
- Ideal for thin-walled components
- High cutting edge stability with ideal chip control even at low feed rates
- Low tendency to form built-up edges

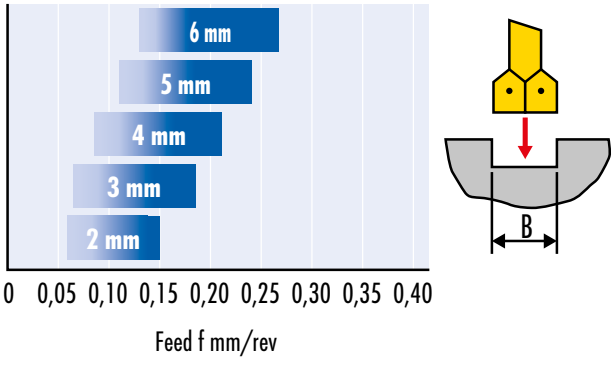




Chip breaker ET-extra

- Specially for stainless materials
- "Problem-solver" for materials that are difficult to machine such as titanium or duplex
- Extremely soft cutting

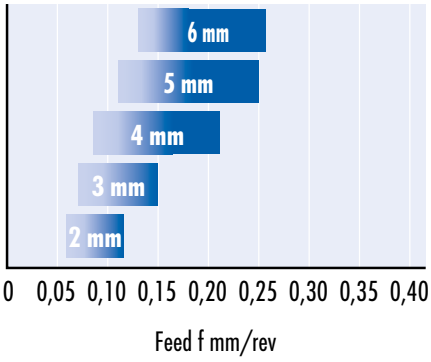


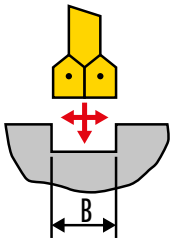


Chip breaker TR-turning

- Special chip breaker for parting-off and recess turning
- Outstanding chip control for longitudinal turning
- For all steel and stainless materials



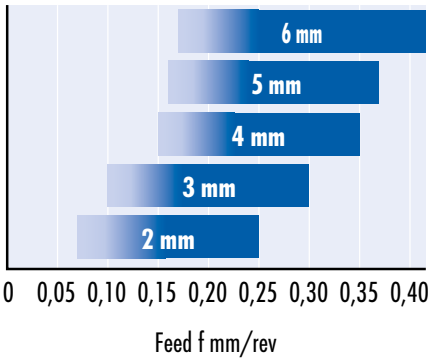


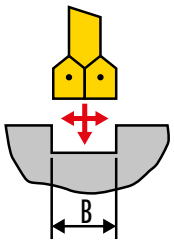


Chip breaker R-round

- Chip breaker for recess turning and ramping
- Rotating chip breaker for optimal chip control
- For all steel and stainless materials



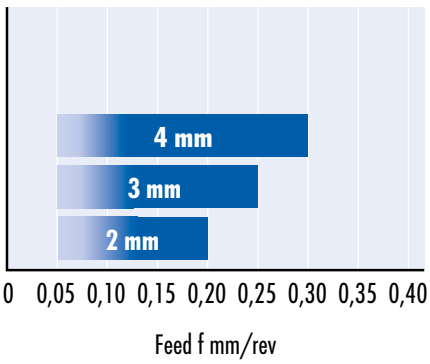


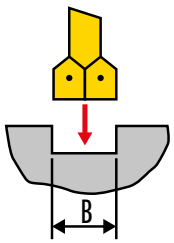


Chip breaker LC, for aluminium machining

- Highly-positive chip breaker with sharp cutting edge finish
- Highly-polished chip breaker surface
- Maximum reduction of edge build-up





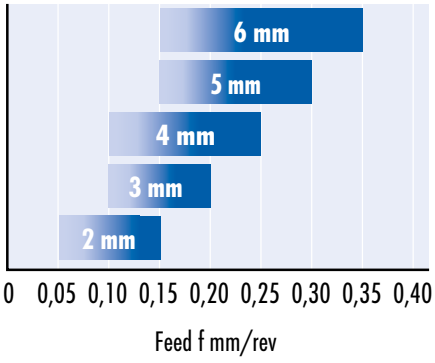


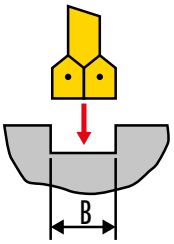
M, MU and MN chip breakers are used in the **ASS** (ATORN Single Small) system. These refer to medium chip breakers, universal medium chip breakers, and chip breakers for medium non-ferrous metals.

Chip breaker M-medium

- Negative protective chamfer
- First choice for steel materials with high tensile strength
- Suitable for steel and grey cast iron
- Suitable for grooving and parting-off, as well as longitudinal turning



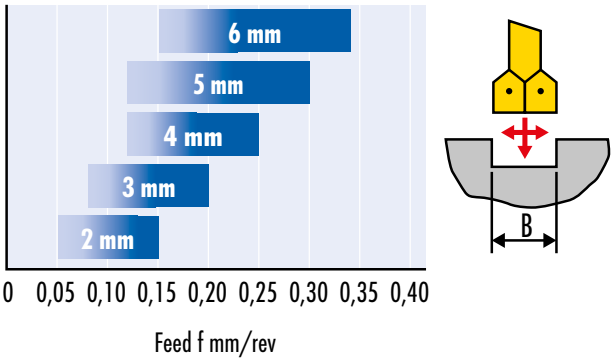




Chip breaker MU medium-universal

- Recessing and recess turning
- Outstanding chip control
- Suitable for steel and cast iron

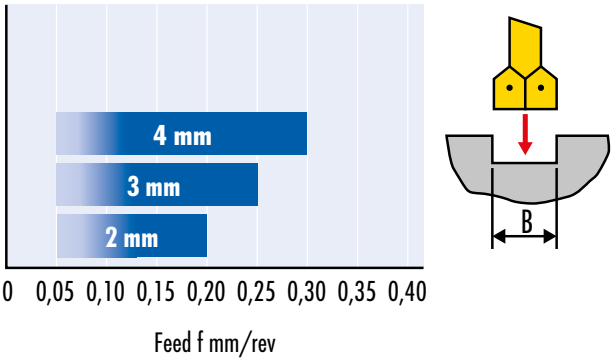




Chip breaker MN, for aluminium machining

- Highly-positive chip breaker with sharp cutting edge finish
- Highly-polished chip breaker surface
- Maximum reduction of edge build-up





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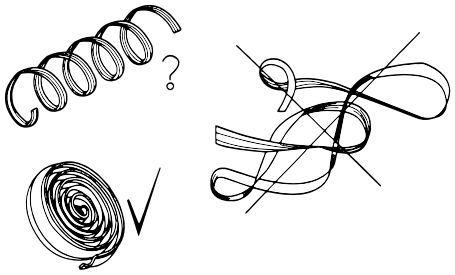




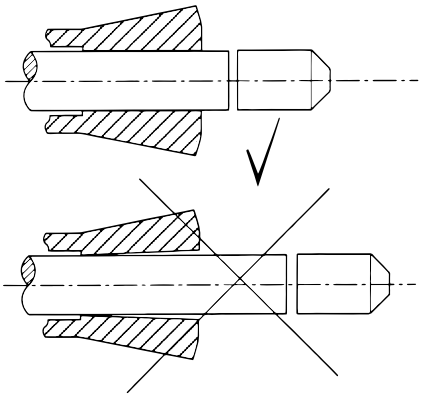
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Improved chip control
- Replace worn cutting inserts
- Select more suitable chip control form
- Use neutral cutting insert
- Check perpendicular setting of the cutter holder
- Supply ample coolant
- Increase feed
- Temporarily suspend feed upon contact with the workpiece to allow the chips to pass into the chip guide.

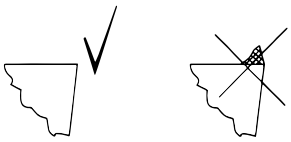


Eliminating rattling
- Part-off as closely as possible to the chuck, minimise cutter holder overhang
- Check clamping and tool structure
- Change rotational speed
- Increase feed
- Block support in conventional lathes

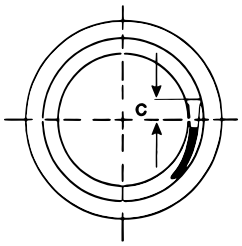


Prevention of bevel breakages
- Select suitable carbide type and cutting insert geometry
- Use cutting insert with larger corner radii
- Prevent rattle
- Avoid feed jerk at the end of the cutting procedure, possibly using a solid jerk limiter
- The fluid in the lathe hydraulic system must be 100% free of air bubbles
- Reduce the formation of built-up edges (to identify built-up edges as a reason for nicks, interrupt cutting and check cutting edge)

Prevention or reduction of built-up edges
- Select suitable carbide type and cutting insert geometry
- Increase cutting speed
- Ensure sufficient cooling, recommendation: oil-based coolant

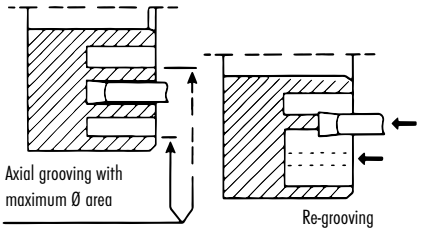


Axial grooving and hollow drilling



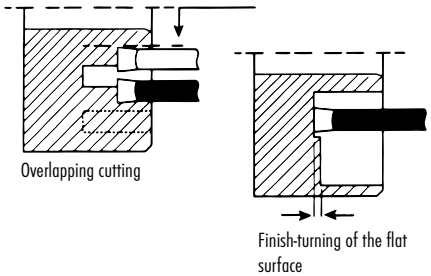
Application
Right cutting inserts should only be used in right-hand tools; left cutting inserts should only be used in left-hand tools. The cutting speed for axial grooving should be just 80% of the cutting speed for parting-off. The feed rate should be reduced to 50%.
Use plenty of coolant, aim coolant spray directly on the kerf.
- For compact holders and for the clamping shank / cutter holder combination, the dimension C described in the adjacent illustration must be integrated into the tool.

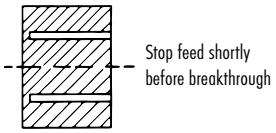
Expanding the groove (ramping)
- First make groove in the largest-possible diameter range of the workpiece
- Immediately continue with the overlapping grooving. Thus the smallest machining diameter is dictated by the cutting insert design (see illustration). The maximum diameter is unlimited.
- A cutting insert width of 0.9 x W is recommended for overlapping cuts.
- A clamp depth of no more than 0.1 x cutting insert width is recommended for the face finish-turning of the ramping.



Cutting out
- To prevent tool damage caused by a loose core, stop feed briefly before breakthrough and penetrate the core with a plastic hammer.

Precautionary measures
Carrier tools may not grate on the workpiece.
We recommend the following precautionary measures:
- Please observe the machining diameter of the tools. Grooves should only be made within this area.
- Align tool holder precisely with feed axis.
- For initial grooving with a new structure, stop feed at 1.5 mm punching depth and inspect. If there is friction, check tool height setting.
- Do not use worn or chipped cutting inserts

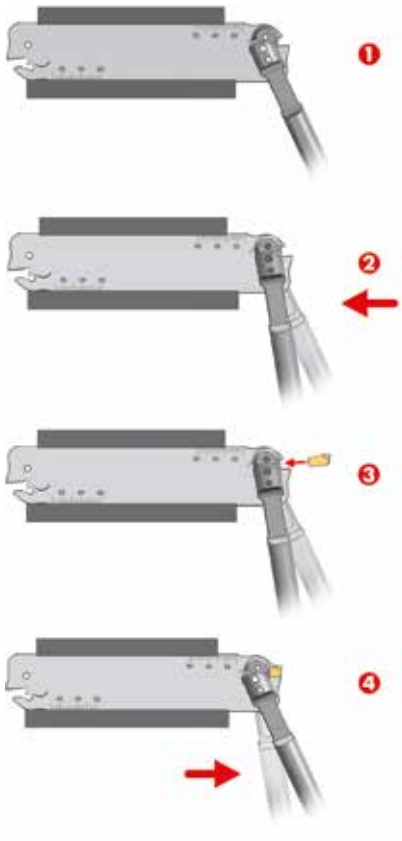




ATORN Clamping and changing the cutting inserts

INFO

The key has been designed so that it does not stress the material beyond the so-called "dead center".
This alternating system means that the material always remains in the elastic range and thus ensures a significant increase in the life cycle.



1. Insert the mounting key into the 2 holes of the blade with the handle facing forwards.

2. To open the clamping, swivel the installation wrench in the direction of the arrow.

3. Press the blade into the plate seat as far as it will go.

4. The blade is clamped securely when the mounting key is swiveled back in the direction of the arrow.





When changing the cutting inserts, make sure that the key engages!

ATORN Feed recommendations

INFO

Chipbreaker TR	0,5 a_p (mm)	1 a_p (mm)	1,5 a_p (mm)	2 a_p (mm)	2,5 a_p (mm)	3 a_p (mm)	3,5 a_p (mm)
Cutting width mm	feed f mm/tr						
2	0,10 - 0,15	0,05 - 0,15	0,05 - 0,12	0,05 - 0,10			
3	0,10 - 0,17	0,05 - 0,17	0,05 - 0,17	0,05 - 0,15	0,05 - 0,12		
4	0,10 - 0,20	0,07 - 0,20	0,07 - 0,20	0,07 - 0,20	0,07 - 0,17	0,07 - 0,15	
5	0,10 - 0,25	0,10 - 0,25	0,07 - 0,25	0,07 - 0,25	0,07 - 0,22	0,07 - 0,20	
6	0,15 - 0,30	0,15 - 0,30	0,15 - 0,30	0,15 - 0,30	0,15 - 0,30	0,15 - 0,25	0,15 - 0,22

Chipbreaker R / RM	0,5 a_p (mm)	1 a_p (mm)	1,5 a_p (mm)	2 a_p (mm)	2,5 a_p (mm)	3 a_p (mm)
Cutting width mm	feed f mm/tr					
2	0,15 - 0,30	0,15 - 0,27				
3	0,15 - 0,35	0,15 - 0,35	0,15 - 0,30			
4	0,15 - 0,40	0,15 - 0,40	0,15 - 0,40	0,15 - 0,30		
5	0,15 - 0,50	0,15 - 0,50	0,15 - 0,50	0,15 - 0,40	0,15 - 0,35	
6	0,20 - 0,70	0,20 - 0,70	0,20 - 0,70	0,20 - 0,60	0,20 - 0,50	0,20 - 0,40

Chipbreaker MU	0,5 a_p (mm)	1 a_p (mm)	1,5 a_p (mm)	2 a_p (mm)	2,5 a_p (mm)	3 a_p (mm)
Cutting width mm	feed f mm/tr					
2	0,05 - 0,17	0,05 - 0,13	0,05 - 0,10			
3	0,07 - 0,20	0,07 - 0,20	0,07 - 0,18	0,07 - 0,15		
4	0,10 - 0,25	0,10 - 0,25	0,10 - 0,25	0,10 - 0,22	0,10 - 0,18	
5	0,12 - 0,27	0,12 - 0,27	0,12 - 0,27	0,12 - 0,25	0,12 - 0,22	
6	0,15 - 0,30	0,15 - 0,30	0,15 - 0,30	0,15 - 0,30	0,15 - 0,25	0,15 - 0,20

Dümmel® Indexable inserts for grooving system DED

- Please adjust these guideline values according to clamping operation and machine set-up!

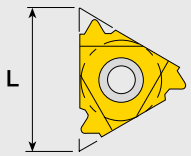
ISO	Materials group	Strength N/mm² or HB	Cutting speed Vc m/min	Feed rates f mm/rev	Cooling
P	General structural steel	≤ 500	180	0.05 - 0.10	Emulsion
		500 - 800	160	0.5 - 0.10	Emulsion
	Machining steel	≤ 800	210	0.05 - 0.12	Emulsion
		800 - 1000	180	0.05 - 0.12	Emulsion
	Case-hardened steel, unalloyed	≤ 800	250	0.05 - 0.10	Emulsion
	Case-hardened steel, alloyed	800 - 1000	180	0.05 - 0.10	Emulsion
		1000 - 1200	140	0.05 - 0.10	Emulsion
	Nitriding steel	800 - 1000	180	0.05 - 0.10	Emulsion
		1000 - 1200	140	0.05 - 0.10	Emulsion
	Tempering steel, unalloyed	≤ 800	210	0.05 - 0.10	Emulsion
		800 - 1000	180	0.05 - 0.10	Emulsion
	Tempering steel, alloyed	800 - 1000	160	0.05 - 0.07	Emulsion
		1000 - 1200	120	0.05 - 0.07	Emulsion
	Cold-work tool steel		140	0.05 - 0.10	Emulsion
	Hot-work tool steel		120	0.05 - 0.10	Emulsion
	High-speed steel	650 - 1000	80	0.05 - 0.07	Emulsion
	Spring steel	≤ 350 HB	60	0.05 - 0.07	Emulsion
M	Steel and cast steel, stainless steel sulphurised	≤ 850	160	0.03 - 0.08	Emulsion
	Stainless steel, ferritic	≤ 850	120	0.03 - 0.08	Emulsion
	Stainless steel, martensitic	≤ 850	140	0.03 - 0.08	Emulsion
	Stainless steel, austenitic	≤ 850	120	0.03 - 0.08	Emulsion
K	Grey cast iron	≤ 240 HB	110	0.05 - 0.10	Emulsion
		≤ 300 HB	95	0.05 - 0.10	Emulsion
	Spheroidal graphite cast iron	≤ 240 HB	100	0.05 - 0.10	Emulsion
		≤ 300 HB	65	0.05 - 0.10	Emulsion
	Whiteheart malleable cast iron	≤ 240 HB	110	0.05 - 0.10	Emulsion
		≤ 300 HB	60	0.05 - 0.10	Emulsion
	Blackheart malleable cast iron	≤ 240 HB	110	0.05 - 0.10	Emulsion
		≤ 300 HB	60	0.05 - 0.10	Emulsion
N	Pure copper	≤ 400	180	0.05 - 0.12	Petroleum
	Brass short-chipping	≤ 600	180	0.05 - 0.12	Petroleum
	Brass long-chipping	≤ 600	160	0.05 - 0.12	Petroleum
	Bronze short-chipping	≤ 600	180	0.05 - 0.12	Petroleum
		≤ 600-850	160	0.05 - 0.12	Petroleum
	Bronze long-chipping	≤ 850	160	0.05 - 0.12	Petroleum
		800 - 1000	140	0.05 - 0.12	Petroleum
	Red brass		160	0.05 - 0.12	Petroleum
	Magnesium alloys	≤ 850	250	0.05 - 0.12	Emulsion
	Pure aluminium	≤ 400	800	0.05 - 0.12	Emulsion
	Wrought aluminium alloys	≤ 450	600	0.05 - 0.12	Emulsion
	Cast aluminium alloys < 12 Si	≤ 600	500	0.05 - 0.12	Emulsion
		≤ 600	600	0.05 - 0.12	Emulsion
	Thermoplastics		120	0.05 - 0.12	Emulsion
	Thermosets		180	0.05 - 0.12	Emulsion
	Glass/carbon-fibre reinforced		80	0.05 - 0.12	Emulsion
S	Ultra heat-resistant steels	≤ 1200	50	0.03 - 0.08	Emulsion
	Special alloys	≤ 850	40	0.03 - 0.08	Emulsion
	Pure titanium	≤ 850	50	0.03 - 0.08	Emulsion
	Titanium alloys	≤ 850-1200	30	0.03 - 0.08	Emulsion

ATORN Designation code for threading inserts and tool holders

Threading inserts

16	E	R	B	1.5	ISO	HC5630

Size



6
8
8U
11
16
22
27
22U
27U
16V (vertical)

E = external
I = internal

R = right-hand
L = left-hand

B	= sintered
(not specified)	= ground

Pitch
mm/inch

60	60° profile
55	50° profile
ISO	metric
UN	US Unified Thread
BSW	British Standard Whitworth
NPT	US National Pipe Thread
BSPT	British Standard Pipe Thread
ACME	American Trapezoidal Thread
Trapezoid	Trapezoidal thread according to DIN 103
Round	Round thread according to DIN 405

Carbide quality

HC5110
HC5645
HC5620
HC5625
HC5640
HC5630

Clamp mounting

S	E	R	2020	K	16	C

Clamping method
S = screwed
C = lever

E = external
I = internal

R = right-hand
L = left-hand

External clamp mounting

metric
2020 = 20 x 20 mm

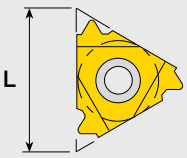
Internal clamp mounting

metric
0020 = Ø 20 mm

Clamp mounting Length mm

D	60
F	80
H	100
K	125
L	140
M	150
P	170
R	200
S	250
T	300
U	350
V	400

Insert seat

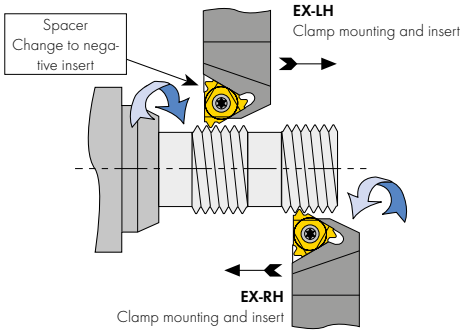


6
8
8U
11
16
22
27
22U
27U

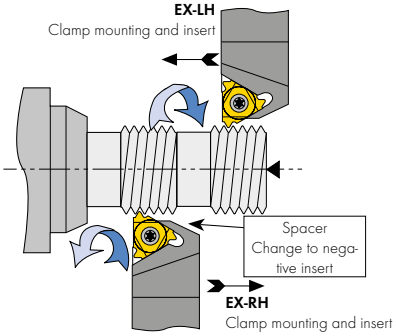
B	Coolant bores
C	Solid carbide
O	Offset
V	Vertical

ATORN Thread cutter holder applications

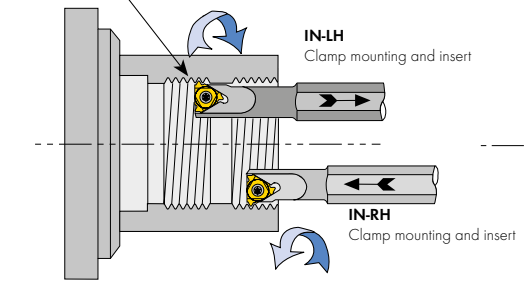
EX-RH
Thread
EX = external RH = right-hand



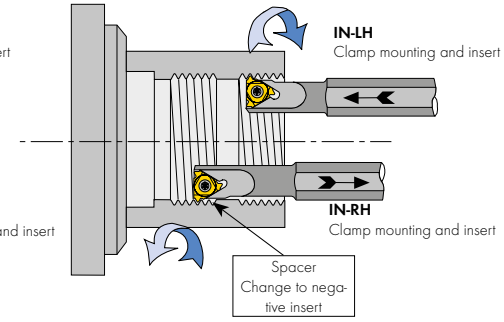
EX-LH
Thread
EX = external LH = left-hand



IN-RH
Thread
IN = internal RH = right-hand



IN-LH
Thread
IN = internal LH = left-hand



Carbide qualities and cutting speed recommendations (m/min.)

ISO	Materials group	Strength/ Hardness N/mm²	Material example chemical	Material number	HC5625 PVD TiN	HC5615 PVD TiN	HC5630 PVD TiN	HC5640 PVD TiN	HC5620 PVD TiN	HC5110 PVD TiN	SPU20T PVD
					Cutting speed Vc m/min						
P	Machining steel	Up to 700	9 SMn 28	1.0715	80 - 160	90 - 160	100 - 180	20 - 100	110 - 210		120-200
P	Unalloyed structural steel	Up to 700	St-52	1.0052	80 - 160	90 - 160	100 - 180	20 - 100	110 - 210		120-200
P	Structural steel	700 - 950	Ck45	1.1191	80 - 160	90 - 160	100 - 180	20 - 100	110 - 210		120-200
P	Tempering steel	500 - 950	42 CrMo4	1.7225	80-120	80 - 150	90 - 160	30 - 80	90 - 140		110-180
P	Cast steel	Up to 950	GS 40	1.0416	80 - 140	100 - 140	120 - 160	40 - 80	110 - 210		70-120
P	Case-hardened steel	Up to 1200	16 MnCr 5	1.7131	80-120	80 - 150	90 - 160	30 - 80	90 - 140		100-170
P	Tempering steel	950 -1300	43CrMo4	1.3563	50 - 100	80-120	90 - 120	40 - 90	70 - 90		50-90
P	Nitriding steel	950 - 1300	31CrMoV9	1.8519	50 - 100	80-120	90 - 120	40 - 90	70 - 90		50-90
P	Tool steel	950 - 1400	X 38 CrMoV 5 1	1.2343	50 - 100	80-120	90 - 120	40 - 90	70 - 90		50-90
M	Stainless steel, ferr./marten.	500 - 950	X10 Cr13	1.4006	60 - 90	70 - 120	90 - 130	30 - 90	100 - 160		70-140
M	Stainless steel, austenitic	500 - 950	X5 CrNi 18 10	1.4301	60 - 90	70 - 120	90 - 130	30 - 90	100 - 140		80-120
M	Duplex	700 - 950	X2 CrNiMoN 22-5-3	1.4462	30 - 60	30 - 70	30 - 90	20 - 40	60 - 100		50-110
K	Grey cast iron	Up to 260 HB	GG 25	0.6025		80 - 130	80 - 150	30 - 90	140 - 150		70-150
K	Alloyed grey cast iron	Up to 310 HB	GGL-NiCr 35 2	0.6678		60 - 100	80-120	20 - 50	100 - 120		70-150
K	Ductile iron	Up to 280 HB	GGG 60	0.7060		80 - 130	80 - 150	30 - 90	140 - 150		90-150
K	Malleable cast iron	Up to 280 HB	GTS 55	0.8155		80 - 130	80 - 150	30 - 90	140 - 150		90-150
N	Al. alloy long-chipping	Up to 500	AlMg 3	3.3535		300 - 600		20 - 200	700 - 1000		100-400
N	Al. alloy short-chipping	Up to 500	G-AlSi 12	3.2581		300 - 600		20 - 200	700 - 1000		150-400
N	Copper alloy (bronze) long-chipping	Up to 1200	CuSn4	2.1016		300 - 600		20 - 200	700 - 1000		80-180
N	Copper alloy (bronze) short-chipping	Up to 850	CuNi12Zn24	2.0730		300 - 600		20 - 200	700 - 1000		80-180
N	Copper alloy (brass) long-chipping	Up to 600	Cu ZN 20	2.0250		300 - 600		20 - 200	700 - 1000		80-180
N	Copper alloy (brass) short-chipping	Up to 600	Cu Zn 39 Pb 3	2.0381		300 - 600		20 - 200	700 - 1000		80-180
N	Thermoplastic		PVC			300 - 600		20 - 200	700 - 1000		200-500
N	Thermoset		Melamine			300 - 600		20 - 200	700 - 1000		200-500
N	Fibre-reinforced plastics		CFRP, GFRP			300 - 600		20 - 200	700 - 1000		200-500
N	Graphite		C8000			300 - 600		20 - 200	700 - 1000		200-500
N	Composite materials		Honeycomb			300 - 600		20 - 200	700 - 1000		200-500
S	Titanium alloys	Up to 1300	TiAl6Sn 2	3.7174			25 - 40		15 - 40	15 - 40	30-50
S	Nickel-based alloys	Up to 1300	NiCr19Fe19NbMo	Inconel 718			25 - 60		30 - 65	30 - 70	20-40
S	Superalloys	Up to 1300	X45CrSi 9 3	1.4718			25 - 60		30 - 65	30 - 70	30-60
H	Hardened materials up to 55 HRc		X40Cr14	1.2083		20 - 40	20 - 30		30 - 40	20 - 50	

Choice of number of cuts

- The number of cuts should be increased for the mini or ultra-mini system, as well as for hard materials.

Pitch	mm TPI	0.5 48	1.0 24	1.5 16	2.0 12	2.5 10	3.0 8	4.0 6	6.0 4
Number of cuts		3 - 6	4 - 9	5 - 11	6 - 13	7 - 15	8 - 17	10 - 20	11 - 22

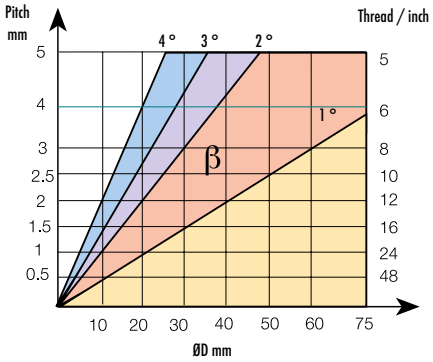
Pitch angle calculation and selection of spacers

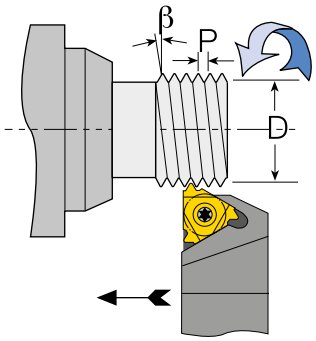
Formula for calculating the pitch angle β

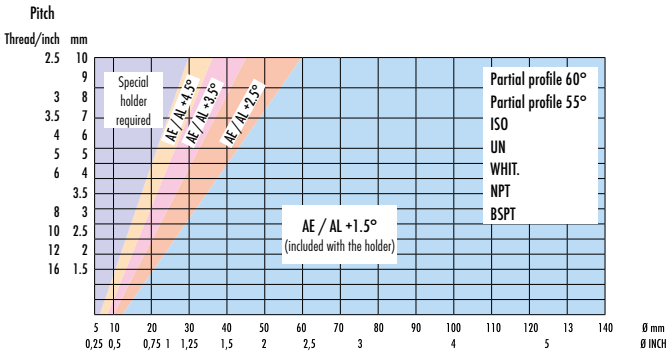
tan β = P (pitch) / ∏ x ØD

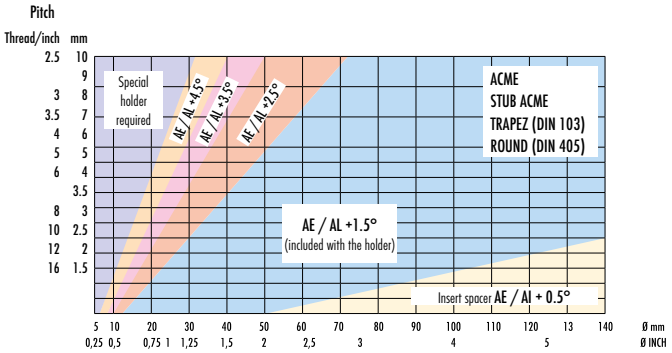
simplified: β = 20 x P / ØD

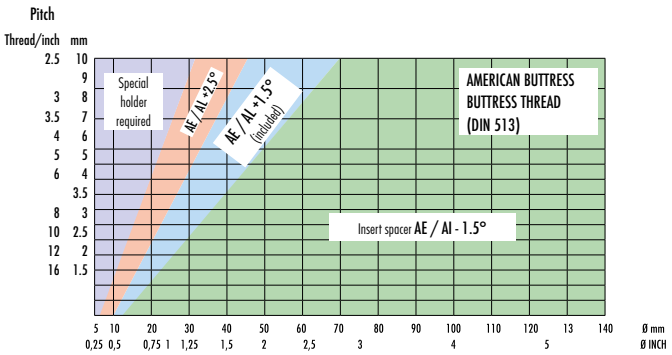
Example:
ØD = 30 mm, P = 1.5 mm:
β = 20 x 1.5 / 30 = 1









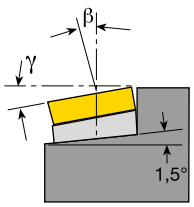


For most applications it is not necessary to change the spacer.
However if a change is necessary, please select:
AE spacers for EX-RH and IN-LH clamp mounting and
AI spacers for IN-RH and EX-LH clamp mounting

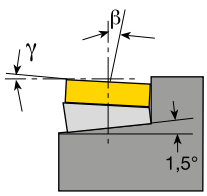
Spacers, positive pitch angle
For turning right-hand thread with right clamp mounting or left-hand thread with left clamp mounting

Spacers, negative pitch angle
For turning right-hand thread with left clamp mounting or left-hand thread with right clamp mounting

Important:
The dimension H remains constant for each spacer combination.



Positive pitch angle



Negative pitch angle

L IC	Pitch angle	4.5 °	3.5 °	2.5 °	1.5 °	0.5°	-0.5°	-1.5°
	Clamp mounting				Standard			
16 (3/8)	EX RH/IN LH EX LH/IN RH	AE16 +4.5 AL16 +4.5	AE16 +3.5 AL16 +3.5	AE16 +2.5 AL16 +2.5	AE16 AL16	AE16 +0.5 AL16 +0.5	AE16 -0.5 AL16 -0.5	AE16 -1.5 AL16 -1.5
22 (1/2)		AE22 +4.5 AL22 +4.5	AE22 +3.5 AL22 +3.5	AE22 +2.5 AL22 +2.5	AE22 AL22	AE22 +0.5 AL22 +0.5	AE22 -0.5 AL22 -0.5	AE22 -1.5 AL22 -1.5
27 (5/8)		AE27 +4.5 AL27 +4.5	AE27 +3.5 AL27 +3.5	AE27 +2.5 AL27 +2.5	AE27 AL27	AE27 +0.5 AL27 +0.5	AE27 -0.5 AL27 -0.5	AE27 -1.5 AL27 -1.5
22U (1/2)		AE22U +4.5 AL22U +4.5	AE22U +3.5 AL22U +3.5	AE22U +2.5 AL22U +2.5	AE22U AL22U	AE22U +0.5 AL22U +0.5	AE22U -0.5 AL22U -0.5	AE22U -1.5 AL22U -1.5
27 U (5/8)		AE27U +4.5 AL27U +4.5	AE27U +3.5 AL27U +3.5	AE27U +2.5 AL27U +2.5	AE27U AL27U	AE27U +0.5 AL27U +0.5	AE27U -0.5 AL27U -0.5	AE27U -1.5 AL27U -1.5

Comparison tables for thread cutting tools

ISO threading inserts of varying brands

Example: 16 mm, 1.5 ISO

	Threading insert **EX RH**	Threading insert **EX LH**	Threading insert **IN RH**	Threading insert **IN LH**
ATORN	16 ER 1.5 ISO	16 EL 1.5 ISO	16 IR 1.5 ISO	16 IL 1.5 ISO
SECO-SNAPTAP	16 ER 1.5 ISO	16 EL 1.5 ISO	16 NR 1.5 ISO	16 NL 1.5 ISO
KENNAMETAL	LT 16 ER	LT 16 EL	LT 16 NR	LT 16 NL
SANDVIK*	R166.0G-16MM01-150	L166.0G-16MM01-150	R166.0L-16MM01-150	L166.0L-16MM01-150
ISCAR	16 ER 1.5 ISO	16 EL 1.5 ISO	16 IR 1.5 ISO	16 IL 1.5 ISO
VARGUS	3 ER 1.5 ISO	3 EL 1.5 ISO	3 IR 1.5 ISO	3 IL 1.5 ISO

* these inserts cannot be used with ATORN or CPT holders

Clamp mounting (with screw) of varying brands

Example: Holder B = H = 25 mm, for insert 16 mm

	Clamp mounting **EX RH**	Clamp mounting **EX LH**	Clamp mounting **IN RH**	Clamp mounting **IN LH**
ATORN	SER 2525 M 16	SEL 2525 M 16	SIR 0025 R 16	SIL 0025 R 16
SECO-SNAPTAP	SER 2525 M 16	SEL 2525 M 16	SNR 0025 R 16	SNL 0025 R 16
KENNAMETAL	LSSR 2525 M 16	LSSR 2525 M 16	S 25 R LSER - 16	S 25 R LSEL - 16
SANDVIK*	R 166.0 F G 2525 - 16	L 166.0 F G 2525 - 16	R 166.0 KF 25 - 16	L 166.0 KF 225 - 16
ISCAR	SER 2525 M 16	SEL 2525 M 16	SIR 0025 R 16	SIL 0025 R 16
VARGUS	AL 25 - 3	AL 25-3 LH	AVR 25D - 3	AVR 25D - 3 LH

* these holders are not suitable for ATORN or CPT

Carbide quality designations of varying brands

ISO CODE	ATORN	CPT	SECO-SNAPTAP	KENNAMETAL	SANDVIK	ISCAR	VARGUS
P 15 - P 30	HC 5625	P 25 C	CP30	KC 710	GC 225	IC 250	VSX
P 10 - P 25 **K 10 - K 20**	HC 5615	MXC	CP50	KC 730	GC 1020	IC 220	VKX
P 25 - P 40 **K 25 - K 40**	HC 5640	BXC	CP20	-	GC 1020	IC 228	-
P 15 - P 30 **K 20 - K 30** **S 10 - S 20** **M 10 - M 20**	HC 5630	BMA	CP500	KC 5025	GC4125	IC 908	VTX
M 10 - M 20 **K 05 - K 20** **N 10 - N 20** **S 10 - S 20**	HC 5620	BMZ/BLU	-	-	-	-	VM7
H 01 - H 20	HC 5110	HBA	-	-	-	-	-

ATORN Pitch angle and correction inserts

Standard thread

D Ø	P	P <	U-insert
2	0.4	3.64	3.5
2.2	0.45	3.73	3.5
2.5	0.45	3.28	3.5
3	0.5	3.04	3.5
3.5	0.6	3.12	3.5
4	0.7	3.19	3.5
4.5	0.75	3.04	3.5
5	0.8	2.92	2.5
6	1	3.04	3.5
8	1.25	2.85	2.5
10	1.5	2.73	2.5
12	1.75	2.66	2.5
14	2	2.6	2.5
16	2	2.28	2.5
18	2.5	2.53	2.5
20	2.5	2.28	2.5
22	2.5	2.07	2.5
24	3	2.28	2.5
27	3	2.03	2.5
30	3.5	2.13	2.5
33	3.5	1.93	AE/Al
36	4	2.03	2.5
39	4	1.87	AE/Al
42	4.5	1.95	AE/Al
45	4.5	1.82	AE/Al
48	5	1.9	AE/Al
52	5	1.75	AE/Al
56	5.5	1.79	AE/Al
60	5.5	1.67	AE/Al
64	6	1.71	AE/Al
68	6	1.61	AE/Al

Trapezoidal thread DIN 103 T.2

D Ø	P	P <	U-insert
8	1.5	3.42	3.5
9	2	4.05	4.5
10	2	3.64	3.5
11	2	3.31	3.5
12	3	4.55	4.5
14	3	3.9	3.5
16	4	4.55	4.5
18	4	4.05	4.5
20	4	3.64	3.5
22	5	4.14	4.5
24	5	3.79	3.5
28	5	3.25	3.5
30	6	3.64	3.5
36	6	3.04	3.5
38	6	2.88	2.5
40	7	3.19	3.5
42	7	3.04	2.5
44	7	2.9	3.5
46	7	2.77	2.5
48	8	3.04	3.5
50	8	2.92	2.5
54	8	2.7	2.5
55	9	2.98	2.5
60	9	2.73	2.5
65	10	2.8	2.5
80	10	2.28	2.5
85	12	2.57	2.5
105	12	2.08	2.5
110	12	1.99	AE/Al
115	14	2.22	2.5
125	14	2.04	2.5
130	14	1.96	AE/Al
145	14	1.76	AE/Al
150	16	1.94	AE/Al
175	16	1.67	AE/Al
180	18	1.82	AE/Al

Fine thread DIN 13 Bl.1

D Ø	P	P <	U-insert
3.5	0.5	2.6	2.5
4.5	0.5	2.03	2.5
> 5	0.5	1.82	AE/Al
<9	0.5	1.01	AE/Al
> 10	0.5	0.91	0.5
<90	0.5	0.1	0.5

Fine thread DIN 13 Bl.4

D Ø	P	P <	U insert
5	0.75	2.73	+2.5
6	0.75	2.28	+2.5
> 7	0.75	1.95	AE/Al
<13	0.75	1.05	AE/Al
> 14	0.75	0.98	+0.5
<110	0.75	0.12	+0.5

Fine thread DIN 13 Bl.5

D Ø	P	P <	U insert
7.5	1	2.43	+2.5
9	1	2.03	+2.5
> 9.5	1	1.92	AE/Al
<18	1	1.01	AE/Al
> 19	1	0.96	+0.5
<200	1	0.09	+0.5
10	1.25	2.28	+2.5
12	1.25	1.9	AE/Al

Fine thread DIN 13 Bl.6

D Ø	P	P <	U insert
12	1.5	2.28	+2.5
13	1.5	2.10	+2.5
> 14	1.5	1.95	AE/Al
<27	1.5	1.01	AE/Al
> 28	1.5	0.98	+0.5
< 300	1.5	0.09	+0.5

Whitworth thread DIN 11

D Ø	D Ø inch	Gg./inch	P	P <	U insert
6.35	1/4	20	1.27	3.64	+3.5
7.938	5/16	18	1.411	3.24	+3.5
9.525	3/8	16	1.588	3.04	+3.5
11.113	7/16	14	1.814	2.97	+2.5
12.7	1/2	12	2.117	3.04	+3.5
15.876	5/8	11	2.309	2.65	+2.5
19.051	3/4	10	2.54	2.43	+2.5
22.226	7/8	9	2.822	2.31	+2.5
25.401	1	8	3.175	2.28	+2.5
28.576	1 1/8	7	3.629	2.31	+2.5
31.751	1 1/4	7	3.629	2.08	+2.5
34.926	1 3/8	6	4.233	2.21	+2.5
38.101	1 1/2	6	4.233	2.03	+2.5
41.277	1 5/8	5	5.08	2.24	+2.5
44.452	1 3/4	5	5.08	2.08	+2.5
47.627	1 7/8	4.5	5.645	2.16	+2.5
50.802	2	4.5	5.645	2.03	+2.5

Whitworth pipe thread DIN 2999 DIN 228 ISO 7/1

D Ø	D Ø inch	Gg./inch	P	P <	U insert
9.728	R 1/8	28	0.907	1.7	AE/Al
13.157	R 1/4	19	1.337	1.85	AE/Al
16.662	R 3/8	19	1.337	1.46	AE/Al
20.955	R 1/2	14	1.814	1.58	AE/Al
26.441	R 3/4	14	1.814	1.25	AE/Al
33.249	R 1	11	2.309	1.27	AE/Al
41.91	R 1 1/4	11	2.309	1	AE/Al
47.803	R 1 1/2	11	2.309	0.88	+0.5
59.614	R2	11	2.309	0.71	+0.5
75.184	R 2 1/2	11	2.309	0.56	+0.5
87.884	R3	11	2.309	0.48	+0.5
100.33	R 3 1/2	11	2.309	0.42	+0.5
113.03	R 4	11	2.309	0.37	+0.5
138.43	R5	11	2.309	0.3	+0.5
163.83	R6	11	2.309	0.26	+0.5

Fine thread DIN 13 Bl.7

D Ø	P	P <	U insert
17	2	2.14	+2.5
18	2	2.03	+2.5
> 19	2	1.92	AE/Al
<36	2	1.01	AE/Al
> 38	2	0.96	+0.5
< 300	2	0.12	+0.5

Fine thread DIN 13 Bl.8

D Ø	P	P <	U insert
> 28	3	1.95	AE/Al
<52	3	1.05	AE/Al
> 55	3	0.99	+0.5
< 300	3	0.18	+0.5

Fine thread DIN 13 Bl.9

D Ø	P	P <	U insert
> 42	4	1.74	AE/Al
<72	4	1.01	AE/Al
> 75	4	0.97	+0.5
< 300	4	0.24	+0.5

Fine thread DIN 13 Bl.10

D Ø	P	P <	U insert
> 70	6	1.56	AE/Al
<105	6	1.04	AE/Al
110	6	0.99	+0.5

Fine thread DIN 13 Bl.11

D Ø	P	P <	U insert
130	8	1.12	AE/Al
140	8	1.04	AE/Al
> 150	8	0.97	+0.5
<1000	8	0.15	+0.5

UNC thread ASA B1.1

D Ø	D Ø inch	Gg./inch	P	P <	U insert
1.854	No. 1	64	0.397	3.9	+3.5
2.184	No. 2	56	0.454	3.78	+3.5
2.515	No. 3	48	0.529	3.83	+3.5
2.845	No. 4	40	0.635	4.06	+4.5
3.175	No. 5	40	0.635	3.64	+3.5
3.505	No. 6	32	0.794	4.12	+4.5
4.166	No. 8	32	0.794	3.47	+3.5
4.826	No. 10	24	1.058	3.99	+3.5
5.486	No. 12	24	1.058	3.51	+3.5
6.35	1/4	20	1.27	3.64	+3.5
7.938	5 / 16	18	1.411	3.24	+3.5
9.525	3/8	16	1.588	3.04	+3.5
11.112	7/16	14	1.814	2.98	+2.5
12.7	1/2	13	1.954	2.8	+2.5
14.288	9/16	12	2.117	2.7	+2.5
15.875	5/8	11	2.309	2.65	+2.5
19.05	3/4	10	2.54	2.43	+2.5
22.225	7/8	9	2.822	2.31	+2.5
25.4	1	8	3.175	2.28	+2.5
28.575	1 1/8	7	3.629	2.31	+2.5
31.75	1 1/4	7	3.629	2.08	+2.5
34.925	1 3/8	6	4.233	2.21	+2.5
38.1	1 1/2	6	4.233	2.03	+2.5
44.45	1 3/4	5	5.08	2.08	+2.5
50.8	2	4.5	5.644	2.03	+2.5
57.15	2 1/4	4.5	5.644	1.8	AE/AI
63.5	2 1/2	4	6.35	1.82	AE/AI
69.85	2 3/4	4	6.35	1.66	AE/AI
76.2	3	4	6.35	1.52	AE/AI
82.55	3 1/4	4	6.35	1.4	AE/AI
88.9	3 1/2	4	6.35	1.3	AE/AI
95.25	3 3/4	4	6.35	1.22	AE/AI
101.6	4	4	6.35	1.14	AE/AI

UNF thread ASA B1.1

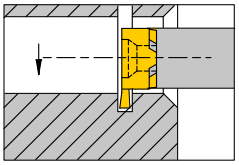
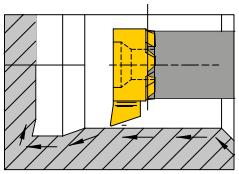
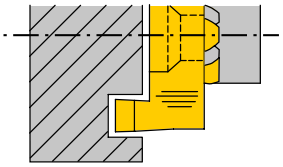
D Ø	D Ø inch	Gg./inch	P	P <	U insert
1.524	No. 0	80	0.318	3.79	+3.5
1.854	No. 1	72	0.353	3.47	+3.5
2.184	No. 2	64	0.397	3.31	+3.5
2.515	No. 3	56	0.454	3.29	+3.5
2.845	No. 4	48	0.529	3.39	+3.5
3.175	No. 5	44	0.577	3.31	+3.5
3.505	No. 6	40	0.635	3.3	+3.5
4.166	No. 8	36	0.706	3.09	+3.5
4.826	No. 10	32	0.794	3	+2.5
5.486	No. 12	28	0.907	3.01	+3.5
6.35	1/4	28	0.907	2.6	+2.5
7.938	5 / 16	24	1.058	2.43	+2.5
9.525	3/8	24	1.058	2.03	+2.5
11.112	7/16	20	1.27	2.08	+2.5
12.7	1/2	20	1.27	1.82	AE/AI
14.288	9/16	18	1.411	1.8	AE/AI
15.875	5/8	18	1.411	1.62	AE/AI
19.05	3/4	16	1.588	1.52	AE/AI
22.225	7/8	14	1.814	1.49	AE/AI
25.4	1	12	2.117	1.52	AE/AI
28.575	1 1/8	12	2.117	1.35	AE/AI
31.75	1 1/4	12	2.117	1.22	AE/AI
34.925	1 3/8	12	2.117	1.11	AE/AI
38.1	1 1/2	12	2.117	1.01	AE/AI

PG DIN 40430

PG	D Ø	Gg./inch	P	P <	U insert
7	12.7	20	1.27	2	AE/AI
9	15.2	18	1.41	1.85	AE/AI
11	18.6	18	1.41	1.51	AE/AI
13.5	20.4	18	1.41	1.38	AE/AI
16	22.5	18	1.41	1.25	AE/AI
21	28.3	16	1.588	1.12	AE/AI
29	37	16	1.588	0.85	+0.5
36	47	16	1.588	0.67	+0.5
42	54	16	1.588	0.58	+0.5
48	59.3	16	1.588	0.53	+0.5

Dümmel® Recess turning and thread cutting with MINI-CUT

- Please adjust these guideline values according to clamping operation and machine set-up!

ISO	Materials group	Material example chemical	Material number	Cutting speed Vc m/min	Feed f in mm/rev
P	Unalloyed structural steel	9 S 20	1.0711	120 - 200	 0.01 - 0.03 mm
		ST 37	1.0037		
		ST 50	1.0050		
	Low-alloy steel	ST 70	1.0070	80 - 190	
		16 MnCr 5	1.7131		
		25 CrMo 4	1.7218		
	High-alloy steel	90 MnCrV 8	1.2842	80 - 160	
		42 CrMoV	1.7225		
		X 40 CrMoS 17	1.2344		
M	Stainless steel, martensitic	X 6 CrA 13	1.4002	80 - 160	 0.03 - 0.10 mm
		X 6 CrTi 17	1.4510		
		X 12 CrMoS 17	1.4104		
	Stainless steel austenitic	20 CrNi 17 2	1.4057	80 - 140	
		X 5 CrNi 18 10	1.4301		
		X 6 CrNiMoTi 17 12 2	1.4571		
K	Grey cast iron	GG 20	0.6020	60 - 180	 0.01 - 0.03 mm
		GG 40	0.6040		
	Grey cast iron with spheroidal graphite	GGG 40	0.7040	60 - 180	
		GGG 70	0.7070		
	Malleable cast iron	GTW 35	0.8035	60 - 180	
		GTS 55	0.8155		
N	Aluminium 0.5 10% Si	MS 58	2.0402	100 - 800	
	Copper	G-MgAl9Zn 1	3.5912	100 - 800	
S	Ultra heat-resistant alloys	TiAl6Sn 2	3.7174	30 - 80	
	Titanium alloys	NiCr12Al6MoNb	2.4670	30 - 80	

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Dūmmel® Cutting inserts mini-børe

- Please adjust these guideline values according to clamping operation and machine set-up!

Internal thread turning, cutting material HC 8615 TiN

ISO	Materials group	Strength N/mm²	Cutting speed Vc m/min	Number of cuts				
				Pitch 0.5 mm = 48 thread/inch	Pitch 0.75 mm = 32 thread/inch	Pitch 1 mm = 24 thread/inch	Pitch 1.25 mm = 20 thread/inch	Pitch 1.5 mm = 16 thread/inch
P	Steel material	400 - 550	160	6	8	10	12	15
		500 - 700	140	6	8	10	12	15
		700 - 850	120	7	9	12	14	17
		850 - 1150	90	7	9	12	14	17
		> 1150	70	8	10	12	15	18
M	Stainless steel		90	8	10	12	15	18
K	Grey cast iron		100	7	9	12	14	17
N	Aluminium		300	6	8	10	12	15

Internal recess turning

ISO	Materials group	Strength N/mm²	Cutting speed Vc m/min			
			K10F Feed f = 0.01-0.025 mm/rev	**CN45F** Feed f = 0.01-0.025 mm/rev	**AL41F** Feed f = 0.01-0.025 mm/rev	**X2CA** Feed f = 0.02-0.06 mm/rev
P	Carbon steels C = 0.4-0.8%	600 - 1000	30 - 100	40 - 180	80 - 200	
	Cast steel	500 - 900	30 - 110	40 - 180	70 - 180	
	Alloyed steels	500 - 1400	30 - 90	40 - 140	70 - 160	
M	Stainless steel CR = 12-18%	150-250 HB	30 - 90	40 - 140	80 - 160	
	Stainless steel austenitic	600 - 1200	30 - 90	40 - 140	80 - 160	
K	Grey cast iron	250-300 HB	30 - 100	40 - 140	30 - 180	
	Spheroidal graphite iron, ferritic	140-180 HB	30 - 100	40 - 140	30 - 180	
	Spheroidal graphite iron, pearlitic	230-280 HB	30 - 100	40 - 140	30 - 180	
	Malleable cast iron	160-240 HB	30 - 100	40 - 140	30 - 180	
N	Aluminium, Al-Si alloys	50-140 HB	90 - 200		80 - 700	
	Copper, brass, bronze		90 - 200		80 - 700	
	Plastics		90 - 200		80 - 700	
H	Hardened steel	46 - 66HRc				70 - 100

- Please adjust these guideline values according to clamping operation and machine set-up!
- turning: 0.01 - 0.03 mm/rev.
- Turning / copying: 0.02 - 0.08 mm/rev.
- Axial grooving: 0.02 - 0.05 mm/rev.

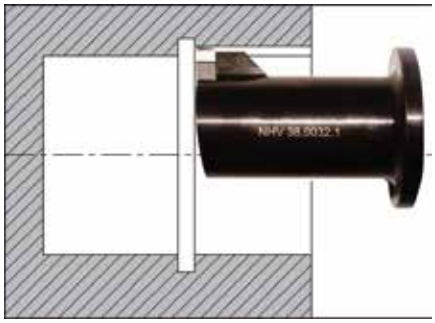
ISO	Materials group	Strength N/mm²	Material example chemical	Material number	Feed in mm / rev referred to the tool diameter in mm				
					K10F	CN45F	AL41F	P18C	XC2A-NH
P	Machining steel	up to 700	9 SMn 28	1.0715	30-130	30-180	80-200	80-200	
	Unalloyed structural steel	up to 700	St-52	1.0052	30-130	30-180	80-200	80-200	
	Structural steel	700 - 950	Ck45	1.1191	15-90	30-140	80-160	80-160	
	Tempering steel	500 - 950	42 CrMo4	1.7225	15-90	30-100	80-150	80-150	
	Cast steel	up to 950	GS 40	1.0416	30-130	40-200	80-200	80-200	
	Case-hardened steel	up to 1200	16 MnCr 5	1.7131	15-90	30-140	80-160	80-160	
	Tempering steel	950 -1300	43CrMo4	1.3563	15-90	30-100	80-150	80-150	
	Nitriding steel	950 - 1300	31CrMoV9	1.8519	15-90	30-100	70-140	70-140	
	Tool steel	950 - 1400	X 38 CrMoV 5 1	1.2343	15-45	30-100			
M	Stainless steel, ferr./marten.	500 - 950	X10 Cr13	1.4006		20-90	20-85	20-85	
	Stainless steel, austenitic	500 - 950	X5 CrNi 18 10	1.4301		20-80	20-65	20-65	
	Duplex	700 - 950	X2 CrNiMoN 22-5-3	1.4462		20-80	20-65	20-65	
K	Grey cast iron	up to 260 HB	GG 25	0.6025	30-110	70-150	30-180	30-180	
	Alloyed grey cast iron	up to 310 HB	GGL-NiCr 35 2	0.6678	30-90	50-120	30-150	30-150	
	Ductile iron	up to 280 HB	GGG 60	0.7060	25-80	30-110	30-120	30-120	
	Malleable cast iron	up to 280 HB	GTS 55	0.8155	30-90	30-90	20-80	20-80	
N	Al. alloy long-chipping	up to 500	AlMg 3	3.3535	90-200	100-600	120-600	120-600	
	Al. alloy short-chipping	up to 500	G-AlSi 12	3.2581	90-200	100-500	100-450	100-450	
	Copper alloy (bronze) long-chipping	up to 1200	CuSn4	2.1016	80-160	100-200	120-220	120-220	
	Copper alloy (bronze) short-chipping	up to 850	CuNi12Zn24	2.0730	50-120	80-180	70-150	70-150	
	Copper alloy (brass) long-chipping	up to 600	Cu ZN 20	2.0250	80-160	100-200	120-220	120-220	
	Copper alloy (brass) short-chipping	up to 600	Cu Zn 39 Pb 3	2.0381	50-120	80-180	70-150	70-150	
S	Titanium alloys	up to 1300	TiAl6Sn 2	3.7174			40-70	40-70	
	Nickel-base alloys	up to 1300	NiCr19Fe19NbMo	Inconel 718		15-30	40-70	40-70	60-70
	Superalloys	up to 1300	X45CrSi 9 3	1.4718		15-30	40-70	40-70	60-70
H	hardened materials up to 55 HRC		X40Cr14	1.2083					50-120
	hardened materials up to 60 HRC		X153CrMoV12	1.2379					50-120
	hardened materials up to 64 HRC		100Cr6	1.2067					50-120

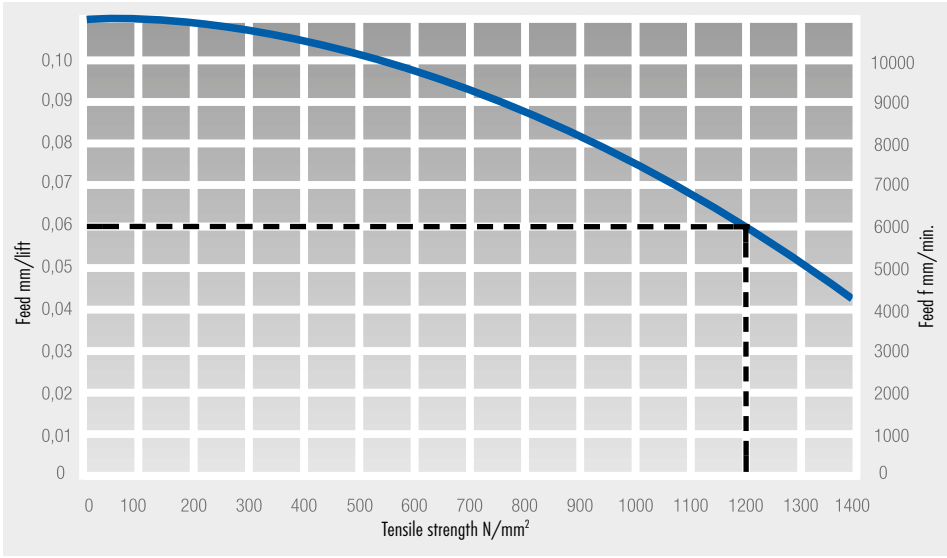
Dümmel® Cutting inserts for keyway slotting

- Observe the undercut at the end of the cleared slot to allow free discharge of the tool.
- The cutting edge should not touch the base of the slot while the tool is retracting.
- Adjustment of the tool is not permitted. Therefore carefully check the diameter of the workpiece before you proceed.
- If you use oil or an emulsion, the chips are flushed away from the workpiece; this also helps to produce a perfect surface.
- If the tool is aligned upwards, the chips automatically fall downwards away from the cutting edge.
- Avoid interrupted cutting.

Guide values for slotting

Example:
Tempering steel e.g. 42CrMo4 with 1200 N/mm²
- Feed per lift 0.05-0.06 mm
- Feed f = 5500 mm/min





palbit Grooving and parting-off system MINI

- Please adjust these guideline values according to clamping operation and machine set-up!

External machining: **right-hand** inserts and **right-hand** holders and/or **left-hand** inserts and **left-hand** holders

- Permanent cooling across the entire cutting surface is recommended.
- Particularly appropriate for automatic feed; manual feed can reduce the service life..
- The feed should be reduced by 10-15 % when using inserts with 7° clearance angle.

Cutting speeds for quality PH 7920

ISO	Materials group	Strength/ Hardness N/mm²	Material example chemical	Material number	Cutting speed Vc m/min	Feed f mm	
						GS / GR	P00 / P07
P	Machining steel	Up to 700	9 SMn 28	1.0715	60 - 200	0,02 - 014	0,02 - 0,14
	Unalloyed structural steel	Up to 700	St-52	1.0052			
	Structural steel	700 - 950	Ck45	1.1191			
	Tempering steel	500 - 950	42 CrMo4	1.7225			
	Cast steel	Up to 950	GS 40	1.0416			
	Case-hardened steel	Up to 1200	16 MnCr 5	1.7131			
	Tempering steel	950 -1300	43CrMo4	1.3563			
	Nitriding steel	950 - 1300	31CrMoV9	1.8519			
	Tool steel	950 - 1400	X38 CrMoV 5 1	1.2343			
M	Stainless steel, ferr./marten.	500 - 950	X10 Cr13	1.4006	60 - 180		
	Stainless steel, austenitic	500 - 950	X5 CrNi 18 10	1.4301			
	Duplex	700 - 950	X2 CrNiMoN 22-5-3	1.4462			
K	Grey cast iron	Up to 260 HB	GG 25	0.6025	60 - 150		
	Alloyed grey cast iron	Up to 310 HB	GGL-NiCr 35 2	0.6678			
	Ductile iron	Up to 280 HB	GGG 60	0.7060			
	Malleable cast iron	Up to 280 HB	GTS 55	0.8155			
S	Titanium alloys	Up to 1300	TiAl6Sn 2	3.7174	20 - 50		
	Nickel-based alloys	Up to 1300	NiCr19Fe19NbMo	Inconel 718			
	Superalloys	Up to 1300	X45CrSi 9 3	1.4718			

Technical information and tips for working effectively with broaches

1. Broaching

Reduce the contact pressure up to 80 % with a low feed rate due to the inclined 1 ° design of the wobble/broach holder. The reduction in contact pressure is achieved by concentrating on a smaller segment area of the profile to be broached. It is essential that the mandrel and the workpiece move synchronously in order to support the slight shearing of the material at a uniform feed rate on all tool cutting edges.

2. Centring and assembly of the broaching tools

The broached profile depends to a large extent on the quality of the broach in terms of dimension and geometric precision. Accurate centring of the cutting edges and the workpiece at the broach entry is also crucial here, considerably increasing the service life of the broaching tool.

The broach holder is usually rigidly clamped onto a disc turret or an adequate, fixed tool holder – the workpiece always drives the broach on the right or left. The holder spindle is mounted on special angular contact rollers or angular contact ball bearings so that it can withstand very high axial pressures. For transfer units, apply the system in reverse: the holder is driven and the workpiece is blocked/clamped. Due to the high contact forces on the workpiece, it should be clamped flat if required. If necessary, achieve the positioning of the profile by setting up a restraining arm.

3. Preparation of the bore to be broached

The bore should always be drilled slightly larger (1 %) than the largest width across flats of the hexagon. Take the ISO 4759/1 dimensions into account. Please apply the following guide values for a medium steel strength (~60 to lowering 80 dN/mm^2):

1.5 - 3 mm	=	+ 0.03 / + 0.06
3 - 6 mm	=	+ 0.04 / + 0.08
6 - 10 mm	=	+ 0.06 / + 0.12
10 - 16 mm	=	+ 0.10 / + 0.20
> 16 mm	=	+ 0.15 / + 0.30

These values can be reduced for soft materials and increased for tough materials. The drilling depth for blind hole hexagonal corresponds to 1.3 to 1.5 x the broaching depth. There must be space for the resultant broaching chips in the free area. If necessary, re-drill to remove the chips. Depending on the size of the broach, the eccentricity of the pilot bore must not exceed the range of 0.02 to 0.04 mm.

4. Broach guide

You have two options here: A: The 60° or 90° countersink should be slightly larger than the broach measured over the edges. At a high speed, reworking may be necessary here. B: The best option for quality and precision: If precise profile concentricity is required, a small guide bore should be machined in the diameter of the cutting edges. After broaching, this guide shoulder can be removed. You can recognise concentration errors after broaching from unevenly occurring marks in the guide bore.

5. Speed / broaching direction

The broaching method with a rotating wobble tool allows high speeds. Depending on the application, this is between 1500 and 3000 rpm. The cutting speed is of secondary importance in this context. If the workpiece touches the broach at a constantly high speed, the broach must be dragged along up to the max. speed. Until the max. speed is reached, this causes corresponding wear to the cutting edge, especially with small broaches. This can be avoided as follows: If possible, start at low speed for the first tenths of a millimetre of the broaching process and then increase continuously up to the max. speed. The profile will always be more or less spiral – with longer profiles this can be kept within limits by programming a rotation change direction several times over the entire profile length.

6. Feed during broaching

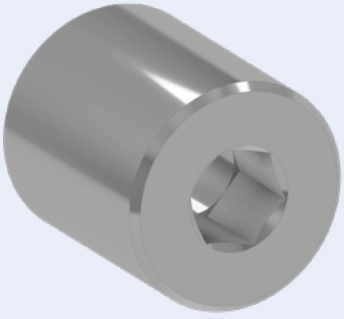
Material and profile size determine the feed rate when broaching per revolution. As a guideline for medium steel toughness: Broach diameter x 0.03 mm to 0.06 mm. With sufficient contact pressure, these values can be doubled or tripled, especially with aluminium or brass. Experience shows that you start with a low feed rate and increase it depending on the different material conditions. If larger profiles are to be machined into tough materials and the feed power of the machine is too low, the feed must be reduced to 0.01 mm. For heavy broaching operations, if possible, a mechanical stop should be used to prevent the workpiece from shifting.

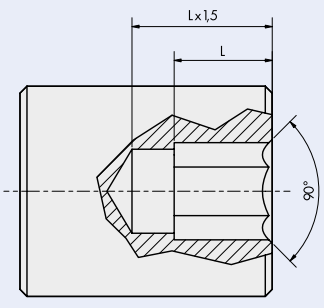
7. Cooling/ Lubrication

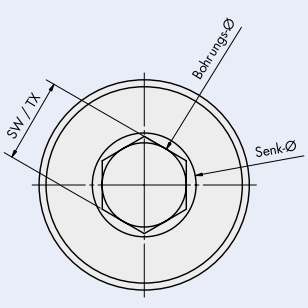
Emulsion or better cutting oil with EP additives.

8. Regrinding

In case of minor wear, broaches can be reground.





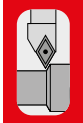


Bore preparation for the wobble tool

INFO

AF profile	
Wrench width-across-flats AF mm	Bore allowance
1.5 to 19	0 to +1%
22 to 39	0 to +2%

TORX profile		
Torx	Bore Ø mm	Bore allowance
TX 5	1.0	0 / + 0.05
TX 6	1.4	0 / + 0.05
TX 7	1.55	0 / + 0.07
TX 8	1.9	0 / + 0.1
TX 10	2.2	0 / + 0.1
TX 15	2.6	0 / + 0.1
TX 20	3.0	0 / + 0.1
TX 25	4.0	0 / + 0.1
TX 27	3.75	0 / + 0.1
TX 30	4.2	0 / + 0.1
TX 40	5.0	0 / + 0.15
TX 45	5.8	0 / + 0.2
TX 50	6.7	0 / + 0.2
TX 55	8.2	0 / + 0.2
TX 60	9.9	0 / + 0.2



Recommended cutting values for the wobble tool

INFO

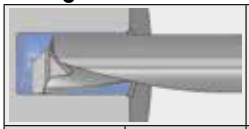
ISO	Materials group	Strength/ Hardness N/mm^2	Rotational speed n rpm	Feed f in mm / U	
				Hexagonal	TORX
P	Unalloyed steel	350	800 - 1500	0.08 - 0.15	0.08 - 0.15
		650	500 - 1500	0.05 - 0.15	0.05 - 0.15
	Low alloy steel	600	500 - 1500	0.03 - 0.10	0.03 - 0.10
		900	500 - 1500	0.03 - 0.10	0.03 - 0.10
M	Stainless steel, ferr./marten.	700	500 - 1000	0.03 - 0.08	0.03 - 0.08
	Stainless steel, austenitic	450 - 600	800 - 1500	0.05 - 0.08	0.05 - 0.08
K	Grey cast iron	500 - 700	500 - 1500	0.03 - 0.15	0.03 - 0.15
	Spheroidal graphite cast iron	800	500 - 1000	0.03 - 0.10	0.03 - 0.10

Dümmel® Cutting inserts DT

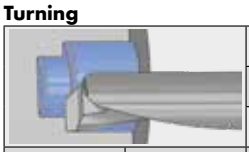
- Please adjust these guideline values according to clamping operation and machine set-up!
- **Feed values (f) are dependent on the coolant pressure:**
  Coolant pressure 10-30 bar: select lower third of the feed values
  Coolant pressure 30-70 bar: select upper half of the feed values
- the feed values (f) are also dependent on the material

ISO	Materials group	Strength N/mm²	Cutting speed Vc m/min
			AL41F
P	Carbon steels C = 0.4-0.8%	600 - 1000	80 - 200
P	Cast steel	500 - 900	70 - 180
P	Alloyed steels	500 - 1400	70 - 140
M	Stainless steel CR = 12-18%	150 - 250 HB	80 - 160
M	Stainless steel austenitic	600 - 1200	20 - 65
K	Grey cast iron	250 - 300 HB	30 - 180
K	Spheroidal graphite iron, ferritic	140 - 180 HB	30 - 180
K	Spheroidal graphite iron, pearlitic	230 - 280 HB	30 - 180
K	Malleable cast iron	160 - 240 HB	20 - 90
N	Aluminium, Al-Si alloys	50 - 140 HB	80 - 600
N	Copper, brass, bronze		80 - 200

Drilling

		Feed f mm/rev
R/L DT,3-	10	0,0025 - 0,0125
	13	0,0025 - 0,010
R/L DT,4-	15	0,005 - 0,030
	20	0,005 - 0,015
R/L DT,5-	15	0,005 - 0,040
	25	0,005 - 0,020
R/L DT,6-	15	0,005 - 0,030
	30	0,005 - 0,020
R/L DT,7-	20	0,005 - 0,035
	35	0,005 - 0,025
R/L DT,8-	25	0,005 - 0,040
	40	0,005 - 0,030

Turning

		Span depth ap in mm								
		0,2	0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0
		Feed f mm/rev								
R/L DT,3-	10	0,02 - 0,07	0,02 - 0,07	0,02 - 0,05	0,005 - 0,01					
	13	0,02 - 0,05	0,02 - 0,05	0,005 - 0,03	0,005 - 0,01					
R/L DT,4-	15	0,04 - 0,1	0,04 - 0,1	0,04 - 0,1	0,03 - 0,07	0,01 - 0,05				
	20	0,04 - 0,1	0,04 - 0,1	0,03 - 0,08	0,01 - 0,05	0,005 - 0,025				
R/L DT,5-	15	0,04 - 0,1	0,04 - 0,1	0,04 - 0,1	0,03 - 0,08	0,02 - 0,06	0,01 - 0,04			
	25	0,04 - 0,1	0,04 - 0,1	0,03 - 0,09	0,02 - 0,06	0,01 - 0,04	0,005 - 0,025			
R/L DT,6-	15	0,04 - 0,1	0,04 - 0,1	0,04 - 0,1	0,04 - 0,1	0,03 - 0,08	0,02 - 0,06	0,01 - 0,04		
	30	0,04 - 0,1	0,04 - 0,1	0,03 - 0,09	0,02 - 0,06	0,01 - 0,04	0,01- 0,03	0,005 - 0,03		
R/L DT,7-	20	0,04 - 0,1	0,04 - 0,1	0,04 - 0,1	0,04 - 0,1	0,04 - 0,1	0,03 - 0,08	0,02 - 0,06	0,01 - 0,04	
	35	0,04 - 0,1	0,04 - 0,1	0,04 - 0,1	0,03 - 0,08	0,02 - 0,06	0,01 - 0,04	0,01 - 0,03	0,01 - 0,02	
R/L DT,8-	25	0,04 - 0,1	0,04 - 0,1	0,04 - 0,1	0,04 - 0,1	0,04 - 0,1	0,04 - 0,1	0,03 - 0,08	0,02 - 0,06	0,01 - 0,04
	40	0,04 - 0,1	0,04 - 0,1	0,04 - 0,1	0,04 - 0,095	0,03 - 0,8	0,02 - 0,06	0,01 - 0,04	0,01 - 0,03	0,01 - 0,02

Material burrs in form knurling – chip-free forming

- Empirical values for enlarging the workpiece diameter
- Deviations are possible depending on material.
- Please adjust these guideline values according to clamping operation and machine set-up!

Knurl profile according to DIN 82: **RAA (knurl profile on the workpiece)**
Knurling wheels according to DIN 403: AA (knurl profile on the knurling wheel)


RAA

ISO	Materials group	Workpiece Ø mm	Enlargement of the workpiece Ø in mm												
			Division 0.3	Division 0.4	Division 0.5	Division 0.6	Division 0.7	Division 0.8	Division 0.9	Division 1.0	Division 1.2	Division 1.5	Division 1.6	Division 1.8	Division 2.0
P	Machining steel	5	0.08	0.14	0.18	0.22	0.27	0.29	0.33	0.35	0.50	-	-	-	-
		15	0.08	0.14	0.18	0.23	0.30	0.40	0.41	0.44	0.50	0.6	0.65	0.67	0.7
		25	0.08	0.15	0.23	0.24	0.28	0.35	0.38	0.44	0.53	0.62	0.7	0.7	0.98
M	Stainless steel	5	0.1	0.15	0.2	0.25	0.28	0.30	0.35	0.42	0.41	-	-	-	-
		15	0.1	0.15	0.19	0.25	0.30	0.34	0.40	0.45	0.51	0.6	-	-	-
		25	0.1	0.14	0.2	0.26	0.31	0.33	0.38	0.43	0.50	0.62	-	-	-
N	Brass	5	0.08	0.12	0.18	0.20	0.21	0.22	0.23	0.25	0.28	-	-	-	-
		15	0.1	0.14	0.2	0.26	0.28	0.29	0.31	0.35	0.41	0.44	0.48	0.5	0.55
		25	0.1	0.15	0.2	0.25	0.28	0.30	0.32	0.36	0.43	0.46	0.50	0.53	0.53
	Aluminium	5	0.09	0.15	0.19	0.23	0.28	0.30	0.34	0.41	0.40	-	-	-	-
		15	0.1	0.15	0.19	0.26	0.29	0.33	0.39	0.45	0.51	0.57	0.65	-	-
		25	0.09	0.15	0.19	0.26	0.29	0.32	0.37	0.45	0.52	0.59	0.65	0.78	0.75

Knurl profile according to DIN 82: **RBL 30° /RBR 30° (knurl profile on the workpiece)**
Knurling wheels according to DIN 403: BR 30°/BL 30° (knurl profile on the knurling wheel)


RBL 30


RBR 30

ISO	Materials group	Workpiece Ø mm	Enlargement of the workpiece Ø in mm												
			Division 0.3	Division 0.4	Division 0.5	Division 0.6	Division 0.7	Division 0.8	Division 0.9	Division 1.0	Division 1.2	Division 1.5	Division 1.6	Division 1.8	Division 2.0
P	Machining steel	5	0.11	0.15	0.20	0.24	0.28	0.34	0.38	0.45	0.55	-	-	-	-
		15	0.11	0.15	0.22	0.26	0.30	0.35	0.42	0.45	0.52	0.67	0.73	0.75	0.85
		25	0.11	0.14	0.23	0.25	0.28	0.36	0.42	0.45	0.56	0.7	0.72	0.78	0.9
M	Stainless steel	5	0.09	0.14	0.19	0.25	0.31	0.34	0.39	0.45	0.52	-	-	-	-
		15	0.12	0.20	0.23	0.31	0.35	0.40	0.45	0.51	0.62	0.66	0.73	0.85	0.97
		25	0.12	0.18	0.24	0.27	0.37	0.39	0.43	0.49	0.59	0.8	0.84	0.93	0.96
N	Brass	5	0.10	0.14	0.20	0.23	0.24	0.28	0.30	0.33	0.37	-	-	-	-
		15	0.10	0.15	0.21	0.23	0.24	0.31	0.36	0.41	0.47	0.53	0.53	0.65	0.63
		25	0.11	0.15	0.22	0.22	0.25	0.30	0.35	0.40	0.45	0.55	0.55	0.62	068
	Aluminium	5	0.12	0.14	0.21	0.24	0.29	0.34	0.39	0.41	0.51	-	-	-	-
		15	0.12	0.18	0.23	0.26	0.36	0.40	0.43	0.50	0.56	0.56	0.56	0.74	0.75
		25	0.12	0.16	0.25	0.28	0.37	0.39	0.46	0.50	0.58	0.77	0.77	0.84	0.96

Knurl profile according to DIN 82: **RGE 30° (knurl profile on the workpiece)**
Knurling wheels according to DIN 403: BR 30° + BL 30° (knurl profile on the knurling wheel)


RGE

ISO	Materials group	Workpiece Ø mm	Enlargement of the workpiece Ø in mm												
			Division 0.3	Division 0.4	Division 0.5	Division 0.6	Division 0.7	Division 0.8	Division 0.9	Division 1.0	Division 1.2	Division 1.5	Division 1.6	Division 1.8	Division 2.0
P	Machining steel	5	"0.12	"0.16	"0.20	"0.25	"0.33	"0.41	"0.45	"0.55	"0.65	-	-	-	-
		15	0.13	0.22	0.30	0.32	0.35	0.41	0.43	0.52	0.62	0.67	0.81	0.86	0.95
		25	0.12"	0.18"	0.28"	0.32"	0.35"	0.38"	0.43"	0.55"	0.67"	0.77	0.87	0.98	0.98
M	Stainless steel	5	"0.11	"0.20	"0.25	"0.30	"0.36	"0.39	"0.41	"0.55	"0.55	-	-	-	-
		15	0.10	0.14	0.21	0.24	0.29	0.34	0.40	0.43	0.53	0.66	0.72	0.70	0.88
		25	0.11"	0.13"	0.20"	0.25"	0.28"	0.32"	0.41"	0.44"	0.52"	0.67	0.7	0.71	0.83
N	Brass	5	"0.12	"0.13	"0.16	"0.20	"0.24	"0.28	"0.30	"0.32	"0.38	-	-	-	-
		15	0.12	0.16	0.18	0.24	0.28	0.30	0.37	0.39	0.40	0.48	0.52	0.55	0.63
		25	0.12"	0.17"	0.22"	0.23"	0.27"	0.30"	0.34"	0.38"	0.41"	0.48	0.5	0.63	0.63
	Aluminium	5	"0.10	"0.15	"0.21	"0.25	"0.33	"0.36	"0.41	"0.50	"0.57	-	-	-	-
		15	0.11	0.14	0.20	0.25	0.28	0.33	0.39	0.43	0.54	0.67	0.71	0.76	0.89
		25	0.11"	0.15"	0.22"	0.25"	0.29"	0.34"	0.40"	0.44"	0.53"	0.68	0.69	0.71	0.88

Knurling tools

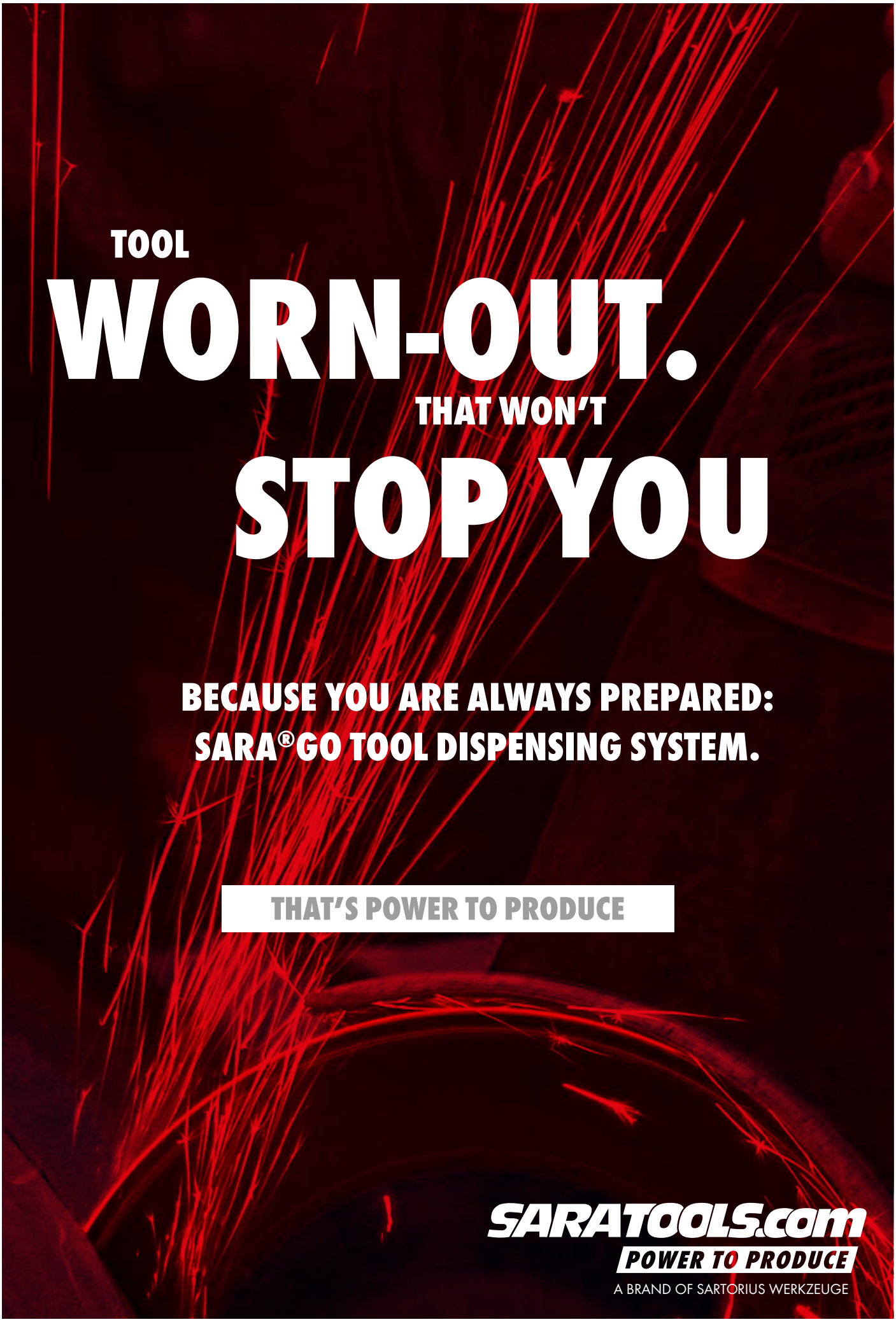
- Ensure good cooling / lubrication to prevent chips rolling in and to increase the service life of the knurl
- Please adjust these guideline values according to clamping operation and machine set-up!

Knurling – metal cutting machining

ISO	Materials group	Workpiece Ø mm	Knurling wheel Ø mm	Vc m/min	f mm/rev			
					Radial	Axial		
						Division 0.3 - 0.5	Division 0.5 - 1.0	Division 1.0 - 1.5	Division 1.5 - 2.0
P	Machining steel	< 10	10 / 15	40 - 70	0.04 - 0.08	0.14	0.09	0.06	0.05
		10 - 40	15 / 25	50 - 90	0.05 - 0.1	0.2	0.13	0.1	0.07
		40 - 100	25 / 32 / 42	65 - 110	0.05 - 0.1	0.25	0.18	0.12	0.08
		100-250	25 / 32 / 42	65 - 100	0.05 - 0.1	0.3	0.2	0.13	0.09
		> 250	32 / 42	80-100	0.05 - 0.1	0.32	0.21	0.14	0.1
M	Stainless steel	< 10	10 / 15	22 - 40	0.04 - 0.08	0.12	0.08	0.05	0.04
		10 - 40	15 / 25	30 - 50	0.05 - 0.1	0.17	0.11	0.09	0.06
		40 - 100	25 / 32 / 42	35 - 60	0.05 - 0.1	0.21	0.15	0.1	0.07
		100-250	25 / 32 / 42	35 - 60	0.05 - 0.1	0.26	0.17	0.11	0.08
		> 250	32 / 42	45 - 55	0.05 - 0.1	0.27	0.18	0.12	0.09
N	Brass	< 10	10 / 15	55 - 100	0.04 - 0.08	0.15	0.09	0.06	0.05
		10 - 40	15 / 25	70 - 125	0.05 - 0.1	0.21	0.14	0.11	0.07
		40 - 100	25 / 32 / 42	90 - 155	0.05 - 0.1	0.26	0.19	0.13	0.08
		100-250	25 / 32 / 42	90 - 155	0.05 - 0.1	0.32	0.21	0.14	0.09
		> 250	32 / 42	115 - 140	0.05 - 0.1	0.34	0.22	0.15	0.11
	Aluminium	< 10	10 / 15	70 - 120	0.04 - 0.08	0.18	0.11	0.08	0.06
		10 - 40	15 / 25	80 - 150	0.05 - 0.1	0.25	0.16	0.13	0.09
		40 - 100	25 / 32 / 42	110 - 160	0.05 - 0.1	0.31	0.23	0.15	0.1
		100-250	25 / 32 / 42	110 - 160	0.05 - 0.1	0.38	0.25	0.16	0.11
		> 250	32 / 42	130 - 150	0.05 - 0.1	0.4	0.26	0.18	0.13

Form knurling – chip-free machining

ISO	Materials group	Workpiece Ø mm	Knurling wheel Ø mm	Vc m/min	f mm/rev			
					Radial	Axial		
						Division 0.3 - 0.5	Division 0.5 - 1.0	Division 1.0 - 1.5	Division 1.5 - 2.0
P	Machining steel	< 10	10 / 15	20 - 50	0.04 - 0.08	0.20	0.13	0.08	0.07
		10 - 40	15 / 20	25 - 55	0.05 - 0.1	0.28	0.18	0.14	0.10
		40 - 100	20 / 25	30 - 60	0.05 - 0.1	0.35	0.25	0.17	0.11
		100-250	20 / 25	30 - 60	0.05 - 0.1	0.42	0.28	0.18	0.13
		> 250	25	30 - 60	0.05 - 0.1	0.45	0.29	0.20	0.14
M	Stainless steel	< 10	10 / 15	15 - 40	0.04 - 0.08	0.14	0.09	0.06	0.05
		10 - 40	15 / 20	20 - 50	0.05 - 0.1	0.20	0.13	0.10	0.07
		40 - 100	20 / 25	25 - 50	0.05 - 0.1	0.25	0.18	0.12	0.08
		100-250	20 / 25	25 - 50	0.05 - 0.1	0.29	0.20	0.13	0.09
		> 250	25	25 - 50	0.05 - 0.1	0.31	0.21	0.14	0.10
N	Brass	< 10	10 / 15	30 - 75	0.04 - 0.08	0.22	0.14	0.09	0.08
		10 - 40	15 / 20	40 - 85	0.05 - 0.1	0.31	0.20	0.15	0.11
		40 - 100	20 / 25	45 - 90	0.05 - 0.1	0.39	0.28	0.18	0.12
		100-250	20 / 25	45 - 90	0.05 - 0.1	0.46	0.31	0.20	0.14
		> 250	25	45 - 90	0.05 - 0.1	0.49	0.32	0.22	0.15
	Aluminium	< 10	10 / 15	25 - 60	0.04 - 0.08	0.12	0.08	0.05	0.04
		10 - 40	15 / 20	30 - 65	0.05 - 0.1	0.17	0.11	0.08	0.06
		40 - 100	20 / 25	35 - 70	0.05 - 0.1	0.21	0.15	0.10	0.07
		100-250	20 / 25	35 - 70	0.05 - 0.1	0.25	0.17	0.11	0.08
		> 250	25	35 - 70	0.05 - 0.1	0.27	0.18	0.12	0.08


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