



Determination of the correct design for lathing



The following structural designs are distinguished for lathing:

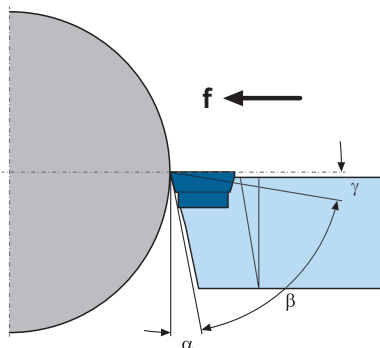
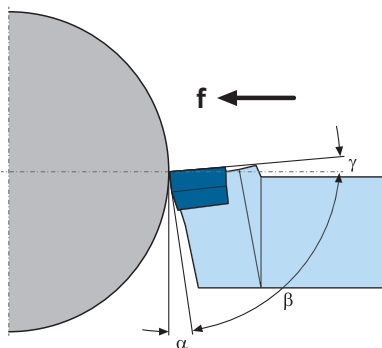
negative structural design

the negative structural design has been developed for rough pre-machining and is characterised by excellent force absorption. with this structural design, high infeds are possible and heavy duty machining steps, such as interrupted cuts or overtightening of scale films, can be implemented.

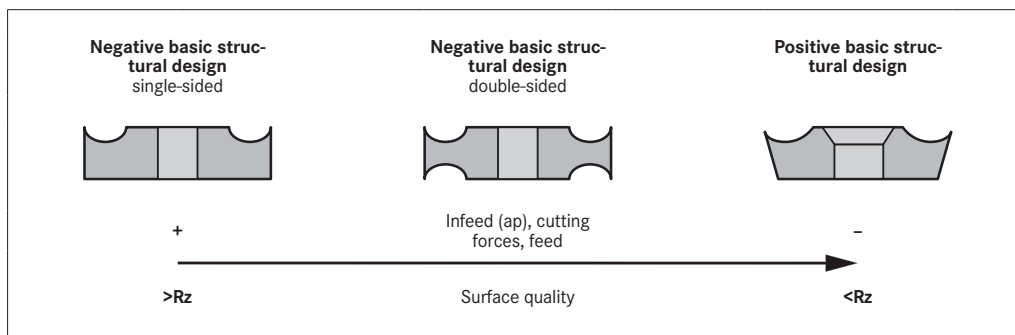
prerequisites for this design are stable workpiece clamping and a stable machine.

Positive structural design

The positive structural design has been developed for the final finishing of components with high surface quality. Positive engagement with the workpiece minimises cutting forces. This structural shape offers particular advantages in the case of unstable tool clamping or machining conditions, such as in the event of a high projection length in internal machining.



The following graph again illustrates the correlation:



Selection of indexable insert design

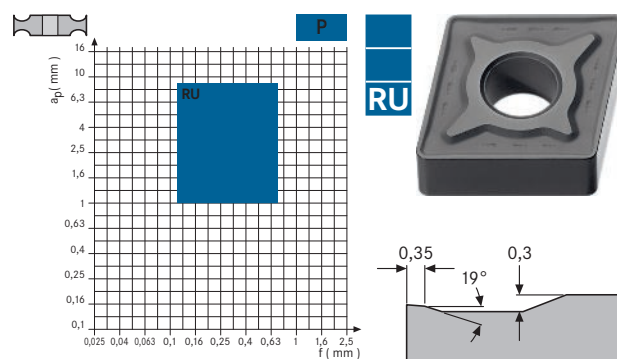
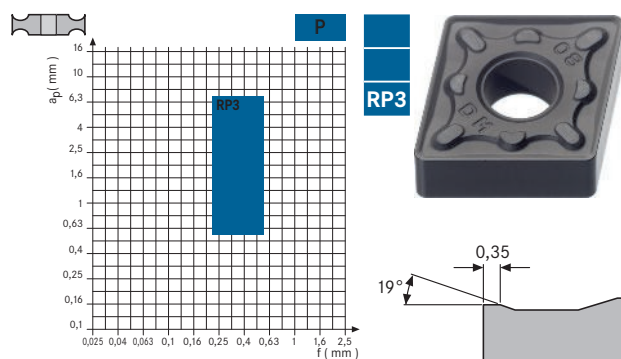
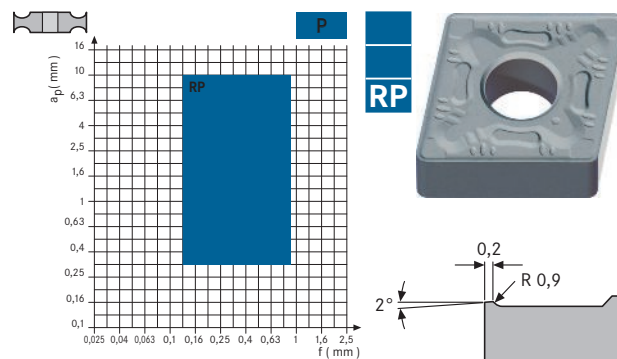
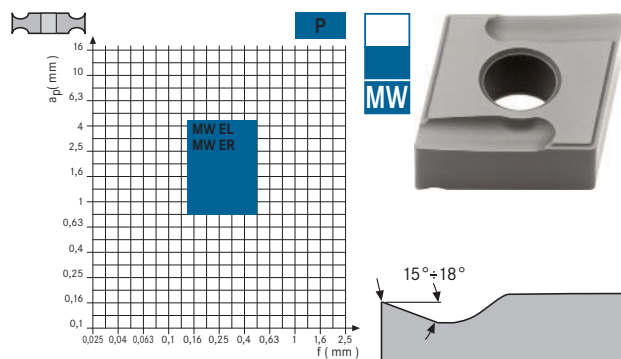
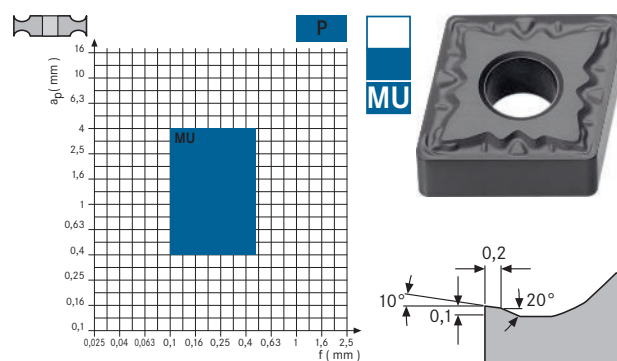
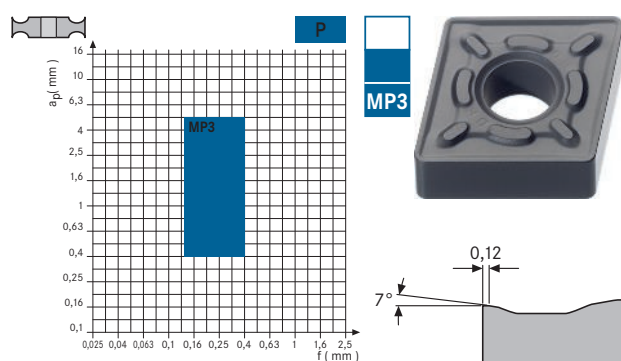
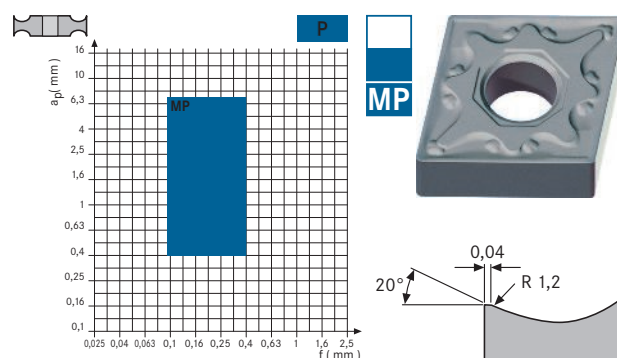
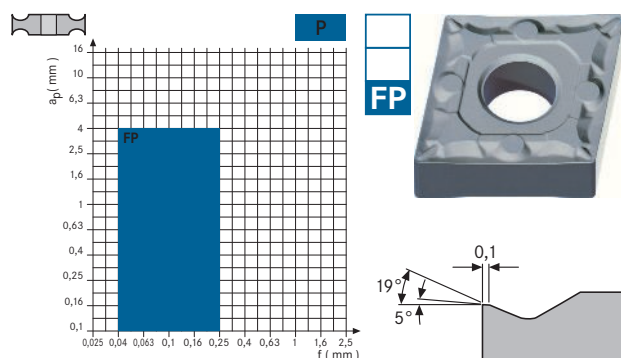
After correctly selecting the appropriate structural design, determining the insert form is an important component during machining. The following table illustrates the issue:

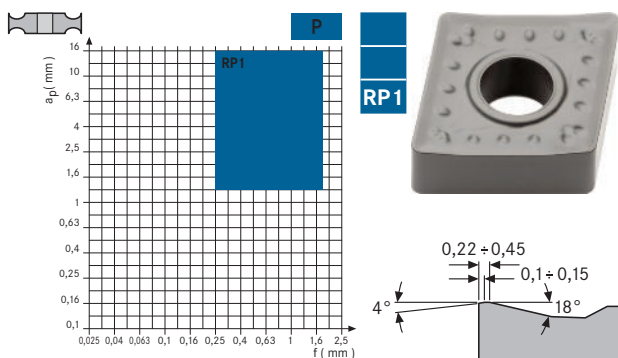
Machining type	R	S	C	W	T	D	V
		90°	80°	80°	60°	55°	35°
Rough machining with favourable cutting conditions	++	++	++	+			
Rough machining with unfavourable cutting conditions	++	++	+	+			
Medium machining with favourable cutting conditions		+	++	+	++	++	
Medium machining with unfavourable cutting conditions		++	++	++	+	+	
Smoothing			++	++	++	++	++
Longitudinal turning and facing			++	++			
Profile turning				++	++	++	++
Low vibrations					++	++	++
Machining of hard materials	++	++					



selection of chip breaker – negative chip breaker steel materials

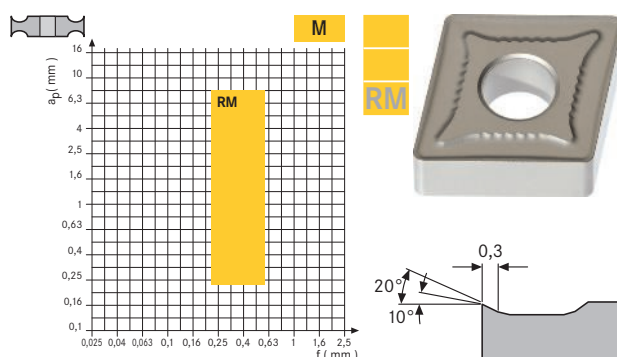
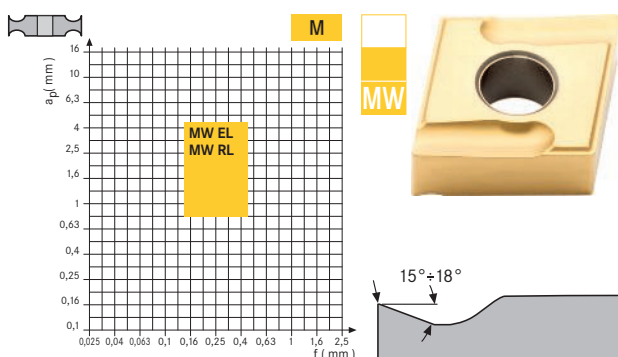
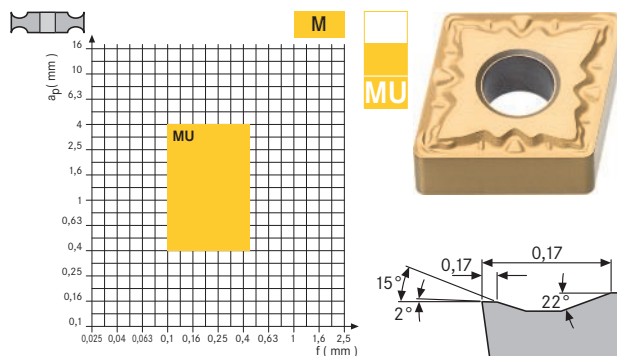
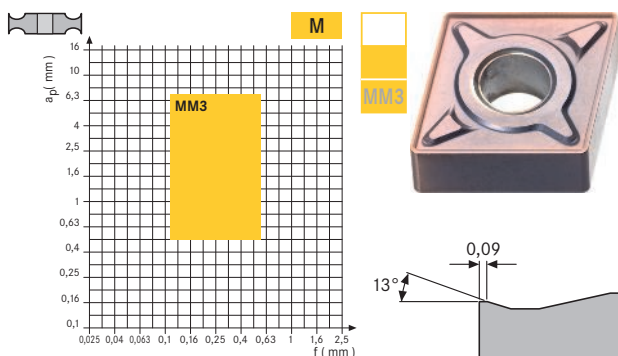
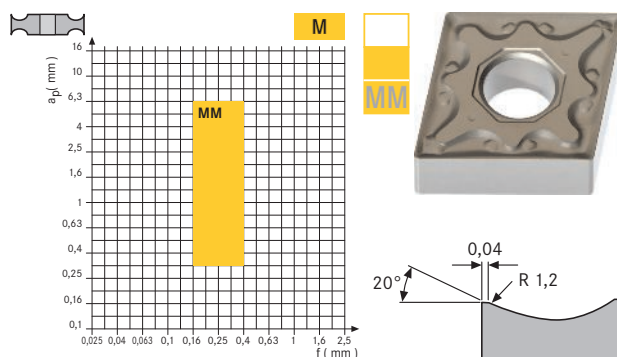
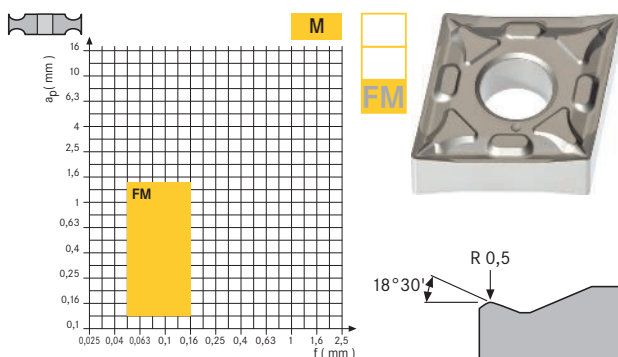
selecting the correct chip breaker depends on the infeed (a_p), the cutting conditions and the feed values to be achieved. the aim is to achieve optimal chip breakage with a defined infeed. the following graphs illustrate the different chip breakers and their applications.

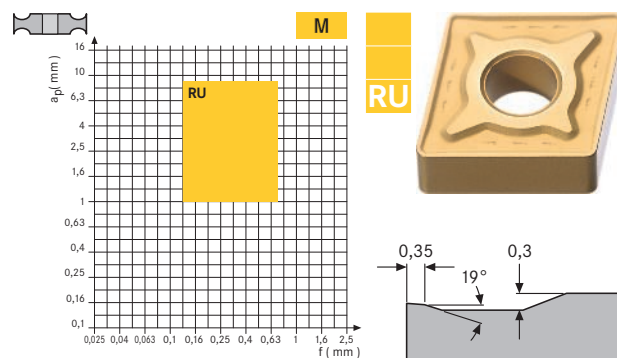
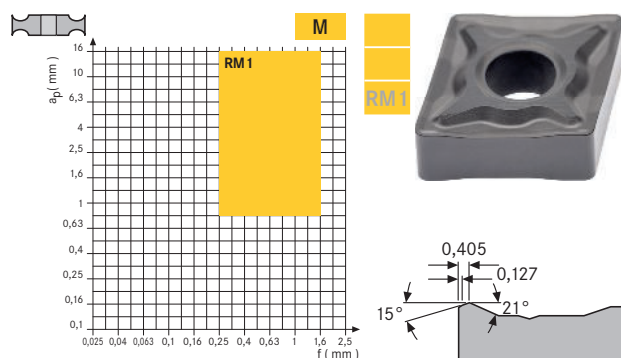




selection of chip breaker – negative chip breaker stainless steels

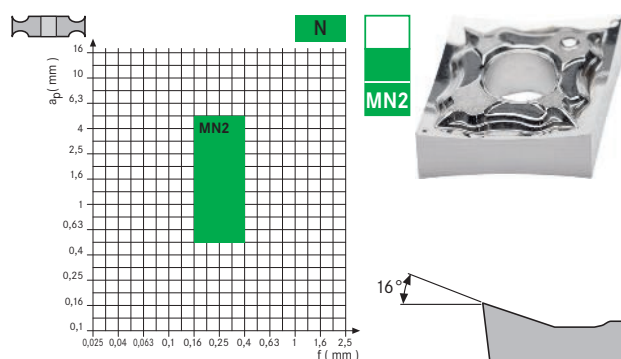
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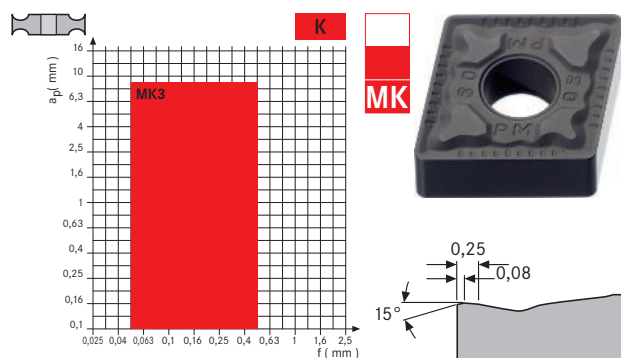
selection of chip breaker – negative chip breaker non-ferrous metals

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selection of chip breaker – negative chip breaker cast materials

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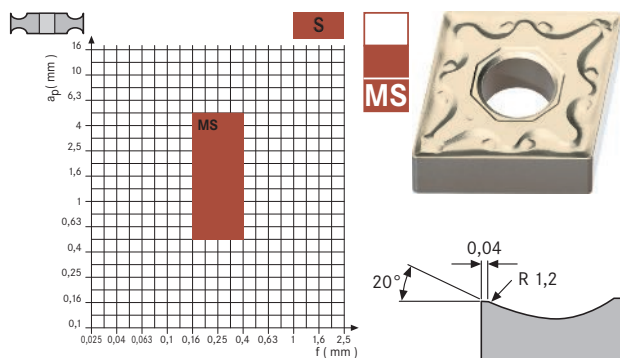




selection of chip breaker – negative chip breaker

special alloys

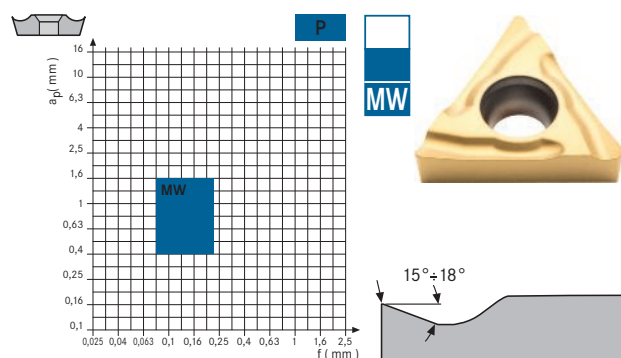
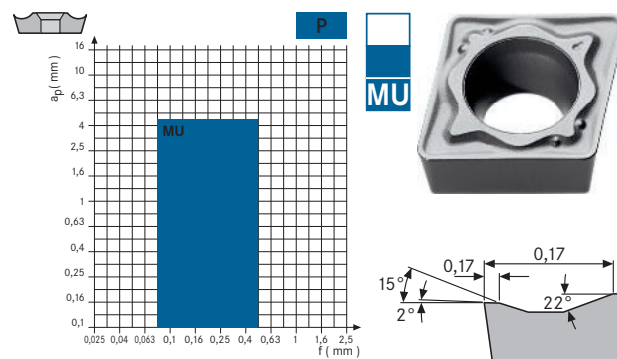
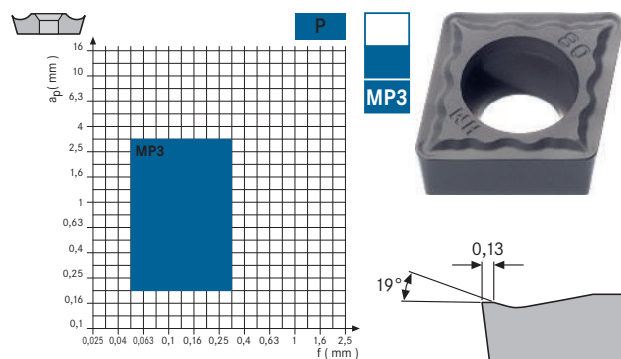
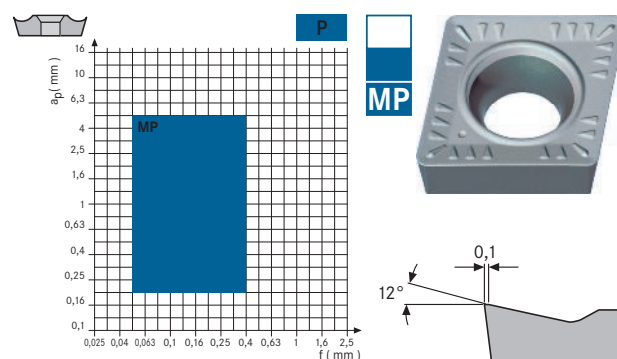
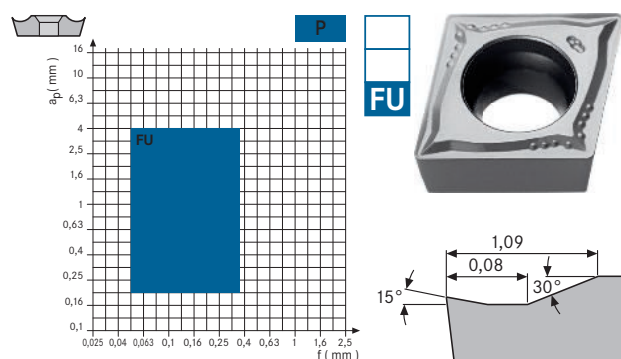
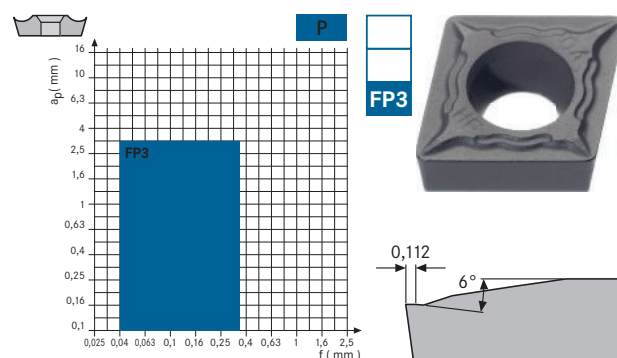
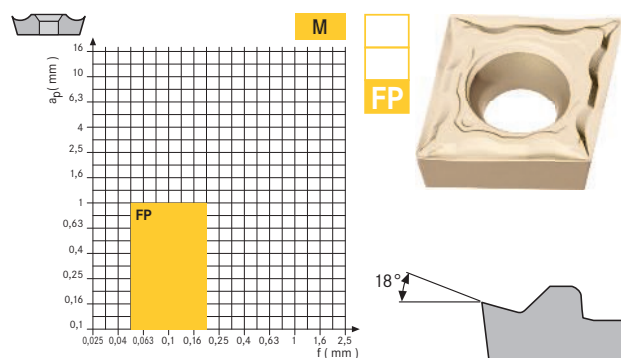
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selection of chip breaker – positive chip breaker steel materials

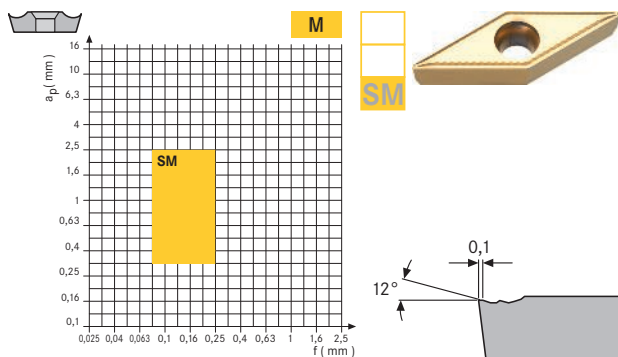
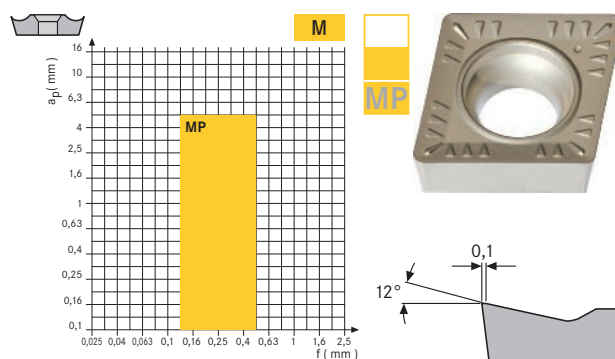
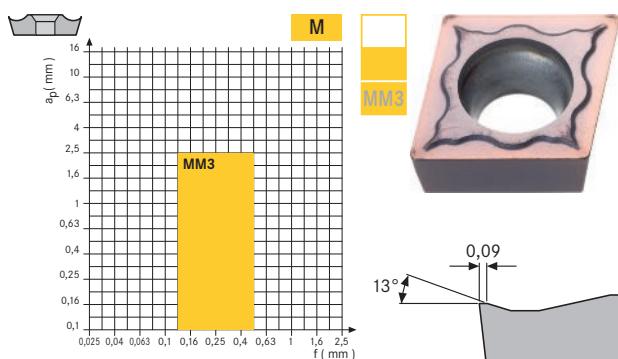
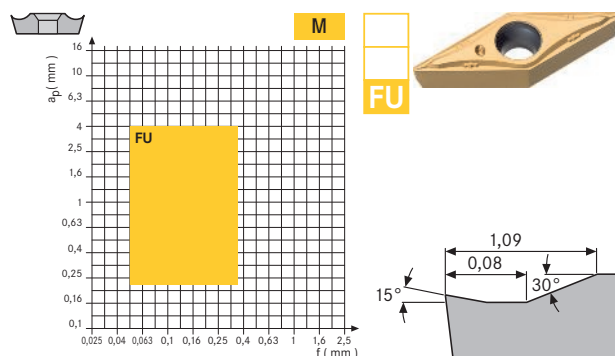
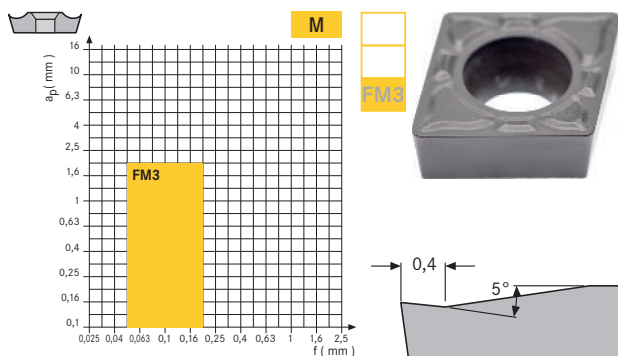
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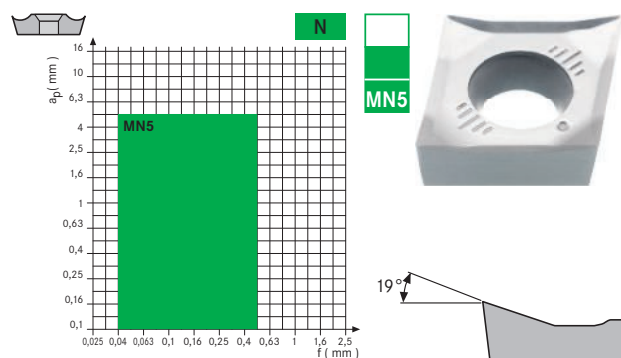
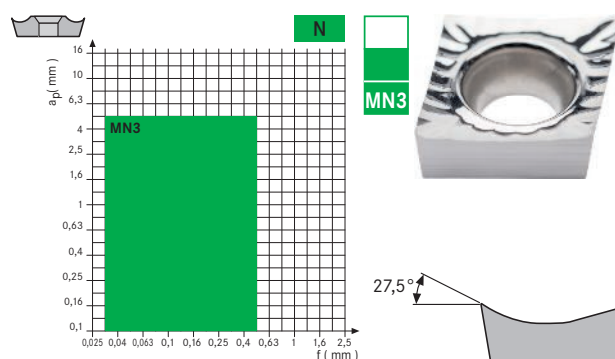
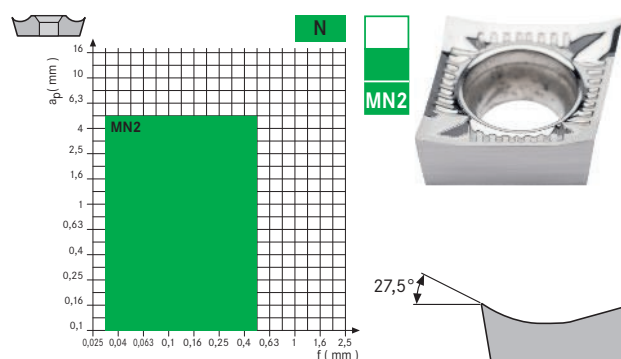
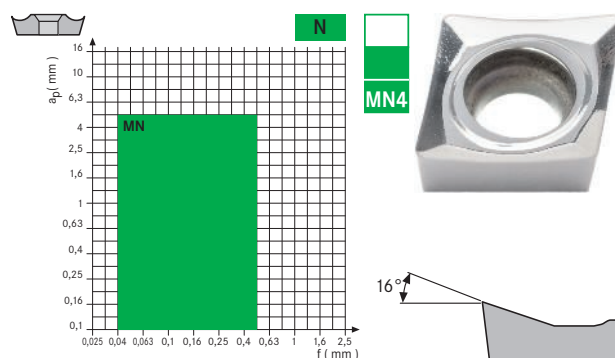
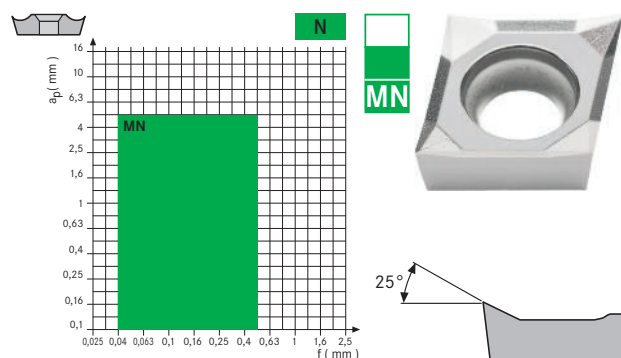
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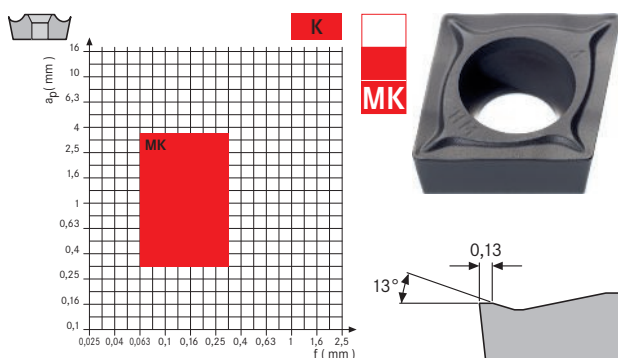
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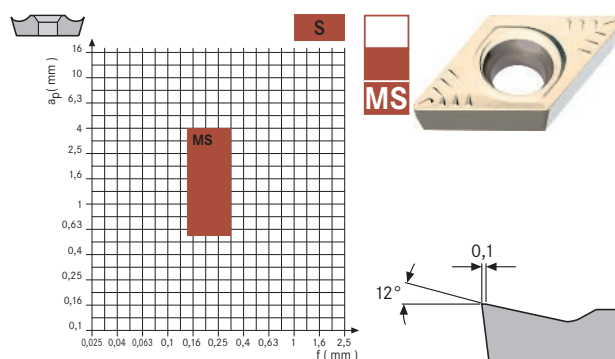
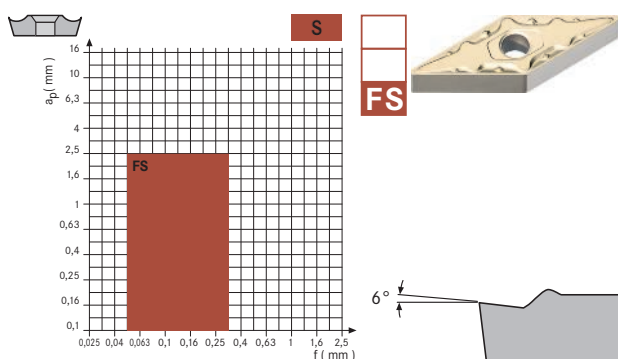
selection of chip breaker – positive chip breaker cast materials

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selection of chip breaker – positive chip breaker special alloys

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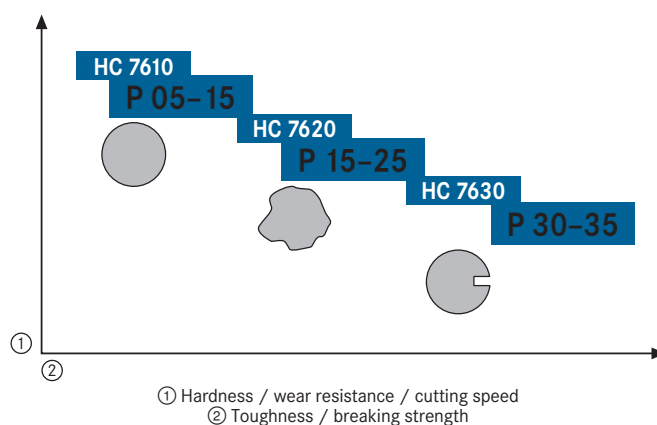
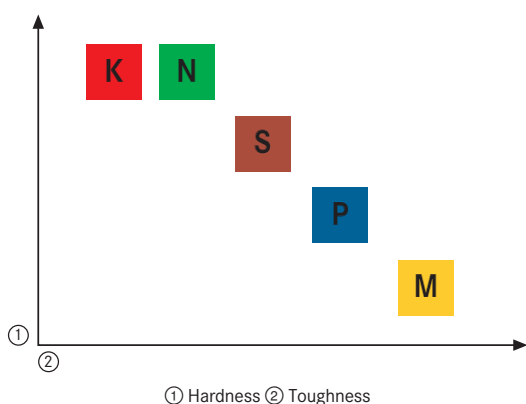


Selection of cemented carbide grade

When selecting the cemented carbide grade, the following basic substrates are available to the user. A distinction is made between the following basic substrates in terms of hardness and wear resistance:

The various basic substrates can produce very hard qualities or a high level of toughness depending on the composition.

- Very hard substrates are identified by a low numeral P10
- Very tough substrates are identified by a high numeral P30



- Good cutting conditions
- Average cutting conditions
- Unfavourable cutting conditions

As illustrated in the diagram, hard substrates can only be used under favourable cutting conditions. These substrates are very hard and wear-resistant but will break under difficult cutting conditions. In the case of unfavourable cutting conditions, we use very tough substrates that are highly impact-resistant but less wear-resistant.



ISO indexable inserts for turning tools

D	1. Insert shape																																																								
C	2. Clearance angle																																																								
M	3. Tolerance class	<table><tr><th>± tolerances (µm)</th><th>A</th><th>C</th><th>E</th><th>G</th><th>H</th><th>J</th><th>K</th><th>N</th><th>U</th></tr><tr><td>for incircle d</td><td>25</td><td>25</td><td>25</td><td>25</td><td>13</td><td>50-150</td><td>50-150</td><td>50-150</td><td>80-250</td></tr><tr><td>for test dimension m</td><td>5</td><td>13</td><td>25</td><td>25</td><td>13</td><td>5</td><td>13</td><td>80-200</td><td>130-380</td></tr><tr><td>for thickness s</td><td>25</td><td>25</td><td>25</td><td>50-130</td><td>25</td><td>25</td><td>25</td><td>50-130</td><td>130</td></tr></table>																± tolerances (µm)	A	C	E	G	H	J	K	N	U	for incircle d	25	25	25	25	13	50-150	50-150	50-150	80-250	for test dimension m	5	13	25	25	13	5	13	80-200	130-380	for thickness s	25	25	25	50-130	25	25	25	50-130	130
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T	4. Insert type	<table><tr><th>Insert type</th><th>A</th><th>C</th><th>F</th><th>G</th><th>H</th><th>J</th><th>M</th><th>N</th><th>R</th><th>Q</th><th>T</th><th>U</th><th>W</th></tr><tr><td>Scalene insert shape or dimensions of the symbols 5, 6 or 7 deviating from the standard</td><td>70-90°</td><td>70-90°</td><td>70-90°</td><td>70-90°</td><td>70-90°</td><td>70-90°</td><td>70-90°</td><td>70-90°</td><td>40-60°</td><td>40-60°</td><td>40-60°</td><td>40-60°</td><td>40-60°</td></tr></table>																Insert type	A	C	F	G	H	J	M	N	R	Q	T	U	W	Scalene insert shape or dimensions of the symbols 5, 6 or 7 deviating from the standard	70-90°	70-90°	70-90°	70-90°	70-90°	70-90°	70-90°	70-90°	40-60°	40-60°	40-60°	40-60°	40-60°												
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11	5. Cutter length	<table><tr><th>Cutter length</th><th>C</th><th>04</th><th>05</th><th>06</th><th>08</th><th>09</th><th>12</th><th>16</th><th>19</th><th>25</th></tr><tr><td>Incicle d</td><td>4,76</td><td>5,56</td><td>6,35</td><td>7,94</td><td>9,52</td><td>12,7</td><td>15,88</td><td>19,05</td><td>25,4</td><td></td></tr></table>																Cutter length	C	04	05	06	08	09	12	16	19	25	Incicle d	4,76	5,56	6,35	7,94	9,52	12,7	15,88	19,05	25,4																			
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T3	6. Insert thickness	<table><tr><th>Insert thickness</th><th>01</th><th>T1</th><th>02</th><th>03</th><th>T3</th><th>04</th><th>05</th><th>06</th><th>07</th><th>09</th></tr><tr><td>Thickness s</td><td>1,59</td><td>1,98</td><td>2,38</td><td>3,18</td><td>3,97</td><td>4,76</td><td>5,56</td><td>6,35</td><td>7,94</td><td>9,52</td></tr></table>																Insert thickness	01	T1	02	03	T3	04	05	06	07	09	Thickness s	1,59	1,98	2,38	3,18	3,97	4,76	5,56	6,35	7,94	9,52																		
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	8. Cutter version	<table><tr><th>Cutter version</th><th>F</th><th>E</th><th>T</th><th>S</th><th>K</th><th>P</th></tr><tr><td></td><td>sharp</td><td>rounded</td><td>chamfered</td><td>chamfered and rounded</td><td>double-chamfered</td><td>double-chamfered and rounded</td></tr></table>																Cutter version	F	E	T	S	K	P		sharp	rounded	chamfered	chamfered and rounded	double-chamfered	double-chamfered and rounded																										
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	9. Cut direction	<table><tr><th>Cut direction</th><th>R</th><th>L</th><th>N</th></tr><tr><td></td><td>right</td><td>left</td><td>neutral</td></tr></table>																Cut direction	R	L	N		right	left	neutral																																
Cut direction	R	L	N																																																						
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-MP	10. Additional indications	These indications do not form part of the standard and are facultative. e. g. -AS3 for chip shaper geometry "medium stress"																																																							

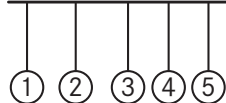
Example: turning **DCMT 11 T3 08-MP**



Cemented carbide key



* **HC 7620**



- ① H = Cemented carbide
- ② C = Coated / W = Uncoated
- ③ 7 = Generation of cemented carbide grade
- ④ ISO Group 6 = P; 5 = M; 4 = K ; 3 = N; 2 = S
- ⑤ As per ISO Group P10; P20; P30;

***Note:** ORION cemented carbide grades follow the same pattern, with the difference that an O is placed in front, e.g. OHC 7625



overview: cemented carbide qualities ATORN/ORION

appli- cation	coating	range of applications									
		01	05	10	15	20	25	30	35	40	45
ISO P	CVD	HC7610									
	CVD	HC7620									
	CVD	HC7630									
	CVD	OHC7615									
	CVD	OHC7625									
	CVD	OHC7635									
ISO M	PVD	HC7510									
	PVD	HC7520									
	PVD	HC7530									
	PVD	OHC7515									
	PVD	OHC7520									
	PVD	OHC7525									
	PVD	OHC7530									
	PVD	OHC7535									
ISO K	CVD	OHC6410									
	CVD	OHC6420									
ISO N	CVD	OHC7310									
	CVD	OHC6310									
	CVD	OHW6310									
	CVD	HC6310									
	CVD	HW6310									
ISO S	CVD	HC7210									
	CVD	HC7220									
		← wear resistance toughness →									



cutting data on packaging

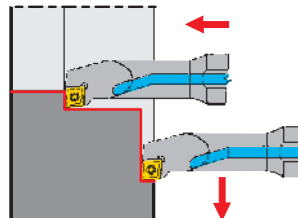
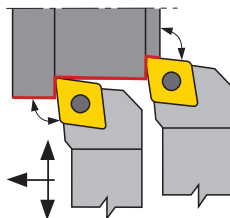
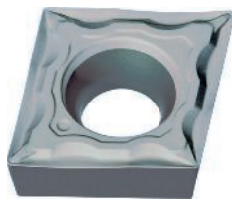


the HK ISO range of indexable inserts is always delivered with cut data on the packaging. this provides the user with a high degree of safety and good handling.



CC.. Indexable inserts - for longitudinal turning and facing

For longitudinal turning and facing

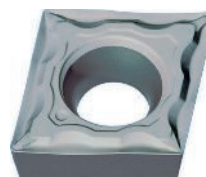


ATORN® CCMT smoothing positive

ISO P

Carbide type			HC7610	HC7620
Machining conditions for indexable insert			Good	Medium
Vc in steel ●			140-380 m/min	110-320 m/min
Vc in cast iron ●			140-240 m/min	140-260 m/min
ISO name	min./max. ap	f min./max.	17863... Ident. No.	17863... Ident. No.
CCMT 060202-FP	0.1-1.5 mm	0.05-0.16 mm/U	058 ●	059 ●
CCMT 060204-FP	0.1-1.5 mm	0.05-0.16 mm/U	060 ●	061 ●
CCMT 09T302-FP	0.1-1 mm	0.04-0.12 mm/U	062 ●	063 ●
CCMT 09T304-FP	0.1-1.5 mm	0.05-0.16 mm/U	064 ●	065 ●
CCMT 09T308-FP	0.1-2.5 mm	0.08-0.2 mm/U	066 ●	067 ●
CCMT 120404-FP	0.1-1.5 mm	0.05-0.16 mm/U	068 ●	069 ●
CCMT 120408-FP	0.1-2.5 mm	0.08-0.2 mm/U	070 ●	071 ●

Prod. Gr. 156



FP - finishing



p. 586

p. 605

p. 605

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ORION® CCMT smoothing positive

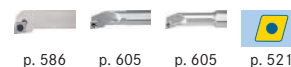
ISO P

Carbide type			OHC7625	OHC7615
Machining conditions for indexable insert			Medium	Good
Vc in steel ●			150-360 m/min	180-330 m/min
Vc in stainless steel ●			90-215 m/min	
Vc in cast iron ●				170-310 m/min
Vc in special alloys ●			40-105 m/min	
ISO name	min./max. ap	f min./max.	17863... Ident. No.	17863... Ident. No.
CCMT 060202-FU	0.2-2 mm	0.05-0.15 mm/U	451 ●	- -
CCMT 060204-FU	0.4-2 mm	0.05-0.23 mm/U	452 ●	388 ●
CCMT 09T304-FU	0.4-3 mm	0.1-0.3 mm/U	453 ●	389 ●
CCMT 09T308-FU	0.8-3 mm	0.15-0.35 mm/U	454 ●	390 ●
CCMT 120408-FU	0.8-4 mm	0.15-0.35 mm/U	455 ●	391 ●

Prod. Gr. 133



FU - finishing of steel



p. 586

p. 605

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ORION® CCMT smoothing positive

ISO P

Carbide type			OHC6620
Machining conditions for indexable insert			Medium
Vc in steel ●			170-450 m/min
Vc in cast iron ●			200-300 m/min
ISO name	min./max. ap	f min./max.	17863... Ident. No.
CCMT 060202-FP3	0.1-1.5 mm	0.2-0.1 mm/U	380 ●
CCMT 060204-FP3	0.1-1.5 mm	0.05-0.15 mm/U	382 ●
CCMT 09T304-FP3	0.4-3 mm	0.1-0.3 mm/U	386 ●

Prod. Gr. 133



FP - finishing



p. 586

p. 605

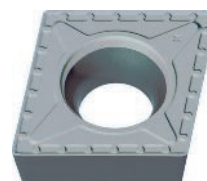
p. 605

p. 521

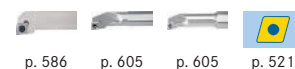
ATORN® CCMT Wiper positive ISO P

Carbide type			HC7620	HC7630
Machining conditions for indexable insert			Medium	Unfavourable
Vc in steel ●			110-320 m/min	80-220 m/min
Vc in cast iron ●			140-260 m/min	
ISO name	min./max. ap	f min./max.	17863... Ident. No.	17863... Ident. No.
CCMT 09T304-WP	0.5-4 mm	0.12-0.4 mm/U	092 ●	093 ●
CCMT 09T308-WP	0.7-4 mm	0.15-0.5 mm/U	094 ●	095 ●
CCMT 120404-WP	0.5-4 mm	0.12-0.4 mm/U	096 ●	107 ●
CCMT 120408-WP	0.7-4 mm	0.15-0.5 mm/U	097 ●	106 ●

Prod. Gr. 156



WP – wiper



ATORN® CCMT medium machining positive ISO P

Carbide type			HC7610	HC7620	HC7630
Machining conditions for indexable insert			Good	Medium	Unfavourable
Vc in steel ●			140-380 m/min	110-320 m/min	80-220 m/min
Vc in cast iron ●			140-240 m/min	140-260 m/min	
ISO name	min./max. ap	f min./max.	17863... Ident. No.	17863... Ident. No.	17863... Ident. No.
CCMT 060204-MP	0.4-3 mm	0.12-0.25 mm/U	074 ●	075 ●	076 ●
CCMT 09T304-MP	0.4-3 mm	0.12-0.25 mm/U	080 ●	081 ●	082 ●
CCMT 09T308-MP	0.6-4 mm	0.16-0.35 mm/U	083 ●	084 ●	085 ●
CCMT 120404-MP	0.4-3 mm	0.12-0.25 mm/U	086 ●	087 ●	088 ●
CCMT 120408-MP	0.6-5 mm	0.16-0.4 mm/U	089 ●	090 ●	091 ●

Prod. Gr. 156



MP – medium machining



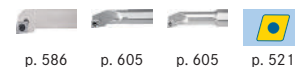
ORION® CCMT medium machining positive ISO P

Carbide type			OHC7615	OHC7625	OHC7635
Machining conditions for indexable insert			Good	Medium	Unfavourable
Vc in steel ●			180-330 m/min	150-360 m/min	155-235 m/min
Vc in stainless steel ●				90-215 m/min	90-140 m/min
Vc in cast iron ●			170-310 m/min		
Vc in special alloys ●				40-105 m/min	
ISO name	min./max. ap	f min./max.	17863... Ident. No.	17863... Ident. No.	17863... Ident. No.
CCMT 060204-MU	0.4-2.5 mm	0.1-0.2 mm/U	392 ●	456 ●	491 ●
CCMT 09T304-MU	1-4 mm	0.15-0.3 mm/U	-	457 ●	492 ●
CCMT 09T308-MU	1.5-4 mm	0.15-0.35 mm/U	-	458 ●	493 ●
CCMT 120408-MU	1.5-4.5 mm	0.15-0.35 mm/U	-	459 ●	494 ●

Prod. Gr. 133



MU – medium machining of steel



ORION® CCMT medium machining positive ISO P

Carbide type			OHC6620
Machining conditions for indexable insert			Medium
Vc in steel ●			170-450 m/min
Vc in cast iron ●			200-300 m/min
ISO name	min./max. ap	f min./max.	17863... Ident. No.
CCMT 060204-MP3	0.5-2.5 mm	0.1-0.25 mm/U	190 ●
CCMT 09T304-MP3	0.4-3 mm	0.1-0.25 mm/U	192 ●
CCMT 09T308-MP3	0.4-3 mm	0.1-0.32 mm/U	194 ●
CCMT 120408-MP3	0.6-3.5 mm	0.05-0.3 mm/U	196 ●

Prod. Gr. 133



MP – medium machining



ORION® CCMW medium machining positive

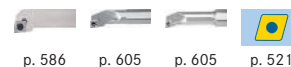
ISO P

Machining conditions for indexable insert			Carbide type	OHC6605
Vc in steel ●			Good	170-450 m/min
Vc in cast iron ●				160-400 m/min
Vc in hardened steel ●				30-90 m/min
ISO name	min./max. ap	f min./max.	17996... Ident. No.	
CCMW 60202	0.1-1.5 mm	0.05-0.2 mm/U	014	●
CCMW 060204	0.1-1.5 mm	0.05-0.2 mm/U	015	●
CCMW 09T304	0.1-1.5 mm	0.05-0.2 mm/U	020	●
CCMW 09T308	0.1-1.5 mm	0.05-0.2 mm/U	025	●
CCMW 120404	0.1-1.5 mm	0.05-0.2 mm/U	030	●
CCMW 120408	0.1-1.5 mm	0.05-0.2 mm/U	035	●

Prod. Gr. 133



OHC6605 medium machining for hard materials up to 55 HRC



ATORN® CCMT medium machining positive

ISO M

Machining conditions for indexable insert			Carbide type	HC7520	HC7530
Vc in stainless steel ●			Medium	Unfavourable	
Vc in special alloys ●				80-210 m/min	90-160 m/min
				30-60 m/min	20-50 m/min
ISO name	min./max. ap	f min./max.	17863... Ident. No.		17863... Ident. No.
CCMT 060204-MP	0.4-2.5 mm	0.12-0.25 mm/U	605	●	606
CCMT 09T304-MP	0.4-2.5 mm	0.12-0.25 mm/U	607	●	608
CCMT 09T308-MP	0.6-4 mm	0.16-0.35 mm/U	609	●	610
CCMT 120408-MP	0.6-5 mm	0.16-0.4 mm/U	611	●	612
CCMT 120412-MP	0.8-5 mm	0.18-0.5 mm/U	613	●	614

Prod. Gr. 156



MP medium machining



ORION® CCMT medium machining positive

ISO M

Machining conditions for indexable insert			Carbide type	OHC7515	OHC7530	OHC7535
Vc in steel ●			Good	Medium	Unfavourable	
Vc in stainless steel ●				145-350 m/min	145-230 m/min	115-265 m/min
Vc in special alloys ●				85-210 m/min	85-135 m/min	65-155 m/min
				35-105 m/min	25-65 m/min	25-75 m/min
ISO name	min./max. ap	f min./max.	17863... Ident. No.		17863... Ident. No.	17863... Ident. No.
CCMT 060204-MU	0.4-1.5 mm	0.08-0.2 mm/U	163	●	460	466
CCMT 09T304-MU	0.4-3 mm	0.1-0.35 mm/U	164	●	461	467
CCMT 09T308-MU	0.8-3 mm	0.15-0.35 mm/U	165	●	462	468
CCMT 120408-MU	0.8-4 mm	0.15-0.35 mm/U	166	●	463	469
CCMT 120412-MU	1.2-4 mm	0.15-0.45 mm/U	-	-	464	-

Prod. Gr. 133



MU – medium machining of stainless steel



ORION® CCMT medium machining positive

ISO M

Machining conditions for indexable insert			Carbide type	OHC7520
Vc in stainless steel ●			Medium	
Vc in special alloys ●				80-240 m/min
				30-60 m/min
ISO name	min./max. ap	f min./max.	17863... Ident. No.	
CCMT 060204-MM3	0.2-2.5 mm	0.06-0.2 mm/U	630	●
CCMT 09T304-MM3	0.22-3.2 mm	0.08-0.25 mm/U	632	●

Prod. Gr. 133



MM – medium machining



ORION® CCMT medium machining positive

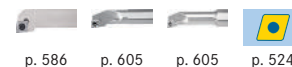
ISO K

			Carbide type	OHC6410
Machining conditions for indexable insert				Good
Vc in steel ●				170-320 m/min
Vc in cast iron ●				220-400 m/min
ISO name	min./max. ap	f min./max.	17863... Ident. No.	
CCMT 060204-MK3	0.2-2.4 mm	0.06-0.2 mm/U	502	●
CCMT 060208-MK3	0.2-2.4 mm	0.08-0.25 mm/U	506	●
CCMT 09T304-MK3	0.3-3 mm	0.06-0.2 mm/U	510	●
CCMT 09T308-MK3	0.5-3 mm	0.08-0.25 mm/U	514	●

Prod. Gr. 133



MK – medium machining



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ATORN® CCGT medium machining positive

ISO N

			Carbide type	HC4625
Machining conditions for indexable insert				Medium
Vc in steel ●				120-450 m/min
Vc in non-ferrous metals ●				150-300 m/min
Vc in stainless steel ●				30-50 m/min
Vc in cast iron ●				150-500 m/min
ISO name	min./max. ap	f min./max.	17863... Ident. No.	
CCGT 030102 R-F	0.2-1.5 mm	0.05-0.1 mm/U	782	●
CCGT 030102 L-F	0.2-1.5 mm	0.05-0.1 mm/U	784	●

Prod. Gr. 156



MN – medium machining



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ATORN® CCGT medium machining positive

ISO N

			Carbide type	HW6310
Machining conditions for indexable insert				Good
Vc in non-ferrous metals ●				110-600 m/min
ISO name	min./max. ap	f min./max.	17863... Ident. No.	
CCGT 060202-MN	0.2-1.5 mm	0.04-0.12 mm/U	709	●
CCGT 060204-MN	0.3-1.8 mm	0.05-0.16 mm/U	719	●
CCGT 09T302-MN	0.2-2 mm	0.04-0.12 mm/U	729	●
CCGT 09T304-MN	0.3-2.5 mm	0.05-0.16 mm/U	739	●
CCGT 09T308-MN	0.5-3 mm	0.08-0.2 mm/U	749	●
CCGT 120402-MN	0.2-3.5 mm	0.04-0.12 mm/U	759	●
CCGT 120404-MN	0.3-4 mm	0.05-0.16 mm/U	769	●
CCGT 120408-MN	0.5-5 mm	0.08-0.2 mm/U	779	●

Prod. Gr. 156



MN medium machining



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ATORN® CCGT medium machining positive

ISO N

			Carbide type	HC6310
Machining conditions for indexable insert				Good
Vc in non-ferrous metals ●				160-1000 m/min
Vc in stainless steel ●				120-200 m/min
ISO name	min./max. ap	f min./max.	17863... Ident. No.	
CCGT 060202-MN	0.2-1.5 mm	0.04-0.12 mm/U	711	●
CCGT 060204-MN	0.3-1.8 mm	0.05-0.16 mm/U	721	●
CCGT 09T302-MN	0.2-2 mm	0.04-0.12 mm/U	731	●
CCGT 09T304-MN	0.3-2.5 mm	0.05-0.16 mm/U	741	●
CCGT 09T308-MN	0.5-3 mm	0.08-0.2 mm/U	751	●
CCGT 120402-MN	0.2-3.5 mm	0.04-0.12 mm/U	761	●
CCGT 120404-MN	0.3-4 mm	0.05-0.16 mm/U	771	●
CCGT 120408-MN	0.5-5 mm	0.08-0.2 mm/U	781	●

Prod. Gr. 156



MN – medium machining



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ORION® CCGT medium machining positive
ISO N

Vc in non-ferrous metals ●			110-600 m/min
ISO name	min./max. ap	f min./max.	17863... Ident. No.
CCGT 060202-MN4	0.2-3 mm	0.05-0.15 mm/U	626 ●
CCGT 060204-MN4	0.5-3 mm	0.1-0.3 mm/U	634 ●
CCGT 09T304-MN4	0.5-5 mm	0.1-0.3 mm/U	642 ●

Prod. Gr. 133



MN medium machining


ORION® CCGT medium machining positive
ISO N

		Carbide type	OHC6310
		Machining conditions for indexable insert	Good
		Vc in non-ferrous metals ●	110-600 m/min
		Vc in stainless steel ●	75-110 m/min
ISO name	min./max. ap	f min./max.	17863... Ident. No.
CCGT 060202-MN4	0.2-3 mm	0.05-0.15 mm/U	628 ●
CCGT 060204-MN4	0.5-3 mm	0.1-0.3 mm/U	636 ●
CCGT 09T304-MN4	0.5-5 mm	0.1-0.3 mm/U	644 ●

Prod. Gr. 133



MN medium machining



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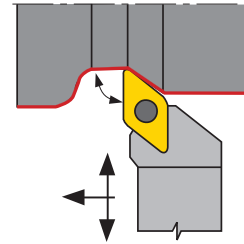
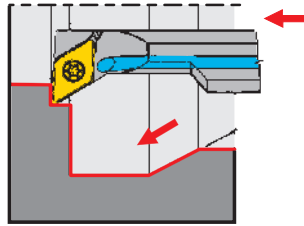
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DC.. Indexable inserts - for longitudinal and copy turning

For longitudinal and copy turning



ATORN® DCMT smoothing positive

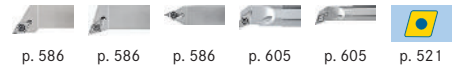
ISO P

			Carbide type		HC7610	HC7620
			Machining conditions for indexable insert		Good	Medium
			Vc in steel ●		160-380 m/min	110-320 m/min
			Vc in cast iron ●		140-280 m/min	140-260 m/min
ISO name	min./max. ap	f min./max.	17864... Ident. No.		17864... Ident. No.	
DCMT 070202-FP	0.1-1 mm	0.04-0.12 mm/U	047	●	048	●
DCMT 070204-FP	0.1-1.5 mm	0.05-0.16 mm/U	049	●	050	●
DCMT 11T302-FP	0.1-1 mm	0.04-0.12 mm/U	051	●	052	●
DCMT 11T304-FP	0.1-1.5 mm	0.05-0.16 mm/U	053	●	054	●
DCMT 11T308-FP	0.1-2.5 mm	0.08-0.2 mm/U	-	-	056	●

Prod. Gr. 156



FP finishing



ORION® DCMT smoothing positive

ISO P

			Carbide type		OHC6620	OHC6610
			Machining conditions for indexable insert		Medium	Good
			Vc in steel ●		170-450 m/min	200-380 m/min
			Vc in cast iron ●		140-260 m/min	200-300 m/min
ISO name	min./max. ap	f min./max.	17864... Ident. No.		17864... Ident. No.	
DCMT 11T302-FP3	0.08-2 mm	0.04-0.18 mm/U	192	●	-	-
DCMT 11T304-FP3	0.08-2.5 mm	0.05-0.3 mm/U	-	-	205	●
DCMT 070204-FP3	0.08-1.5 mm	0.05-0.15 mm/U	190	●	-	-

Prod. Gr. 133



FP finishing

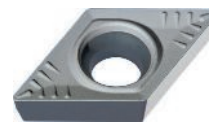


ATORN® DCMT medium machining positive

ISO P

			Carbide type		HC7610	HC7620	HC7630
			Machining conditions for indexable insert		Good	Medium	Unfavourable
			Vc in steel ●		160-380 m/min	110-320 m/min	80-220 m/min
			Vc in cast iron ●		140-280 m/min	140-260 m/min	
ISO name	min./max. ap	f min./max.	17864... Ident. No.		17864... Ident. No.	17864... Ident. No.	
DCMT 070204-MP	0.4-2 mm	0.12-0.2 mm/U	061	●	062	●	063
DCMT 070208-MP	0.6-2 mm	0.16-0.25 mm/U	064	●	068	●	066
DCMT 11T304-MP	0.4-3 mm	0.12-0.25 mm/U	-	-	072	●	073
DCMT 11T308-MP	0.6-4 mm	0.16-0.3 mm/U	-	-	079	●	080

Prod. Gr. 156



MP medium machining



ORION® DCMT medium machining positive

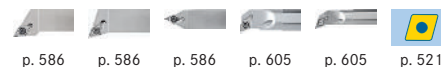
ISO P

Carbide type			OHC7615	OHC7625
Machining conditions for indexable insert			Good	Medium
Vc in steel ●			160-270 m/min	170-315 m/min
Vc in stainless steel ●			150-255 m/min	100-185 m/min
Vc in cast iron ●			150-255 m/min	160-295 m/min
Vc in special alloys ●				30-90 m/min
ISO name	min./max. ap	f min./max.	17864... Ident. No.	17864... Ident. No.
DCMT 11T304-MU	0.4-3 mm	0.08-0.24 mm/U	269 ●	273 ●
DCMT 11T308-MU	0.8-3 mm	0.1-0.3 mm/U	270 ●	274 ●

Prod. Gr. 133



MU medium machining of steel



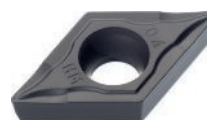
p. 586 p. 586 p. 586 p. 605 p. 605 p. 521

ORION® DCMT medium machining positive

ISO P

Carbide type			OHC6620
Machining conditions for indexable insert			Medium
Vc in steel ●			170-450 m/min
Vc in cast iron ●			140-260 m/min
ISO name	min./max. ap	f min./max.	17864... Ident. No.
DCMT 070204-MP3	0.5-2.5 mm	0.1-0.20 mm/U	176 ●
DCMT 11T304-MP3	0.22-3 mm	0.05-0.3 mm/U	184 ●
DCMT 11T308-MP3	0.22-3 mm	0.08-0.08 mm/U	186 ●

Prod. Gr. 133



MP medium machining



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ORION® DCMT medium machining positive

ISO P

Carbide type			OHC6605
Machining conditions for indexable insert			Good
Vc in steel ●			280-450 m/min
Vc in cast iron ●			300-400 m/min
Vc in hardened steel ●			50-90 m/min
ISO name	min./max. ap	f min./max.	17996... Ident. No.
DCMW 070202	0.1-1.5 mm	0.05-0.2 mm/U	050 ●
DCMW 070204	0.1-1.5 mm	0.05-0.2 mm/U	055 ●
DCMW 11T304	0.1-1.5 mm	0.05-0.2 mm/U	060 ●
DCMW 11T308	0.1-1.5 mm	0.05-0.2 mm/U	065 ●

Prod. Gr. 133



OHC6605 medium machining for hard materials up to 55 HRC



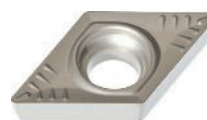
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ATORN® DCMT medium machining positive

ISO M

Carbide type			HC7520	HC7530
Machining conditions for indexable insert			Medium	Unfavourable
Vc in stainless steel ●			80-210 m/min	90-160 m/min
Vc in special alloys ●			30-60 m/min	20-50 m/min
ISO name	min./max. ap	f min./max.	17864... Ident. No.	17864... Ident. No.
DCMT 070204-MP	0.4-2 mm	0.12-0.2 mm/U	606 ●	607 ●
DCMT 070208-MP	0.6-2 mm	0.16-0.25 mm/U	608 ●	-
DCMT 11T304-MP	0.4-2 mm	0.16-0.25 mm/U	609 ●	610 ●
DCMT 11T308-MP	0.6-4 mm	0.16-0.3 mm/U	611 ●	612 ●

Prod. Gr. 156



MP medium machining



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ORION® DCMT medium machining positive

ISO M

Carbide type			OHC7515	OHC7530	OHC7535
Machining conditions for indexable insert			Good	Medium	Unfavourable
Vc in steel ●			120-310 m/min	110-195 m/min	100-230 m/min
Vc in stainless steel ●			70-185 m/min	65-115 m/min	60-135 m/min
Vc in special alloys ●			25-90 m/min	100-185 m/min	20-65 m/min
ISO name	min./max. ap	f min./max.	17864... Ident. No.	17864... Ident. No.	17864... Ident. No.
DCMT 11T304-MU	0.4-3 mm	0.1-0.24 mm/U	245 ●	275 ●	279 ●
DCMT 11T308-MU	0.8-3 mm	0.1-0.3 mm/U	246 ●	276 ●	288 ●

Prod. Gr. 133



MU medium machining of stainless steel



ORION® DCMT medium machining positive

ISO M

Carbide type			OHC7520
Machining conditions for indexable insert			Medium
Vc in stainless steel ●			80-240 m/min
Vc in special alloys ●			30-60 m/min
ISO name	min./max. ap	f min./max.	17864... Ident. No.
DCMT 11T304-MM3	0.25-3 mm	0.08-0.22 mm/U	234 ●
DCMT 11T308-MM3	0.5-3.2 mm	0.1-0.35 mm/U	236 ●

Prod. Gr. 133



MM medium machining



ORION® DCMT medium machining positive

ISO K

Carbide type			OHC6410
Machining conditions for indexable insert			Good
Vc in steel ●			170-400 m/min
Vc in cast iron ●			170-320 m/min
ISO name	min./max. ap	f min./max.	17864... Ident. No.
DCMT 11T304-MK3	0.3-3 mm	0.06-0.2 mm/U	502 ●
DCMT 11T308-MK3	0.5-3 mm	0.08-0.3 mm/U	506 ●

Prod. Gr. 133



MK medium machining



ATORN® DCGT medium machining positive

ISO N

Carbide type			HW6310
Machining conditions for indexable insert			Good
Vc in non-ferrous metals ●			130-1300 m/min
ISO name	min./max. ap	f min./max.	17864... Ident. No.
DCGT 070202-MN	0.2-1.5 mm	0.04-0.12 mm/U	709 ●
DCGT 070204-MN	0.3-1.8 mm	0.05-0.16 mm/U	719 ●
DCGT 11T302-MN	0.2-2 mm	0.04-0.12 mm/U	729 ●
DCGT 11T304-MN	0.3-2.5 mm	0.05-0.16 mm/U	739 ●
DCGT 11T308-MN	0.5-3 mm	0.08-0.2 mm/U	749 ●

Prod. Gr. 156



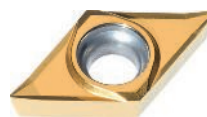
MN medium machining



ATORN® DCGT medium machining positive ISO N

			Carbide type	HC6310
Machining conditions for indexable insert				Good
Vc in non-ferrous metals ●				160-1000 m/min
Vc in stainless steel ●				120-200 m/min
ISO name	min./max. ap	f min./max.	17864... Ident. No.	
DCGT 070202-MN	0.2-1.5 mm	0.04-0.12 mm/U	711	●
DCGT 070204-MN	0.3-1.8 mm	0.05-0.16 mm/U	721	●
DCGT 11T302-MN	0.2-2 mm	0.04-0.12 mm/U	731	●
DCGT 11T304-MN	0.3-2.5 mm	0.05-0.16 mm/U	741	●
DCGT 11T308-MN	0.5-3 mm	0.08-0.2 mm/U	751	●

Prod. Gr. 156



MN medium machining



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ORION® DCGT medium machining positive ISO N

			Carbide type	OHW6310
Machining conditions for indexable insert				Good
Vc in non-ferrous metals ●				110-600 m/min
Vc in stainless steel ●				17864... Ident. No.
ISO name	min./max. ap	f min./max.	194	●
DCGT 11T302-MN4	0.3-5 mm	0.05-0.15 mm/U	194	●
DCGT 11T304-MN4	0.5-5 mm	0.1-0.3 mm/U	196	●

Prod. Gr. 133



MN medium machining



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ORION® DCGT medium machining positive ISO N

			Carbide type	OHC6310
Machining conditions for indexable insert				Good
Vc in non-ferrous metals ●				110-600 m/min
Vc in stainless steel ●				75-110 m/min
ISO name	min./max. ap	f min./max.	17864... Ident. No.	
DCGT 070202-MN4	0.3-4 mm	0.05-0.18 mm/U	191	●
DCGT 070204-MN4	0.5-4 mm	0.1-0.3 mm/U	193	●
DCGT 11T302-MN4	0.3-5 mm	0.05-0.15 mm/U	195	●
DCGT 11T304-MN4	0.5-5 mm	0.1-0.3 mm/U	197	●

Prod. Gr. 133



MN medium machining



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ATORN® DCMT medium machining positive ISO S

			Carbide type	HC7210	HC7220
Machining conditions for indexable insert				Medium	Medium
Vc in stainless steel ●				120-190 m/min	120-190 m/min
Vc in special alloys ●				30-60 m/min	30-60 m/min
ISO name	min./max. ap	f min./max.	17864... Ident. No.	17864... Ident. No.	
DCMT 070208-MS	0.6-2 mm	0.16-0.25 mm/U	859	●	860
DCMT 11T308-MS	0.6-4 mm	0.16-0.3 mm/U	861	●	862

Prod. Gr. 156



MS medium machining

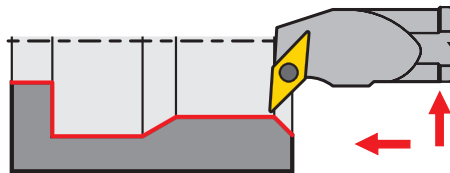
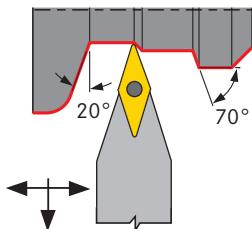


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VB.. Indexable inserts - for longitudinal and copy turning

For longitudinal and copy turning

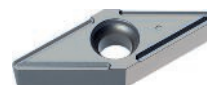


ATORN® VBMT smoothing positive

ISO P

Carbide type			HC7610	HC7620
Machining conditions for indexable insert			Good	Medium
Vc in steel ●			200-380 m/min	140-320 m/min
Vc in cast iron ●			180-280 m/min	160-260 m/min
ISO name	min./max. ap	f min./max.	17866... Ident. No.	17866... Ident. No.
VBMT 160404-SP	0.3-2 mm	0.08-0.25 mm/U	001	002
VBMT 160408-SP	0.6-2.5 mm	0.12-0.3 mm/U	004	005
VBMT 160412-SP	1-2.5 mm	0.15-0.3 mm/U	-	008

Prod. Gr. 156



SP finishing



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ORION® VBMT smoothing positive

ISO P

Carbide type			OHC7615	OHC7625
Machining conditions for indexable insert			Good	Medium
Vc in steel ●			150-260 m/min	175-265 m/min
Vc in stainless steel ●			105-155 m/min	105-155 m/min
Vc in cast iron ●			140-245 m/min	165-250 m/min
ISO name	min./max. ap	f min./max.	17863... Ident. No.	17863... Ident. No.
VBMT 160404-FU	0.4-2.0 mm	0.10-0.20 mm/U	792	794
VBMT 160408-FU	0.8-2.8 mm	0.15-0.2 mm/U	793	795

Prod. Gr. 133



FU finishing of steel



p. 587



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ATORN® VBMT smoothing positive

ISO M

Carbide type			HC7520
Machining conditions for indexable insert			Medium
Vc in stainless steel ●			80-210 m/min
Vc in special alloys ●			30-60 m/min
ISO name	min./max. ap	f min./max.	17866... Ident. No.
VBMT 160404-SM	0.3-2 mm	0.08-0.25 mm/U	609
VBMT 160408-SM	0.6-2.5 mm	0.12-0.25 mm/U	610

Prod. Gr. 156



SP finishing



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ORION® VBMT smoothing positive ISO M

Carbide type			OHC7515	OHC7530	OHC7535
Machining conditions for indexable insert			Good	Medium	Unfavourable
Vc in steel ●			140-225 m/min	110-160 m/min	95-185 m/min
Vc in stainless steel ●			80-135 m/min	65-95 m/min	55-110 m/min
Vc in special alloys ●			25-65 m/min	20-45 m/min	20-55 m/min
ISO name	min./max. ap	f min./max.	17863... Ident. No.	17863... Ident. No.	17863... Ident. No.
VBMT 160404-FU	0.4-2 mm	0.1-0.2 mm/U	798 ●	801 ●	806 ●
VBMT 160408-FU	0.8-2.5 mm	0.15-0.35 mm/U	799 ●	803 ●	807 ●

Prod. Gr. 133



FU finishing of stainless steel



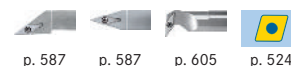
ATORN® VBMT smoothing positive ISO S

Carbide type			HC7220	HC7210
Machining conditions for indexable insert			Medium	Medium
Vc in stainless steel ●			120-230 m/min	120-230 m/min
Vc in special alloys ●			30-60 m/min	30-60 m/min
ISO name	min./max. ap	f min./max.	17866... Ident. No.	17866... Ident. No.
VBMT 110308-SS	0.5-1.6 mm	0.12-0.3 mm/U	650 ●	649 ●
VBMT 160408-SS	0.6-2.5 mm	0.12-0.3 mm/U	651 ●	-

Prod. Gr. 156



SM finishing



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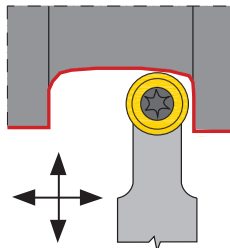
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RC.. Indexable inserts - for longitudinal and copy turning

For longitudinal and copy turning



ATORN® RCMT medium machining positive

ISO P

			Carbide type	HC6620
			Machining conditions for indexable insert	Medium
			Vc in steel ●	190-340 m/min
			Vc in cast iron ●	180-310 m/min
ISO name	min./max. ap	f min./max.	17865... Ident. No.	
RCMT 0602-MP	1-1.5 mm	0.15-0.4 mm/U	014	●
RCMT 0803-MP	1-2 mm	0.15-0.4 mm/U	019	●
RCMT 10T3-MP	1-2.5 mm	0.15-0.4 mm/U	024	●
RCMT 1204-MP	1-3 mm	0.15-0.4 mm/U	034	●

Prod. Gr. 156



MP – medium machining



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ATORN® RCMT medium machining positive

ISO M

			Carbide type	HC6530
			Machining conditions for indexable insert	Medium
			Vc in stainless steel ●	110-200 m/min
			Vc in special alloys ●	30-60 m/min
ISO name	min./max. ap	f min./max.	17865... Ident. No.	
RCMT 0602-MM	1-1.2 mm	0.15-0.5 mm/U	018	●
RCMT 0803-MM	1-1.8 mm	0.15-0.5 mm/U	021	●
RCMT 10T3-MM	1-2.2 mm	0.15-0.5 mm/U	028	●
RCMT 1204-MM	1-2.5 mm	0.15-0.5 mm/U	038	●

Prod. Gr. 156



MM – medium machining



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ORION® RCMT medium machining positive

ISO N

			Carbide type	OHW6310
			Machining conditions for indexable insert	Medium
			Vc in non-ferrous metals ●	95-680 m/min
ISO name	min./max. ap	f min./max.	17865... Ident. No.	
RCGT 803 MN	0.8-3.0 mm	0.2-1.5 mm/U	750	●
RCGT 1003 MN	1.0-4.0 mm	0.2-2.0 mm/U	752	●

Prod. Gr. 133



MN – medium machining



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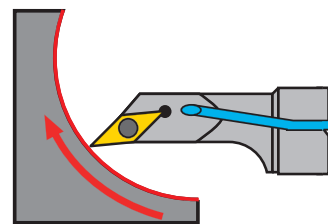
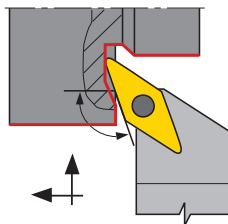


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VC.. Indexable inserts - for longitudinal and copy turning

For longitudinal and copy turning



ATORN® VCMT smoothing positive

ISO P

Machining conditions for indexable insert			Carbide type	HC7610	HC7620
			Good	Medium	
Vc in steel ●			160-380 m/min	110-320 m/min	
Vc in cast iron ●			140-280 m/min	140-260 m/min	
ISO name	min./max. ap	f min./max.	17866... Ident. No.	17866... Ident. No.	
VCMT 110302-FP	0.1-1 mm	0.04-0.12 mm/U	025	027	●
VCMT 110304-FP	0.1-1.5 mm	0.05-0.16 mm/U	029	033	●
VCMT 160402-FP	0.1-1 mm	0.04-0.12 mm/U	035	037	●
VCMT 160404-FP	0.1-1.5 mm	0.05-0.16 mm/U	039	045	●

Prod. Gr. 156



FP finishing



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ORION® VCMT smoothing positive

ISO P

Machining conditions for indexable insert			Carbide type	OHC7625
			Medium	
Vc in steel ●			115-195 m/min	
Vc in stainless steel ●			65-115 m/min	
Vc in cast iron ●			65-115 m/min	
ISO name	min./max. ap	f min./max.	17866... Ident. No.	17866... Ident. No.
VCMT 110304-FU	0.5-2.8 mm	0.15-0.2 mm/U	761	●
VCMT 160404-FU	0.5-3 mm	0.15-0.2 mm/U	762	●

Prod. Gr. 133



FU finishing of steel



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ATORN® VCMT medium machining positive

ISO P

Machining conditions for indexable insert			Carbide type	HC7610	HC7620	HC7630
			Unfavourable	Good	Medium	
Vc in steel ●			160-380 m/min	110-320 m/min	80-220 m/min	
Vc in cast iron ●			140-280 m/min	140-260 m/min		
ISO name	min./max. ap	f min./max.	17866... Ident. No.	17866... Ident. No.	17866... Ident. No.	
VCMT 110304-MP	0.4-2.5 mm	0.12-0.2 mm/U	051	●	052	●
VCMT 110308-MP	0.6-3 mm	0.16-0.25 mm/U	057	●	060	●
VCMT 160404-MP	0.4-2.5 mm	0.12-0.25 mm/U	062	●	063	●
VCMT 160408-MP	0.6-3 mm	0.16-0.3 mm/U	065	●	066	●

Prod. Gr. 156



MP medium machining



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ORION® VCMT medium machining positive

ISO P

			Carbide type	OHC7625
Machining conditions for indexable insert			Medium	
Vc in steel ●				115-195 m/min
Vc in stainless steel ●				65-115 m/min
Vc in cast iron ●				65-115 m/min
ISO name	min./max. ap	f min./max.	17866... Ident. No.	
VCMT 160404-MU	0.5-4 mm	0.15-0.2 mm/U	763	●
VCMT 160408-MU	0.8-4 mm	0.15-0.4 mm/U	765	●

Prod. Gr. 133



MU medium machining of steel



ATORN® VCMT smoothing positive

ISO M

			Carbide type	HC7520
Machining conditions for indexable insert			Medium	
Vc in stainless steel ●				80-240 m/min
Vc in special alloys ●				30-60 m/min
ISO name	min./max. ap	f min./max.	17866... Ident. No.	
VCMT 160404-FM	0.1-1.5 mm	0.05-0.16 mm/U	601	●

Prod. Gr. 156



FM finishing



ORION® VCMT smoothing positive

ISO M

			Carbide type	OHC7530
Machining conditions for indexable insert			Medium	
Vc in steel ●				70-120 m/min
Vc in stainless steel ●				40-70 m/min
Vc in special alloys ●				30-50 m/min
ISO name	min./max. ap	f min./max.	17866... Ident. No.	
VCMT 110304-FU	0.8-2.8 mm	0.15-0.24 mm/U	780	●

Prod. Gr. 133



SM finishing



ATORN® VCMT medium machining positive

ISO M

			Carbide type	HC7520	HC7530
Machining conditions for indexable insert			Medium	Unfavourable	
Vc in stainless steel ●				80-240 m/min	90-160 m/min
Vc in special alloys ●				30-60 m/min	20-50 m/min
ISO name	min./max. ap	f min./max.	17866... Ident. No.		17866... Ident. No.
VCMT 110304-MP	0.4-2.5 mm	0.12-0.3 mm/U	602	●	603
VCMT 110308-MP	0.6-3 mm	0.16-0.3 mm/U	604	●	-
VCMT 160404-MP	0.4-2.5 mm	0.16-0.25 mm/U	605	●	606
VCMT 160408-MP	0.6-3.0 mm	0.12-0.3 mm/U	607	●	608

Prod. Gr. 156



MP medium machining



ORION® VCMT medium machining positive

ISO M

			Carbide type	OHC7530
			Machining conditions for indexable insert	Medium
			Vc in steel ●	70-120 m/min
			Vc in stainless steel ●	40-70 m/min
			Vc in special alloys ●	30-50 m/min
ISO name	min./max. ap	f min./max.	17866... Ident. No.	
VCMT 160404-MU	0.5-4 mm	0.15-0.2 mm/U	782	●

Prod. Gr. 133



MU medium machining
of stainless steel



ATORN® VCGT medium machining positive

ISO N

			Carbide type	HW6310
			Machining conditions for indexable insert	Good
			Vc in non-ferrous metals ●	130-1300 m/min
			f min./max.	17866... Ident. No.
ISO name	min./max. ap			
VCGT 110302-MN	0.2-1 mm	0.04-0.12 mm/U	709	●
VCGT 110304-MN	0.3-1.5 mm	0.05-0.16 mm/U	719	●
VCGT 160404-MN	0.3-2 mm	0.05-0.16 mm/U	739	●
VCGT 160408-MN	0.5-3 mm	0.08-0.2 mm/U	749	●

Prod. Gr. 156



MN medium machining



ATORN® VCGT medium machining positive

ISO N

			Carbide type	HC6310
			Machining conditions for indexable insert	Good
			Vc in non-ferrous metals ●	160-1000 m/min
			Vc in stainless steel ●	120-200 m/min
			f min./max.	17866... Ident. No.
ISO name	min./max. ap			
VCGT 110302-MN	0.2-1 mm	0.04-0.12 mm/U	711	●
VCGT 110304-MN	0.3-1.5 mm	0.05-0.16 mm/U	721	●
VCGT 160404-MN	0.3-2 mm	0.05-0.16 mm/U	741	●
VCGT 160408-MN	0.5-3 mm	0.08-0.2 mm/U	751	●

Prod. Gr. 156



MN medium machining



ORION® VCGT medium machining positive

ISO N

			Carbide type	OHC6310	OHW6310
			Machining conditions for indexable insert	Good	Good
			Vc in non-ferrous metals ●	110-600 m/min	110-600 m/min
			Vc in stainless steel ●	75-110 m/min	
			f min./max.	17866... Ident. No.	17866... Ident. No.
ISO name	min./max. ap				
VCGT 110302-MN4	0.3-3 mm	0.05-0.15 mm/U	251	●	-
VCGT 160404-MN4	0.5-3 mm	0.1-0.3 mm/U	-	-	254

Prod. Gr. 133



MN medium machining



ORION® VCGT medium machining positive

ISO N



			Carbide type	OHC6310
			Machining conditions for indexable insert	Good
			Vc in non-ferrous metals	110-600 m/min
			Vc in stainless steel	75-110 m/min
			f min./max.	17866... Ident. No.
ISO name	min./max. ap			255
VCGT 160404-MN4	0.5-3 mm	0.1-0.3 mm/U		●

Prod. Gr. 133



ATORN® VCGT smoothing positive

ISO S



			Carbide type	HC7220
			Machining conditions for indexable insert	Medium
			Vc in stainless steel	120-190 m/min
			Vc in special alloys	30-60 m/min
			f min./max.	17866... Ident. No.
ISO name	min./max. ap			680
VCMT 160404-FS	0.1-1.5 mm	0.05-0.16 mm/U		●

Prod. Gr. 156

FS finishing



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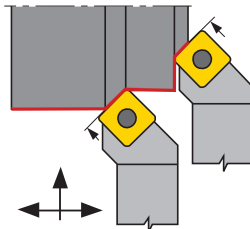
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SC.. Indexable inserts - for longitudinal turning and facing

For longitudinal turning and facing

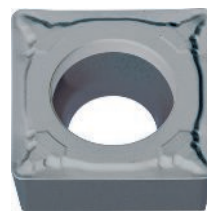


ATORN® SCMT smoothing positive

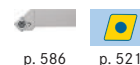
ISO P

			Carbide type	HC7620
			Machining conditions for indexable insert	Medium
			Vc in steel ●	110-320 m/min
			Vc in cast iron ●	140-240 m/min
ISO name	min./max. ap	f min./max.	17867... Ident. No.	
SCMT 09T304-FP	0.1-1.5 mm	0.05-0.15 mm/U	142	●
SCMT 09T308-FP	0.1-1.8 mm	0.05-0.18 mm/U	144	●

Prod. Gr. 156



FP finishing



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ATORN® SCMT medium machining positive

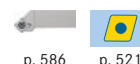
ISO P

			Carbide type	HC7620	HC7630
			Machining conditions for indexable insert	Medium	Unfavourable
			Vc in steel ●	110-320 m/min	80-220 m/min
			Vc in cast iron ●	140-240 m/min	
ISO name	min./max. ap	f min./max.	17867... Ident. No.	17867... Ident. No.	
SCMT 09T304-MP	0.4-3 mm	0.12-0.25 mm/U	147	●	148 ●
SCMT 09T308-MP	0.6-4 mm	0.16-0.35 mm/U	152	●	153 ●
SCMT 120404-MP	0.4-3 mm	0.12-0.25 mm/U	157	●	- -
SCMT 120408-MP	0.6-4 mm	0.16-0.4 mm/U	160	●	- -

Prod. Gr. 156



MP medium machining



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ORION® SCMT medium machining positive

ISO P

			Carbide type	OHC7615	OHC7625
			Machining conditions for indexable insert	Good	Medium
			Vc in steel ●	190-350 m/min	225-375 m/min
			Vc in stainless steel ●		120-225 m/min
			Vc in cast iron ●	180-330 m/min	190-355 m/min
ISO name	min./max. ap	f min./max.	17867... Ident. No.	17867... Ident. No.	
SCMT 09T304-MU	0.4-3 mm	0.1-0.3 mm/U	636	●	640 ●
SCMT 09T308-MU	0.8-3 mm	0.15-0.35 mm/U	637	●	644 ●
SCMT 120408-MU	0.8-4 mm	0.15-0.35 mm/U	638	●	646 ●

Prod. Gr. 133



MU medium machining of steel



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ATORN® SCMT medium machining positive ISO M

			Carbide type	HC7520
Machining conditions for indexable insert			Medium	
Vc in stainless steel ●			80-220 m/min	
Vc in special alloys ●			30-60 m/min	
ISO name	min./max. ap	f min./max.	17867... Ident. No.	
SCMT 09T304-MP	0.4-3 mm	0.12-0.25 mm/U	650	●
SCMT 09T308-MP	0.6-4 mm	0.16-0.35 mm/U	654	●
SCMT 120408-MP	0.6-5 mm	0.16-0.4 mm/U	657	●

Prod. Gr. 156



MP medium machining



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ORION® SCMT medium machining positive ISO M

Carbide type			OHC7515		OHC7530		OHC7535	
Machining conditions for indexable insert			Good		Medium		Unfavourable	
Vc in steel ●			165-295 m/min		135-230 m/min		120-235 m/min	
Vc in stainless steel ●			95-175 m/min		80-135 m/min		75-140 m/min	
Vc in special alloys ●			30-85 m/min		30-65 m/min		25-65 m/min	
ISO name	min./max. ap	f min./max.	17867... Ident. No.		17867... Ident. No.		17867... Ident. No.	
SCMT 09T304-MU	0.4-3 mm	0.1-0.3 mm/U	651	●	660	●	661	●
SCMT 09T308-MU	0.8-3 mm	0.15-0.35 mm/U	652	●	662	●	663	●
SCMT 120404-MU	0.4-4 mm	0.1-0.3 mm/U	653	●	664	●	-	-
SCMT 120408-MU	0.8-4 mm	0.15-0.35 mm/U	655	●	666	●	667	●

Prod. Gr. 133



MU medium machining of stainless steel



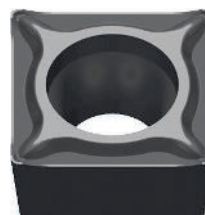
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ORION® SCMT medium machining positive ISO K

			Carbide type	OHC6410
Machining conditions for indexable insert			Good	
Vc in steel ●			170-320 m/min	
Vc in cast iron ●			220-400 m/min	
ISO name	min./max. ap	f min./max.	17867... Ident. No.	
SCMT 09T308-MK	0.3-3.5 mm	0.08-0.25 mm/U	506	●

Prod. Gr. 133



MK medium machining



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ORION® SCMT medium machining positive ISO K

			Carbide type	OHC6410
Machining conditions for indexable insert			Good	
Vc in steel ●			170-320 m/min	
Vc in cast iron ●			220-400 m/min	
ISO name	min./max. ap	f min./max.	17867... Ident. No.	
SCMT 120408-RK	0.5-4 mm	0.1-0.4 mm/U	510	●

Prod. Gr. 133



RK rough machining



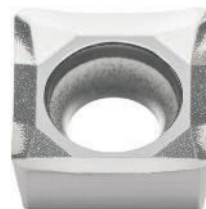
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ATORN® SCMT medium machining positive
 ISO N

			Carbide type	HC6310
			Machining conditions for indexable insert	Good
			Vc in non-ferrous metals ●	160-3000 m/min
			Vc in stainless steel ●	80-220 m/min
ISO name	min./max. ap	f min./max.		17867... Ident. No.
SCGT 09T308-MN	0.7-4 mm	0.1-0.35 mm/U		700 ●

Prod. Gr. 156



MN medium machining



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ATORN® SCMT medium machining positive
 ISO N

			Carbide type	HW6310
			Machining conditions for indexable insert	Good
			Vc in non-ferrous metals ●	130-2400 m/min
ISO name	min./max. ap	f min./max.		17867... Ident. No.
SCGT 09T308-MN	0.7-4 mm	0.1-0.35 mm/U		701 ●

Prod. Gr. 156



MN medium machining



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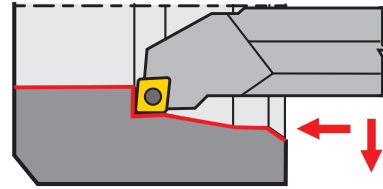
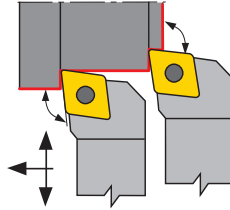
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CN.. Indexable inserts - for longitudinal turning and facing

For longitudinal turning and facing

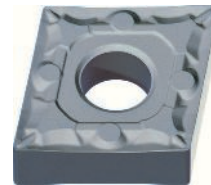


ATORN® CNMG smoothing negative

ISO P

Machining conditions for indexable insert			Carbide type	HC7610	HC7620
				Good	Medium
			Vc in steel ●	110-420 m/min	80-350 m/min
			Vc in cast iron ●	110-320 m/min	60-290 m/min
			f min./max.	17863... Ident. No.	17863... Ident. No.
ISO name	min./max. ap			098 ●	099 ●
CNMG 120404-FP	0.1-1.5 mm	0.04-0.2 mm/U		100 ●	101 ●
CNMG 120408-FP	0.2-2 mm	0.08-0.25 mm/U			

Prod. Gr. 156



FP finishing



ATORN® CNMG Wiper negative

ISO P

Machining conditions for indexable insert			Carbide type	HC7620
				Medium
			Vc in steel ●	80-350 m/min
			Vc in cast iron ●	60-290 m/min
			f min./max.	17863... Ident. No.
ISO name	min./max. ap			200 ●
CNMG 120408-WP	0.7-4 mm	0.15-0.5 mm/U		

Prod. Gr. 156



WP - wiper



ATORN® CNMG medium machining negative

ISO P

Machining conditions for indexable insert			Carbide type	HC7620	HC7630	HC7610
				Medium	Unfavourable	Good
			Vc in steel ●	80-350 m/min	60-220 m/min	110-420 m/min
			Vc in cast iron ●	60-290 m/min		110-320 m/min
			f min./max.	17863... Ident. No.	17863... Ident. No.	17863... Ident. No.
ISO name	min./max. ap			102 ●	103 ●	-
CNMG 120404-MP	0.5-4 mm	0.1-0.18 mm/U		105 ●	108 ●	104 ●
CNMG 120408-MP	0.6-5 mm	0.15-0.25 mm/U		161 ●	162 ●	160 ●
CNMG 120412-MP	0.8-4 mm	0.18-0.3 mm/U		170 ●	-	-
CNMG 160608-MP	1-7 mm	0.15-0.3 mm/U		171 ●	-	-
CNMG 160612-MP	1.2-7 mm	0.2-0.4 mm/U				

Prod. Gr. 156



MP medium machining



ORION® CNMG medium machining negative ISO P

			Carbide type	OHC7615	OHC7625
Machining conditions for indexable insert				Good	Medium
Vc in steel			●	200-370 m/min	170-380 m/min
Vc in stainless steel			●		100-230 m/min
Vc in cast iron			●	195-350 m/min	135-230 m/min
Vc in special alloys			●		30-115 m/min
Vc in hardened steel			●	40-65 m/min	
ISO name	min./max. ap	f min./max.		17863... Ident. No.	17863... Ident. No.
CNMG 120404-MU	0.5-3 mm	0.15-0.3 mm/U	197	●	470
CNMG 120408-MU	0.8-3 mm	0.15-0.45 mm/U	198	●	471
CNMG 120412-MU	1.2-4 mm	0.15-0.45 mm/U	199	●	472

Prod. Gr. 133



MU – medium machining of steel



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ORION® CNMG medium machining negative ISO P

			Carbide type	OHC6620
Machining conditions for indexable insert				Medium
Vc in steel			●	180-350 m/min
Vc in cast iron			●	120-220 m/min
ISO name	min./max. ap	f min./max.		17863... Ident. No.
CNMG 120404-MP3	0.4-5 mm	0.15-0.35 mm/U	430	●
CNMG 120408-MP3	0.5-5 mm	0.15-0.4 mm/U	432	●

Prod. Gr. 133



RP – rough machining



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ORION® CNMG medium machining negative ISO P

			Carbide type	OHC7625
Machining conditions for indexable insert				Medium
Vc in steel			●	245-370 m/min
Vc in stainless steel			●	145-220 m/min
Vc in cast iron			●	230-350 m/min
Vc in special alloys			●	45-110 m/min
ISO name	min./max. ap	f min./max.		17863... Ident. No.
CNMG 120404 MW-ER	0.8-5 mm	0.2-0.3 mm/U	077	●
CNMG 120408 MW-ER	0.8-5 mm	0.2-0.3 mm/U	078	●

Prod. Gr. 133



OHC7625 highly positive chip breaker, steel



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ORION® CNMG medium machining negative ISO P

			Carbide type	OHC7625
Machining conditions for indexable insert				Medium
Vc in steel			●	245-370 m/min
Vc in stainless steel			●	145-220 m/min
Vc in cast iron			●	230-350 m/min
Vc in special alloys			●	45-110 m/min
ISO name	min./max. ap	f min./max.		17863... Ident. No.
CNMG 120404 MW-EL	0.8-5 mm	0.2-0.3 mm/U	079	●
CNMG 120408 MW-EL	0.8-5 mm	0.2-0.3 mm/U	146	●

Prod. Gr. 133



OHC7625 highly positive chip breaker, steel



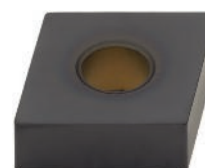
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ORION® CNMA medium machining negative

ISO P

Machining conditions for indexable insert			Carbide type	OHC6605
Vc in steel ●			Good	170-450 m/min
Vc in cast iron ●				160-400 m/min
Vc in hardened steel ●				30-90 m/min
ISO name	min./max. ap	f min./max.	17996... Ident. No.	
CNMA 120404	0.1-1.5 mm	0.05-0.2 mm/U	040	●
CNMA 120408	0.1-1.5 mm	0.05-0.2 mm/U	045	●
CNMA 120412	0.1-1.5 mm	0.05-0.2 mm/U	046	●
CNMA 120416	0.1-1.5 mm	0.05-0.2 mm/U	047	●
CNMA 160612	0.1-1.5 mm	0.05-0.2 mm/U	048	●
CNMA 190612	0.1-1.5 mm	0.05-0.2 mm/U	049	●

Prod. Gr. 133



OHC6605 medium machining for hard materials up to 55 HRC



ATORN® CNMG rough machining negative

ISO P

Machining conditions for indexable insert			Carbide type	HC7610	HC7620	HC7630
Vc in steel ●			Good	110-420 m/min	80-350 m/min	60-220 m/min
Vc in cast iron ●				110-320 m/min	60-290 m/min	
ISO name	min./max. ap	f min./max.	17863... Ident. No.		17863... Ident. No.	17863... Ident. No.
CNMG 120408-RP	1-5 mm	0.2-0.4 mm/U	174	●	175	●
CNMG 120412-RP	1.2-6 mm	0.25-0.55 mm/U	179	●	180	●

Prod. Gr. 156



RP rough machining



ORION® CNMG rough machining negative

ISO P

Machining conditions for indexable insert			Carbide type	OHC7615	OHC7625	OHC7635
Vc in steel ●			Good	200-370 m/min	170-380 m/min	150-280 m/min
Vc in stainless steel ●					100-230 m/min	90-165 m/min
Vc in cast iron ●				195-350 m/min	135-230 m/min	
Vc in special alloys ●					30-115 m/min	
Vc in hardened steel ●				40-65 m/min		
ISO name	min./max. ap	f min./max.	17863... Ident. No.		17863... Ident. No.	17863... Ident. No.
CNMG 120408-RU	1-7 mm	0.2-0.5 mm/U	201	●	473	●
CNMG 120412-RU	1.2-7 mm	0.25-0.7 mm/U	202	●	474	●
CNMG 160608-RU	1-8 mm	0.2-0.5 mm/U	203	●	475	●
CNMG 160612-RU	1.2-8 mm	0.3-0.7 mm/U	204	●	476	●

Prod. Gr. 133



RU – rough machining of steel



ORION® CNMG rough machining negative

ISO P

Machining conditions for indexable insert			Carbide type	OHC6620
Vc in steel ●			Medium	180-350 m/min
Vc in cast iron ●				120-220 m/min
ISO name	min./max. ap	f min./max.	17863... Ident. No.	
CNMG 120408-RP3	0.6-6.5 mm	0.2-0.6 mm/U	450	●

Prod. Gr. 133



RP – rough machining



ATORN® CNMM rough machining negative ISO P

Carbide type			HC7620	HC7630
Machining conditions for indexable insert			Medium	Unfavourable
Vc in steel ●			80-230 m/min	60-200 m/min
Vc in stainless steel ●			80-170 m/min	60-140 m/min
Vc in cast iron ●			10-210 m/min	10-210 m/min
Vc in special alloys ●			25-85 m/min	
ISO name	min./max. ap	f min./max.	17863... Ident. No.	17863... Ident. No.
CNMM 120408-RP	1-7 mm	0.2-0.5 mm/U	270 ●	271 ●
CNMM 120412-RP	1.5-7 mm	0.25-0.6 mm/U	273 ●	274 ●
CNMM 160612-RP	2-9 mm	0.45-0.7 mm/U	275 ●	-
CNMM 190616-RP	2-10 mm	0.45-0.9 mm/U	276 ●	-

Prod. Gr. 156



RP rough machining of single-sided panel



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ORION® CNMM rough machining negative ISO P

Carbide type			OHC7615	OHC7625	OHC7635
Machining conditions for indexable insert			Good	Medium	Unfavourable
Vc in steel ●			150-300 m/min	135-300 m/min	105-240 m/min
Vc in stainless steel ●			80-170 m/min	80-170 m/min	60-140 m/min
Vc in cast iron ●			140-285 m/min	125-270 m/min	
Vc in special alloys ●			25-85 m/min		
ISO name	min./max. ap	f min./max.	17870... Ident. No.	17870... Ident. No.	17870... Ident. No.
CNMM 120408 RP1	2-8 mm	0.25-0.6 mm/U	600 ●	601 ●	602 ●
CNMM 120412 RP1	2.5-8 mm	0.3-0.7 mm/U	603 ●	604 ●	605 ●
CNMM 120416 RP1	2.5-8 mm	0.35-0.8 mm/U	606 ●	607 ●	608 ●
CNMM 160608 RP1	3-8 mm	0.3-0.6 mm/U	609 ●	610 ●	611 ●
CNMM 160612 RP1	3-10 mm	0.35-0.9 mm/U	612 ●	613 ●	-
CNMM 160616 RP1	3-10 mm	0.36-1 mm/U	615 ●	616 ●	-
CNMM 190612 RP1	3-10 mm	0.35-0.9 mm/U	617 ●	618 ●	619 ●
CNMM 190616 RP1	3-10 mm	0.37-1.2 mm/U	620 ●	621 ●	622 ●
CNMM 190624 RP1	3-12 mm	0.38-1.25 mm/U	623 ●	624 ●	-
CNMM 250924 RP1	4-16 mm	0.45-1.7 mm/U	625 ●	626 ●	627 ●

Prod. Gr. 133



RP1 rough machining of single-sided panel, steel



p. 587 p. 588 p. 588 p. 606 p. 517

ORION® CNMM rough machining negative ISO M

Carbide type			OHC7625
Machining conditions for indexable insert			Medium
Vc in steel ●			135-300 m/min
Vc in stainless steel ●			80-170 m/min
Vc in cast iron ●			125-270 m/min
Vc in special alloys ●			25-85 m/min
ISO name	min./max. ap	f min./max.	17870... Ident. No.
CNMM 120408-RM1	0.8-7.5 mm	0.25-0.55 mm/U	630 ●
CNMM 120412-RM1	1.2-7.5 mm	0.28-0.70 mm/U	631 ●
CNMM 160608-RM1	1-9.5 mm	0.30-0.60 mm/U	632 ●
CNMM 160612-RM1	1.5-9.5 mm	0.35-0.65 mm/U	633 ●
CNMM 160616-RM1	2-9.5 mm	0.35-0.80 mm/U	634 ●
CNMM 190612-RM1	1.5-12 mm	0.35-0.9 mm/U	635 ●
CNMM 190616-RM1	2-12 mm	0.4-1.0 mm/U	636 ●
CNMM 190624-RM1	2.5-12 mm	0.4-1.2 mm/U	637 ●
CNMM 250924-RM1	3-16 mm	0.5-1.6 mm/U	638 ●

Prod. Gr. 133



RM1 rough machining of single-sided panel, stainless steel



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ATORN® CNMG smoothing negative ISO M

Carbide type			HC7510	HC7520
Machining conditions for indexable insert			Good	Medium
Vc in steel ●			140-320 m/min	
Vc in stainless steel ●			175-270 m/min	120-260 m/min
Vc in special alloys ●				30-60 m/min
ISO name	min./max. ap	f min./max.	17863... Ident. No.	17863... Ident. No.
CNMG 120404-FM	0.2-1 mm	0.05-0.12 mm/U	601 ●	603 ●
CNMG 120408-FM	0.4-1.5 mm	0.07-0.16 mm/U	602 ●	604 ●

Prod. Gr. 156



FM finishing



ATORN® CNMG Wiper negative ISO M

Carbide type			HC7520
Machining conditions for indexable insert			Medium
Vc in stainless steel ●			120-260 m/min
Vc in special alloys ●			30-60 m/min
ISO name	min./max. ap	f min./max.	17863... Ident. No.
CNMG 120408-WP	0.8-3 mm	0.2-0.55 mm/U	625 ●

Prod. Gr. 156



WP wiper



ATORN® CNMG medium machining negative ISO M

Carbide type			HC7520	HC7530
Machining conditions for indexable insert			Medium	Unfavourable
Vc in stainless steel ●			120-260 m/min	90-200 m/min
Vc in special alloys ●			30-60 m/min	20-50 m/min
ISO name	min./max. ap	f min./max.	17863... Ident. No.	17863... Ident. No.
CNMG 120404-MM	0.5-2 mm	0.1-0.18 mm/U	615 ●	616 ●
CNMG 120408-MM	0.8-3.5 mm	0.18-0.3 mm/U	617 ●	618 ●
CNMG 120412-MM	1.2-3.5 mm	0.18-0.3 mm/U	619 ●	620 ●

Prod. Gr. 156



MM medium machining



ORION® CNMG medium machining negative ISO M

Carbide type			OHC7515	OHC7530
Machining conditions for indexable insert			Good	Medium
Vc in steel ●			180-305 m/min	145-245 m/min
Vc in stainless steel ●			105-180 m/min	85-145 m/min
Vc in special alloys ●			20-60 m/min	25-70 m/min
ISO name	min./max. ap	f min./max.	17863... Ident. No.	17863... Ident. No.
CNMG 120404-MU	0.5-3 mm	0.1-0.3 mm/U	279 ●	477 ●
CNMG 120408-MU	0.8-3 mm	0.15-0.45 mm/U	280 ●	478 ●

Prod. Gr. 133



RU medium machining of stainless steel



ORION® CNMG medium machining negative

ISO M

			Carbide type	OHC7520
			Machining conditions for indexable insert	Medium
			Vc in stainless steel ●	160-220 m/min
			Vc in special alloys ●	30-90 m/min
ISO name	min./max. ap	f min./max.		17863... Ident. No.
CNMG 120408-MM3	0.5-5 mm	0.12-0.45 mm/U		573 ●
CNMG 160608-MM3	0.5-7 mm	0.12-0.4 mm/U		579 ●
CNMG 160612-MM3	1-7 mm	0.15-0.6 mm/U		581 ●

Prod. Gr. 133



MM – medium machining



ORION® CNMG medium machining negative

ISO M

			Carbide type	OHC7525
			Machining conditions for indexable insert	Medium
			Vc in steel ●	165-255 m/min
			Vc in non-ferrous metals ●	245-890 m/min
			Vc in stainless steel ●	95-150 m/min
			Vc in cast iron ●	155-240 m/min
			Vc in special alloys ●	30-75 m/min
ISO name	min./max. ap	f min./max.		17863... Ident. No.
CNMG 120404 MW-ER	0.8-5 mm	0.2-0.3 mm/U		148 ●
CNMG 120408 MW-ER	0.8-5 mm	0.2-0.3 mm/U		182 ●

Prod. Gr. 133



OHC7525 highly positive chip breaker, stainless steel



ORION® CNMG medium machining negative

ISO M

			Carbide type	OHC7525
			Machining conditions for indexable insert	Medium
			Vc in steel ●	165-255 m/min
			Vc in non-ferrous metals ●	245-890 m/min
			Vc in stainless steel ●	95-150 m/min
			Vc in cast iron ●	155-240 m/min
			Vc in special alloys ●	30-75 m/min
ISO name	min./max. ap	f min./max.		17863... Ident. No.
CNMG 120404 MW-EL	0.8-5 mm	0.2-0.3 mm/U		181 ●
CNMG 120408 MW-EL	0.8-5 mm	0.2-0.3 mm/U		184 ●

Prod. Gr. 133



OHC7525 highly positive chip breaker, stainless steel



ATORN® CNMG rough machining negative

ISO M

			Carbide type	HC7520	HC7530
			Machining conditions for indexable insert	Medium	Unfavourable
			Vc in stainless steel ●	120-260 m/min	90-200 m/min
			Vc in special alloys ●	30-60 m/min	20-50 m/min
ISO name	min./max. ap	f min./max.		17863... Ident. No.	17863... Ident. No.
CNMG 120408-RM	1.2-4 mm	0.22-0.4 mm/U		621 ●	622 ●
CNMG 120412-RM	1.5-4.5 mm	0.25-0.5 mm/U		623 ●	624 ●
CNMG 160608-RM	1.2-7 mm	0.22-0.45 mm/U		627 ●	-
CNMG 160612-RM	1.5-7 mm	0.25-0.6 mm/U		629 ●	-

Prod. Gr. 156



RM rough machining



ORION® CNMG rough machining negative

ISO M

Carbide type			OHC7515	OHC7530	OHC7535
Machining conditions for indexable insert			Good	Medium	Unfavourable
Vc in steel ●			180-305 m/min	145-245 m/min	120-255 m/min
Vc in stainless steel ●			105-180 m/min	85-145 m/min	70-150 m/min
Vc in special alloys ●			20-60 m/min	25-70 m/min	25-75 m/min
ISO name	min./max. ap	f min./max.	17863... Ident. No.	17863... Ident. No.	17863... Ident. No.
CNMG 120408-RU	1-7 mm	0.2-0.5 mm/U	281 ●	-	512 ●
CNMG 120412-RU	1.5-7 mm	0.25-0.7 mm/U	282 ●	481 ●	513 ●
CNMG 160608-RU	1-8 mm	0.2-0.5 mm/U	-	482 ●	515 ●
CNMG 160612-RU	1.5-8 mm	0.3-0.7 mm/U	-	483 ●	519 ●

Prod. Gr. 133



RU – rough machining of stainless steel



ORION® CNMM rough machining negative

ISO M

Carbide type			OHC7525
Machining conditions for indexable insert			Medium
Vc in steel ●			90-260 m/min
Vc in stainless steel ●			50-155 m/min
ISO name	min./max. ap	f min./max.	17870... Ident. No.
CNMM 120408-RM1	0.8-7.5 mm	0.25-0.55 mm/U	640 ●
CNMM 120412-RM1	1.2-7.5 mm	0.28-0.70 mm/U	641 ●
CNMM 160608-RM1	1-9.5 mm	0.30-0.60 mm/U	642 ●
CNMM 160612-RM1	1.5-9.5 mm	0.35-0.65 mm/U	643 ●
CNMM 160616-RM1	2-9.5 mm	0.35-0.80 mm/U	644 ●
CNMM 190612-RM1	1.5-12 mm	0.35-0.9 mm/U	645 ●
CNMM 190616-RM1	2-12 mm	0.4-1.0 mm/U	646 ●
CNMM 190624-RM1	2.5-12 mm	0.4-1.2 mm/U	647 ●
CNMM 250924-RM1	3-16 mm	0.5-1.6 mm/U	648 ●

Prod. Gr. 133



RM1 rough machining of single-sided panel, stainless steel



ORION® CNMG medium machining negative

ISO K

Carbide type			OHC6410	OHC6420
Machining conditions for indexable insert			Good	Medium
Vc in steel ●			160-260 m/min	
Vc in cast iron ●			200-300 m/min	120-230 m/min
ISO name	min./max. ap	f min./max.	17863... Ident. No.	17863... Ident. No.
CNMG 120404-MK3	0.5-2.5 mm	0.1-0.3 mm/U	532 ●	-
CNMG 120408-MK3	0.5-5 mm	0.2-0.4 mm/U	536 ●	537 ●
CNMG 190612-MK3	0.8-8 mm	0.2-0.5 mm/U	559 ●	-

Prod. Gr. 133



MK – medium machining



ATORN® CNMG medium machining negative

ISO S

Carbide type			HC7220	HC7210
Machining conditions for indexable insert			Medium	Medium
Vc in stainless steel ●			120-210 m/min	120-210 m/min
Vc in special alloys ●			30-60 m/min	30-60 m/min
ISO name	min./max. ap	f min./max.	17863... Ident. No.	17863... Ident. No.
CNMG 120404-MS	0.5-4.0 mm	0.16-0.25 mm/U	680 ●	-
CNMG 120408-MS	0.5-4.0 mm	0.16-0.30 mm/U	684 ●	682 ●

Prod. Gr. 156



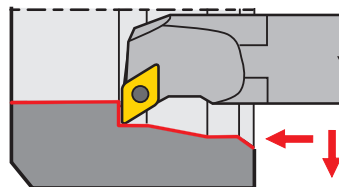
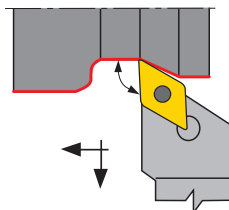
MS – medium machining





DN.. Indexable inserts - for longitudinal and copy turning

For longitudinal and copy turning



ATORN® DNMG smoothing negative

ISO P

Carbide type			HC7610	HC7620
Machining conditions for indexable insert			Good	Medium
Vc in steel ●			140-420 m/min	80-350 m/min
Vc in cast iron ●			140-320 m/min	50-290 m/min
ISO name	min./max. ap	f min./max.	17864... Ident. No.	17864... Ident. No.
DNMG 110408-FP	0.2-2 mm	0.08-0.25 mm/U	100	101
DNMG 110404-FP	0.1-1.5 mm	0.05-0.2 mm/U	-	099
DNMG 150604-FP	0.1-1.5 mm	0.05-0.2 mm/U	189	181
DNMG 150608-FP	0.2-2 mm	0.08-0.25 mm/U	-	182

Prod. Gr. 156



FP - finishing



ATORN® DNMG medium machining negative

ISO P

Carbide type			HC7620	HC7630	HC7610
Machining conditions for indexable insert			Medium	Unfavourable	Good
Vc in steel ●			80-350 m/min	60-220 m/min	140-420 m/min
Vc in cast iron ●			50-290 m/min	140-320 m/min	
ISO name	min./max. ap	f min./max.	17864... Ident. No.	17864... Ident. No.	17864... Ident. No.
DNMG 110404-MP	0.5-4 mm	0.15-0.25 mm/U	185	187	-
DNMG 110408-MP	0.6-4 mm	0.18-0.35 mm/U	251	199	188
DNMG 150604-MP	0.5-4 mm	0.16-0.25 mm/U	201	202	200
DNMG 150608-MP	0.6-5 mm	0.18-0.35 mm/U	204	207	203

Prod. Gr. 156



MP medium machining



ORION® DNMG medium machining negative

ISO P

Carbide type			OHC7615	OHC7625	OHC7635
Machining conditions for indexable insert			Good	Medium	Unfavourable
Vc in steel ●			170-295 m/min	180-275 m/min	130-225 m/min
Vc in stainless steel ●				105-180 m/min	75-135 m/min
Vc in cast iron ●			160-280 m/min	170-285 m/min	
Vc in special alloys ●				35-80 m/min	
Vc in hardened steel ●			30-55 m/min		
ISO name	min./max. ap	f min./max.	17864... Ident. No.	17864... Ident. No.	17864... Ident. No.
DNMG 110404-MU	0.4-3 mm	0.15-0.24 mm/U	253	280	311
DNMG 110408-MU	0.5-3 mm	0.15-0.24 mm/U	254	281	312
DNMG 150604-MU	0.5-3 mm	0.15-0.24 mm/U	255	282	313
DNMG 150608-MU	0.8-3 mm	0.15-0.45 mm/U	256	283	315

Prod. Gr. 133



MU medium machining of steel



ORION® DNMG medium machining negative ISO P

			Carbide type	OHC7625
Machining conditions for indexable insert			Medium	
Vc in steel ●				200-295 m/min
Vc in stainless steel ●				120-175 m/min
Vc in cast iron ●				190-280 m/min
Vc in special alloys ●				40-85 m/min
ISO name	min./max. ap	f min./max.	17864... Ident. No.	
DNMG 150604 MW-ER	0.8-4.5 mm	0.2-0.24 mm/U	406	●
DNMG 150608 MW-ER	0.8-4.5 mm	0.2-0.48 mm/U	400	●

Prod. Gr. 133

OHC7625 highly positive
chip breaker, steel

ORION® DNMG medium machining negative ISO P

			Carbide type	OHC7625
Machining conditions for indexable insert			Medium	
Vc in steel ●				200-295 m/min
Vc in stainless steel ●				120-175 m/min
Vc in cast iron ●				190-280 m/min
Vc in special alloys ●				40-85 m/min
ISO name	min./max. ap	f min./max.	17864... Ident. No.	
DNMG 150604 MW-EL	0.8-4.5 mm	0.2-0.24 mm/U	399	●
DNMG 150608 MW-EL	0.8-4.5 mm	0.2-0.48 mm/U	401	●

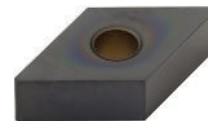
Prod. Gr. 133

OHC7625 highly positive
chip breaker, steel

ORION® DNMA medium machining negative ISO P

			Carbide type	OHC6605
Machining conditions for indexable insert			Good	
Vc in steel ●				280-450 m/min
Vc in cast iron ●				300-400 m/min
Vc in hardened steel ●				50-90 m/min
ISO name	min./max. ap	f min./max.	17996... Ident. No.	
DNMA 150604	0.1-1.5 mm	0.05-0.2 mm/U	070	●
DNMA 150608	0.1-1.5 mm	0.05-0.2 mm/U	075	●

Prod. Gr. 133

OHC6605 medium
machining for hard mate-
rials up to 55 HRC

ATORN® DNMG rough machining negative ISO P

			Carbide type	HC7620	HC7630
Machining conditions for indexable insert			Medium	Unfavourable	
Vc in steel ●				80-350 m/min	60-220 m/min
Vc in cast iron ●				50-290 m/min	
ISO name	min./max. ap	f min./max.	17864... Ident. No.	17864... Ident. No.	
DNMG 150608-RP	1-5 mm	0.15-0.35 mm/U	208	209	●
DNMG 150612-RP	1-6 mm	0.2-0.4 mm/U	212	214	●

Prod. Gr. 156



RP rough machining



ORION® DNMG rough machining negative ISO P

		Carbide type		OHC7615	OHC7625	OHC7635
		Machining conditions for indexable insert		Good	Medium	Unfavourable
		Vc in steel ●		170-295 m/min	180-275 m/min	130-225 m/min
		Vc in stainless steel ●		160-280 m/min	105-180 m/min	75-135 m/min
		Vc in cast iron ●		160-280 m/min	170-285 m/min	
		Vc in special alloys ●			35-80 m/min	
		Vc in hardened steel ●		30-55 m/min		
ISO name	min./max. ap	f min./max.	17864... Ident. No.	17864... Ident. No.	17864... Ident. No.	
DNMG 110408 RU	1-3.3 mm	0.2-0.48 mm/U	058 ●	059 ●	060 ●	
DNMG 110412 RU	1.5-3.3 mm	0.25-0.6 mm/U	070 ●	071 ●	076 ●	
DNMG 150608 RU	1-4.5 mm	0.2-0.48 mm/U	088 ●	089 ●	090 ●	
DNMG 150612 RU	1.5-4.5 mm	0.25-0.7 mm/U	091 ●	092 ●	093 ●	
DNMG 150616 RU	2-4.5 mm	0.3-0.75 mm/U	094 ●	095 ●	096 ●	

Prod. Gr. 133

ATORN® DNMG rough machining negative ISO P

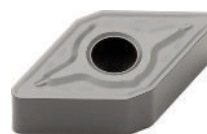
		Carbide type		HC7620
		Machining conditions for indexable insert		Medium
ISO name	min./max. ap	f min./max.	17864... Ident. No.	
DNMM 150612-RP	0.35-5 mm	0.35-0.50 mm/U	222 ●	

Prod. Gr. 156

ATORN® DNMG smoothing negative ISO M

		Carbide type		HC7510	HC7520
		Machining conditions for indexable insert		Good	Medium
		Vc in steel ●		140-320 m/min	
		Vc in stainless steel ●		175-270 m/min	110-260 m/min
		Vc in special alloys ●			30-60 m/min
ISO name	min./max. ap	f min./max.	17864... Ident. No.	17864... Ident. No.	
DNMG 110404-FM	0.2-1 mm	0.05-0.12 mm/U	601 ●	602 ●	
DNMG 110408-FM	0.4-1.5 mm	0.07-0.16 mm/U	603 ●	-	
DNMG 150604-FM	0.2-1 mm	0.05-0.12 mm/U	604 ●	605 ●	

Prod. Gr. 156



RU – rough machining of steel



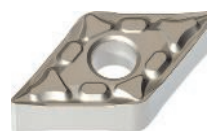
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RP rough machining of single-sided panel



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FM finishing

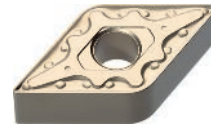


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ATORN® DNMG medium machining negative ISO M

Carbide type			HC7530	HC7520
Machining conditions for indexable insert			Unfavourable	Medium
Vc in stainless steel ●			90-200 m/min	110-260 m/min
Vc in special alloys ●			20-50 m/min	30-60 m/min
ISO name	min./max. ap	f min./max.	17864... Ident. No.	17864... Ident. No.
DNMG 110404-MM	0.5-2 mm	0.1-0.18 mm/U	613 ●	- ●
DNMG 110408-MM	0.8-3 mm	0.15-0.25 mm/U	615 ●	614 ●
DNMG 150604-MM	0.5-4 mm	0.16-0.25 mm/U	617 ●	616 ●
DNMG 150608-MM	0.6-5 mm	0.18-0.35 mm/U	619 ●	618 ●
DNMG 150612-MM	0.8-4 mm	0.18-0.3 mm/U	621 ●	620 ●

Prod. Gr. 156



MM medium machining



ORION® DNMG medium machining negative ISO M

Carbide type			OHC7515	OHC7530	OHC7535
Machining conditions for indexable insert			Good	Medium	Unfavourable
Vc in steel ●			145-300 m/min	125-215 m/min	115-215 m/min
Vc in stainless steel ●			85-180 m/min	75-125 m/min	65-125 m/min
Vc in special alloys ●			25-90 m/min	25-60 m/min	
ISO name	min./max. ap	f min./max.	17864... Ident. No.	17864... Ident. No.	17864... Ident. No.
DNMG 110404-MU	0.4-3 mm	0.1-0.24 mm/U	257 ●	284 ●	316 ●
DNMG 110408-MU	0.8-3 mm	0.1-0.35 mm/U	258 ●	285 ●	317 ●
DNMG 150604-MU	0.5-3 mm	0.1-0.24 mm/U	259 ●	286 ●	318 ●
DNMG 150608-MU	0.8-3 mm	0.15-0.45 mm/U	260 ●	287 ●	319 ●

Prod. Gr. 133



MU medium machining of stainless steel



ORION® DNMG medium machining negative ISO M

Carbide type			OHC7525
Machining conditions for indexable insert			Unfavourable
Vc in steel ●			155-260 m/min
Vc in stainless steel ●			90-155 m/min
ISO name	min./max. ap	f min./max.	17864... Ident. No.
DNMG 150604 MW-ER	0.8-4.5 mm	0.2-0.24 mm/U	402 ●
DNMG 150608 MW-ER	0.8-4.5 mm	0.2-0.48 mm/U	404 ●

Prod. Gr. 133



OHC7525 highly positive chip breaker, stainless steel



ORION® DNMG medium machining negative ISO M

Carbide type			OHC7525
Machining conditions for indexable insert			Unfavourable
Vc in steel ●			155-260 m/min
Vc in stainless steel ●			90-155 m/min
ISO name	min./max. ap	f min./max.	17864... Ident. No.
DNMG 150604 MW-EL	0.8-4.5 mm	0.2-0.24 mm/U	403 ●
DNMG 150608 MW-EL	0.8-4.5 mm	0.2-0.48 mm/U	405 ●

Prod. Gr. 133



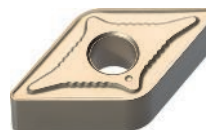
OHC7525 highly positive chip breaker, stainless steel



ATORN® DNMG rough machining negative ISO M

Machining conditions for indexable insert			Carbide type	HC7520	HC7530
				Medium	Unfavourable
Vc in stainless steel ●				110-260 m/min	90-200 m/min
Vc in special alloys ●				30-60 m/min	20-50 m/min
ISO name	min./max. ap	f min./max.		17864... Ident. No.	17864... Ident. No.
DNMG 150608-RM	0.2-4 mm	0.22-0.4 mm/U	622	●	●
DNMG 150612-RM	1.5-4.5 mm	0.25-0.4 mm/U	624	●	-

Prod. Gr. 156



RM rough machining



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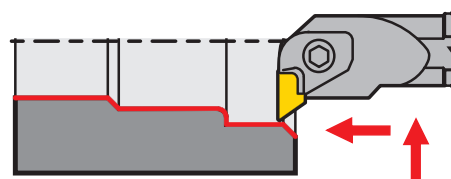
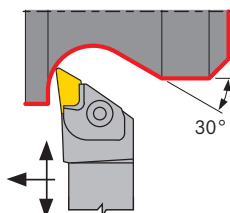
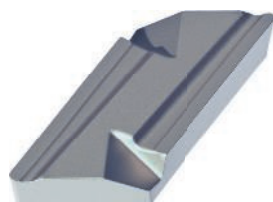
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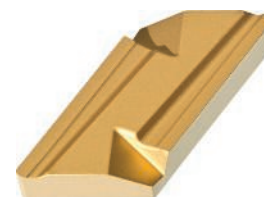
KN.. Indexable inserts - for facing, longitudinal and copy turning For facing, longitudinal and copy turning



ORION® KNUX indexable insert, negative ISO P

Machining conditions for indexable insert			Carbide type	OHC6620
				Medium
Vc in steel ●				70-350 m/min
Vc in stainless steel ●				70-200 m/min
Vc in cast iron ●				70-240 m/min
ISO name	min./max. ap	f min./max.		17869... Ident. No.
KNUX 160405 L11	1-6 mm	0.15-0.35 mm/U	700	●
KNUX 160405 R11	1-6 mm	0.15-0.35 mm/U	701	●
KNUX 160405 L12	1-6 mm	0.15-0.35 mm/U	702	●
KNUX 160405 R12	1-6 mm	0.15-0.35 mm/U	703	●
KNUX 160410 L11	1-6 mm	0.15-0.35 mm/U	704	●
KNUX 160410 R11	1.5-6 mm	0.15-0.35 mm/U	705	●
KNUX 160410 L12	1.5-6 mm	0.15-0.35 mm/U	706	●
KNUX 160410 R12	1.5-6 mm	0.15-0.35 mm/U	707	●

Prod. Gr. 133


11 – finishing chip breaker
12 – medium chip breaker

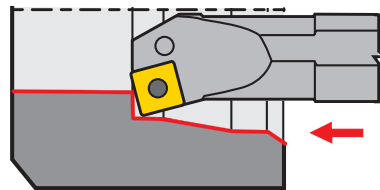
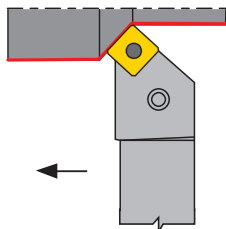

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SN.. Indexable inserts - for longitudinal turning and facing

For longitudinal turning and facing



ATORN® SNMG medium machining negative

ISO P

Carbide type			HC7610		HC7620		HC7630	
Machining conditions for indexable insert			Good		Medium		Unfavourable	
Vc in steel ●			140-340 m/min		80-280 m/min		60-220 m/min	
Vc in cast iron ●			180-290 m/min		120-260 m/min			
ISO name	min./max. ap	f min./max.	17867... Ident. No.		17867... Ident. No.		17867... Ident. No.	
SNMG 120408-MP	0.6-5 mm	0.18-0.4 mm/U	010	●	011	●	012	●
SNMG 120412-MP	1-5 mm	0.2-0.4 mm/U	-	-	017	●	018	●

Prod. Gr. 156



MP medium machining



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ORION® SNMG medium machining negative

ISO P

Carbide type			OHC7615		OHC7625	
Machining conditions for indexable insert			Good		Medium	
Vc in steel ●			175-400 m/min		240-400 m/min	
Vc in stainless steel ●					140-240 m/min	
Vc in cast iron ●			160-350 m/min		225-380 m/min	
Vc in special alloys ●					45-105 m/min	
Vc in hardened steel ●			50-70 m/min			
ISO name	min./max. ap	f min./max.	17867... Ident. No.		17867... Ident. No.	
SNMG 120404-MU	0.5-3 mm	0.15-0.3 mm/U	047	●	176	●
SNMG 120408-MU	0.8-3 mm	0.15-0.45 mm/U	048	●	177	●

Prod. Gr. 133



MU medium machining of steel



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ATORN® SNMG rough machining negative

ISO P

Carbide type			HC7620		HC7630	
Machining conditions for indexable insert			Medium		Unfavourable	
Vc in steel ●			80-280 m/min		60-220 m/min	
Vc in cast iron ●			120-260 m/min			
ISO name	min./max. ap	f min./max.	17867... Ident. No.		17867... Ident. No.	
SNMG 120408-RP	1-6 mm	0.2-0.5 mm/U	021	●	022	●
SNMG 120412-RP	1-6 mm	0.25-0.65 mm/U	023	●	-	-

Prod. Gr. 156



RP rough machining



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ORION® SNMG rough machining negative

ISO P

Carbide type			OHC7615	OHC7625	OHC7635
Machining conditions for indexable insert			Good	Medium	Unfavourable
Vc in steel ●			175-400 m/min	240-400 m/min	125-295 m/min
Vc in stainless steel ●				140-240 m/min	75-175 m/min
Vc in cast iron ●			160-350 m/min	225-380 m/min	
Vc in special alloys ●				45-105 m/min	
Vc in hardened steel ●			50-70 m/min		
ISO name	min./max. ap	f min./max.	17867... Ident. No.	17867... Ident. No.	17867... Ident. No.
SNMG 120408 RU	1-7 mm	0.2-0.5 mm/U	050 ●	051 ●	052 ●
SNMG 120412 RU	1.5-7 mm	0.25-0.7 mm/U	053 ●	054 ●	055 ●
SNMG 120416 RU	2-7 mm	0.3-0.75 mm/U	056 ●	057 ●	058 ●

Prod. Gr. 133



RU

RU rough machining of steel



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ORION® SNMM rough machining negative

ISO P

Carbide type			OHC7615	OHC7625
Machining conditions for indexable insert			Good	Medium
Vc in steel ●			155-320 m/min	145-315 m/min
Vc in stainless steel ●				120-180 m/min
Vc in cast iron ●			145-300 m/min	135-295 m/min
Vc in special alloys ●				25-90 m/min
ISO name	min./max. ap	f min./max.	17870... Ident. No.	17870... Ident. No.
SNMM 120408 RP1	1.5-6 mm	0.3-0.68 mm/U	720 ●	721 ●
SNMM 120412 RP1	2-6 mm	0.32-0.7 mm/U	722 ●	723 ●
SNMM 120416 RP1	2-8 mm	0.35-0.8 mm/U	724 ●	725 ●
SNMM 150608 RP1	2-8 mm	0.35-0.6 mm/U	726 ●	727 ●
SNMM 150612 RP1	2-9 mm	0.35-1 mm/U	728 ●	729 ●
SNMM 150616 RP1	2-10 mm	0.4-1 mm/U	730 ●	731 ●
SNMM 190612 RP1	3-10 mm	0.35-1 mm/U	732 ●	733 ●
SNMM 190616 RP1	2-10 mm	0.38-1.2 mm/U	734 ●	735 ●
SNMM 190624 RP1	3.5-12 mm	0.45-1.2 mm/U	736 ●	737 ●
SNMM 250716 RP1	4-16 mm	0.45-1.36 mm/U	738 ●	739 ●
SNMM 250724 RP1	4-16 mm	0.45-1.7 mm/U	740 ●	741 ●
SNMM 250924 RP1	4-16 mm	0.45-1.7 mm/U	-	742 ●

Prod. Gr. 133



RP1

RP1 rough machining of single-sided panel, steel



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ORION® SNMM rough machining negative

ISO P

Carbide type			OHC7625
Machining conditions for indexable insert			Medium
Vc in steel ●			145-315 m/min
Vc in stainless steel ●			120-180 m/min
Vc in cast iron ●			135-295 m/min
Vc in special alloys ●			25-90 m/min
ISO name	min./max. ap	f min./max.	17870... Ident. No.
SNMM 120408-RM1	0.8-7 mm	0.3-0.55 mm/U	700 ●
SNMM 120412-RM1	1.2-7.5 mm	0.32-0.7 mm/U	701 ●
SNMM 150612-RM1	1.2-9 mm	0.3-0.7 mm/U	702 ●
SNMM 150616-RM1	1.6-9 mm	0.35-0.9 mm/U	703 ●
SNMM 190612-RM1	1.5-12 mm	0.32-0.7 mm/U	704 ●
SNMM 190616-RM1	1.6-12 mm	0.35-0.9 mm/U	705 ●
SNMM 190624-RM1	2.5-12 mm	0.4-1.2 mm/U	706 ●
SNMM 250724-RM1	3-16 mm	0.5-1.4 mm/U	707 ●
SNMM 250924-RM1	3-16 mm	0.5-1.6 mm/U	708 ●

Prod. Gr. 133



RM1

RM1 rough machining of single-sided panel, stainless steel



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ATORN® SNMG medium machining negative ISO M

Carbide type			HC7520	HC7530
Machining conditions for indexable insert			Medium	Unfavourable
Vc in stainless steel ●			150-240 m/min	130-200 m/min
Vc in special alloys ●			30-60 m/min	20-50 m/min
ISO name	min./max. ap	f min./max.	17867... Ident. No.	17867... Ident. No.
SNMG 120408-MM	0.8-3 mm	0.18-0.3 mm/U	600 ●	- -
SNMG 120412-MM	0.8-3 mm	0.18-0.3 mm/U	- -	601 ●

Prod. Gr. 156



MM medium machining



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ORION® SNMG medium machining negative ISO M

Carbide type			OHC7515	OHC7530	OHC7535
Machining conditions for indexable insert			Good	Medium	Unfavourable
Vc in steel ●			180-320 m/min	160-255 m/min	150-260 m/min
Vc in stainless steel ●			105-190 m/min	95-150 m/min	90-150 m/min
Vc in special alloys ●			35-95 m/min	30-75 m/min	30-75 m/min
ISO name	min./max. ap	f min./max.	17867... Ident. No.	17867... Ident. No.	17867... Ident. No.
SNMG 120408-MU	0.8-3 mm	0.15-0.45 mm/U	178 ●	181 ●	198 ●
SNMG 120412-MU	1.2-3 mm	0.15-0.45 mm/U	- -	182 ●	- -

Prod. Gr. 133

MU medium machining
of stainless steel

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ORION® SNMG medium machining negative ISO M

Carbide type			OHC7520
Machining conditions for indexable insert			Medium
Vc in stainless steel ●			150-220 m/min
Vc in special alloys ●			30-90 m/min
ISO name	min./max. ap	f min./max.	17867... Ident. No.
SNMG 120408-MM3	0.5-6 mm	0.12-0.4 mm/U	560 ●

Prod. Gr. 133



MM medium machining



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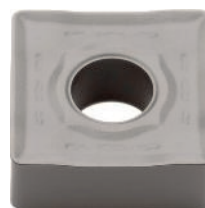
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ORION® SNMM rough machining negative ISO M

Carbide type			OHC7525
Machining conditions for indexable insert			Unfavourable
Vc in steel ●			95-255 m/min
Vc in stainless steel ●			55-150 m/min
ISO name	min./max. ap	f min./max.	17870... Ident. No.
SNMM 120408-RM1	0.8-7 mm	0.3-0.55 mm/U	710 ●
SNMM 120412-RM1	1.2-7.5 mm	0.32-0.7 mm/U	711 ●
SNMM 150612-RM1	1.2-9 mm	0.3-0.7 mm/U	712 ●
SNMM 150616-RM1	1.6-9 mm	0.35-0.9 mm/U	713 ●
SNMM 190612-RM1	1.5-12 mm	0.32-0.7 mm/U	714 ●
SNMM 190616-RM1	1.6-12 mm	0.35-0.9 mm/U	715 ●
SNMM 190624-RM1	2.5-12 mm	0.4-1.2 mm/U	716 ●
SNMM 250724-RM1	3-16 mm	0.5-1.4 mm/U	717 ●
SNMM 250924-RM1	3-16 mm	0.5-1.6 mm/U	718 ●

Prod. Gr. 133

RM1 rough machining
of single-sided panel,
stainless steel

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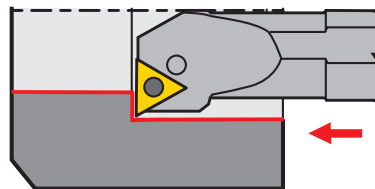
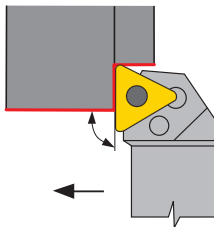
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TN.. Indexable inserts - for longitudinal turning and facing

For longitudinal turning and facing

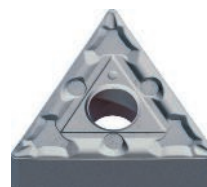


ATORN® TNMG smoothing negative

ISO P

Machining conditions for indexable insert			Carbide type	HC7620
				Medium
			Vc in steel ●	140-370 m/min
			Vc in cast iron ●	140-300 m/min
ISO name	min./max. ap	f min./max.	17868... Ident. No.	
TNMG 160404-FP	0.1-1.5 mm	0.04-0.2 mm/U	007	●
TNMG 160408-FP	0.2-2 mm	0.08-0.25 mm/U	009	●

Prod. Gr. 156



FP finishing



ATORN® TNMG medium machining negative

ISO P

Machining conditions for indexable insert			Carbide type	HC7620	HC7610
				Medium	Good
			Vc in steel ●	140-370 m/min	140-350 m/min
			Vc in cast iron ●	140-300 m/min	140-290 m/min
ISO name	min./max. ap	f min./max.	17868... Ident. No.		17868... Ident. No.
TNMG 160404-MP	0.5-4 mm	0.16-0.25 mm/U	012	●	011
TNMG 160408-MP	0.6-4 mm	0.18-0.35 mm/U	016	●	015

Prod. Gr. 156



MP medium machining



ORION® TNMG medium machining negative

ISO P

Machining conditions for indexable insert			Carbide type	OHC7615	OHC7625	OHC7635
				Good	Medium	Unfavourable
			Vc in steel ●	175-315 m/min	195-320 m/min	135-240 m/min
			Vc in stainless steel ●		115-190 m/min	
			Vc in cast iron ●	170-295 m/min	185-300 m/min	
ISO name	min./max. ap	f min./max.	17868... Ident. No.		17868... Ident. No.	17868... Ident. No.
TNMG 160404-MU	0.5-3 mm	0.15-0.24 mm/U	648	●	650	653
TNMG 160408-MU	0.8-3 mm	0.15-0.45 mm/U	649	●	652	654

Prod. Gr. 133



MU medium machining of steel

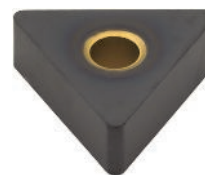


ORION® TNMA medium machining negative

ISO P

			Carbide type	OHC6605
			Machining conditions for indexable insert	Good
			Vc in steel ●	280-450 m/min
			Vc in cast iron ●	300-400 m/min
			Vc in hardened steel ●	50-90 m/min
ISO name	min./max. ap	f min./max.	17996... Ident. No.	
TNMA 160404	0.1-1.5 mm	0.12-0.2 mm/U	095	●
TNMA 160408	0.1-1.5 mm	0.15-0.2 mm/U	100	●

Prod. Gr. 133



OHC6605 medium machining for hard materials up to 55 HRC



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ATORN® TNMG rough machining negative

ISO P

			Carbide type	HC7620
			Machining conditions for indexable insert	Medium
			Vc in steel ●	140-370 m/min
			Vc in cast iron ●	140-300 m/min
ISO name	min./max. ap	f min./max.	17868... Ident. No.	
TNMG 160408-RP	1-5 mm	0.2-0.4 mm/U	019	●
TNMG 160412-RP	1-5 mm	0.2-0.4 mm/U	036	●

Prod. Gr. 156



RP rough machining



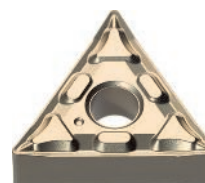
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ATORN® TNMG smoothing negative

ISO M

			Carbide type	HC7520
			Machining conditions for indexable insert	Medium
			Vc in stainless steel ●	150-260 m/min
			Vc in special alloys ●	30-60 m/min
ISO name	min./max. ap	f min./max.	17868... Ident. No.	
TNMG 160404-FM	0.2-1 mm	0.05-0.12 mm/U	620	●

Prod. Gr. 156



FM finishing



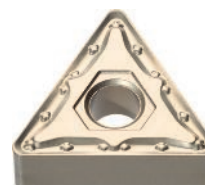
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ATORN® TNMG medium machining negative

ISO M

			Carbide type	HC7520	HC7530
			Machining conditions for indexable insert	Medium	Unfavourable
			Vc in stainless steel ●	150-260 m/min	130-200 m/min
			Vc in special alloys ●	30-60 m/min	20-50 m/min
ISO name	min./max. ap	f min./max.	17868... Ident. No.		17868... Ident. No.
TNMG 160408-MM	0.3-3.5 mm	0.18-0.35 mm/U	621	●	-
TNMG 160408-MM	0.6-4 mm	0.18-0.35 mm/U	-	-	601

Prod. Gr. 156



MM medium machining



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ORION® TNMG medium machining negative

ISO M

Carbide type			OHC7515	OHC7530	OHC7535
Machining conditions for indexable insert			Good	Medium	Unfavourable
Vc in steel ●			155-315 m/min	130-205 m/min	125-215 m/min
Vc in stainless steel ●			90-185 m/min	75-120 m/min	75-125 m/min
Vc in special alloys ●			30-90 m/min	25-50 m/min	25-60 m/min
ISO name	min./max. ap	f min./max.	17868... Ident. No.	17868... Ident. No.	17868... Ident. No.
TNMG 160404-MU	0.5-3 mm	0.1-0.24 mm/U	658 ●	660 ●	663 ●
TNMG 160408-MU	0.8-3 mm	0.15-0.45 mm/U	659 ●	662 ●	664 ●

Prod. Gr. 133



MU medium machining of stainless steel



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ORION® TNMG medium machining negative

ISO M

Carbide type			OHC6530
Machining conditions for indexable insert			Medium
Vc in steel ●			80-160 m/min
Vc in stainless steel ●			70-160 m/min
ISO name	min./max. ap	f min./max.	17868... Ident. No.
TNMG 160404-EL	0.8-4.5 mm	0.15-0.25 mm/U	550 ●
TNMG 160408-EL	0.8-2.5 mm	0.15-0.45 mm/U	555 ●
TNMG 160404-ER	0.8-4.5 mm	0.15-0.25 mm/U	551 ●
TNMG 160408-ER	0.8-2.5 mm	0.15-0.45 mm/U	556 ●

Prod. Gr. 133



Extremely positive chip breaker



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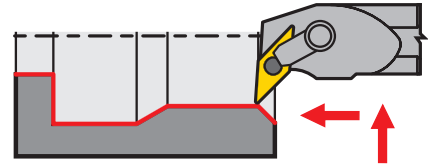
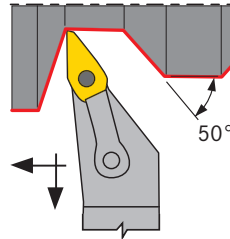
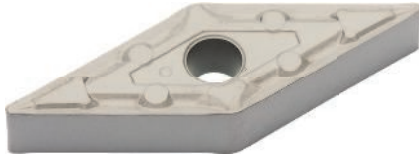
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VN.. Indexable inserts - for longitudinal and copy turning

For longitudinal and copy turning



ATORN® VNMG smoothing negative

ISO P

			Carbide type	HC7620
			Machining conditions for indexable insert	Medium
			Vc in steel ●	120-350 m/min
			Vc in cast iron ●	150-290 m/min
ISO name	min./max. ap	f min./max.	17866... Ident. No.	
VNMG 160404-FP	0.1-1.5 mm	0.04-0.22 mm/U	120	●

Prod. Gr. 156



FP finishing



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ATORN® VNMG medium machining negative

ISO P

			Carbide type	HC7620
			Machining conditions for indexable insert	Medium
			Vc in steel ●	120-350 m/min
			Vc in cast iron ●	150-290 m/min
ISO name	min./max. ap	f min./max.	17866... Ident. No.	
VNMG 160404-MP	0.5-4 mm	0.16-0.25 mm/U	136	●
VNMG 160408-MP	0.6-4 mm	0.18-0.35 mm/U	131	●

Prod. Gr. 156



MP medium machining



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ORION® VNMG medium machining negative

ISO P

			Carbide type	OHC7615	OHC7625
			Machining conditions for indexable insert	Good	Medium
			Vc in steel ●	175-260 m/min	165-250 m/min
			Vc in stainless steel ●		95-150 m/min
			Vc in cast iron ●	165-245 m/min	155-235 m/min
			Vc in special alloys ●		30-75 m/min
ISO name	min./max. ap	f min./max.	17866... Ident. No.		17866... Ident. No.
VNMG 160404 MU	0.5-3 mm	0.15-0.2 mm/U	070	●	071
VNMG 160408 MU	0.8-3 mm	0.15-0.35 mm/U	072	●	073
VNMG 160412 MU	1.2-3 mm	0.15-0.45 mm/U	074	●	075

Prod. Gr. 133



MU - medium machining of steel



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			Carbide type	HC7520
			Machining conditions for indexable insert	Medium
			Vc in stainless steel ●	150-240 m/min
			Vc in special alloys ●	30-60 m/min
ISO name	min./max. ap	f min./max.	17866... Ident. No.	
VNMG 160404-MM	0.5-2 mm	0.1-0.18 mm/U	611	●

Prod. Gr. 156



FM finishing



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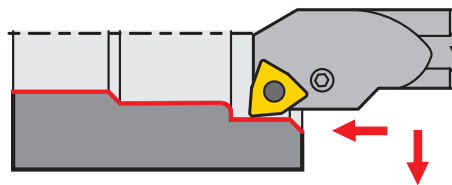
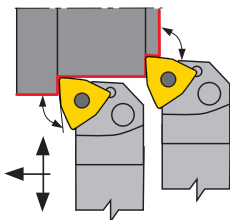
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WN.. Indexable inserts - for longitudinal turning and facing

For longitudinal turning and facing

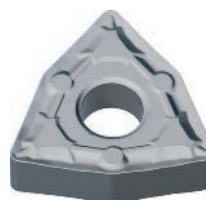


ATORN® WNMG smoothing negative

ISO P

			Carbide type	HC7620
Machining conditions for indexable insert			Medium	
Vc in steel ●			90-350 m/min	
Vc in cast iron ●			120-290 m/min	
ISO name	min./max. ap	f min./max.	17869... Ident. No.	
WNMG 060404-FP	0.1-1.5 mm	0.04-0.2 mm/U	002	●
WNMG 080404-FP	0.1-1.5 mm	0.05-0.2 mm/U	006	●
WNMG 080408-FP	0.2-2 mm	0.08-0.25 mm/U	008	●

Prod. Gr. 156



FP finishing



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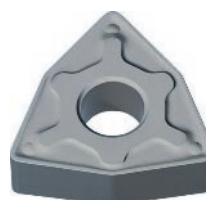
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ATORN® WNMG Wiper negative

ISO P

			Carbide type	HC7610	HC7620
Machining conditions for indexable insert			Good	Medium	
Vc in steel ●			110-350 m/min	90-350 m/min	
Vc in cast iron ●			140-240 m/min	120-290 m/min	
ISO name	min./max. ap	f min./max.	17869... Ident. No.	17869... Ident. No.	
WNMG 080412-WP	1.5-4 mm	0.25-0.7 mm/U	026	046	●
WNMG 080408-WP	0.8-3 mm	0.2-0.55 mm/U	044	045	●

Prod. Gr. 156



WP wiper



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ATORN® WNMG medium machining negative

ISO P

			Carbide type	HC7620	HC7610	HC7630
Machining conditions for indexable insert			Medium	Good	Unfavourable	
Vc in steel ●			90-350 m/min	110-350 m/min	60-220 m/min	
Vc in cast iron ●			120-290 m/min	140-240 m/min		
ISO name	min./max. ap	f min./max.	17869... Ident. No.	17869... Ident. No.	17869... Ident. No.	
WNMG 060404-MP	0.5-4 mm	0.16-0.25 mm/U	010	-	-	●
WNMG 060408-MP	0.6-4 mm	0.18-0.35 mm/U	013	-	-	●
WNMG 080404-MP	0.5-4 mm	0.16-0.25 mm/U	016	015	017	●
WNMG 080408-MP	0.6-5 mm	0.18-0.4 mm/U	022	021	023	●
WNMG 080412-MP	1-6 mm	0.2-0.4 mm/U	027	-	-	●

Prod. Gr. 156



MP medium machining



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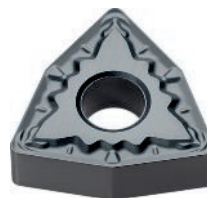
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ORION® WNMG medium machining negative

ISO P

Carbide type			OHC7615	OHC7625	OHC7635
Machining conditions for indexable insert			Good	Medium	Unfavourable
Vc in steel ●			205-370 m/min	190-335 m/min	155-280 m/min
Vc in stainless steel ●				110-225 m/min	90-165 m/min
Vc in cast iron ●			190-350 m/min	180-360 m/min	
ISO name	min./max. ap	f min./max.	17869... Ident. No.	17869... Ident. No.	17869... Ident. No.
WNMG 060404-MU	0.5-3 mm	0.15-0.3 mm/U	141 ●	152 ●	160 ●
WNMG 060408-MU	0.8-3 mm	0.15-0.35 mm/U	142 ●	153 ●	161 ●
WNMG 080404-MU	0.5-3 mm	0.15-0.3 mm/U	143 ●	154 ●	162 ●
WNMG 080408-MU	0.8-3 mm	0.15-0.45 mm/U	144 ●	155 ●	163 ●

Prod. Gr. 133



MU medium machining of steel

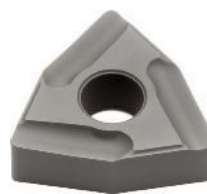


ORION® WNMG medium machining negative

ISO P

Carbide type			OHC7625
Machining conditions for indexable insert			Medium
Vc in steel ●			245-370 m/min
Vc in stainless steel ●			145-220 m/min
Vc in cast iron ●			230-350 m/min
Vc in special alloys ●			45-110 m/min
ISO name	min./max. ap	f min./max.	17869... Ident. No.
WNMG 60404 MW-ER	0.8-4.2 mm	0.2-0.3 mm/U	096 ●
WNMG 80404 MW-ER	0.8-5 mm	0.2-0.3 mm/U	098 ●
WNMG 80408 MW-ER	0.8-5 mm	0.2-0.5 mm/U	100 ●

Prod. Gr. 133



OHC7625 highly positive chip breaker, steel



ORION® WNMG medium machining negative

ISO P

Carbide type			OHC7625
Machining conditions for indexable insert			Medium
Vc in steel ●			245-370 m/min
Vc in stainless steel ●			145-220 m/min
Vc in cast iron ●			230-350 m/min
Vc in special alloys ●			45-110 m/min
ISO name	min./max. ap	f min./max.	17869... Ident. No.
WNMG 60404 MW-EL	0.8-4.2 mm	0.2-0.3 mm/U	097 ●
WNMG 80404 MW-EL	0.8-5 mm	0.2-0.3 mm/U	099 ●
WNMG 80408 MW-EL	0.8-5 mm	0.2-0.5 mm/U	101 ●

Prod. Gr. 133



OHC7625 highly positive chip breaker, steel



ATORN® WNMG rough machining negative

ISO P

Carbide type			HC7610	HC7620	HC7630
Machining conditions for indexable insert			Good	Medium	Unfavourable
Vc in steel ●			110-350 m/min	90-350 m/min	60-220 m/min
Vc in cast iron ●			140-240 m/min	120-290 m/min	
ISO name	min./max. ap	f min./max.	17869... Ident. No.	17869... Ident. No.	17869... Ident. No.
WNMG 080408-RP	1-6 mm	0.2-0.4 mm/U	036 ●	037 ●	038 ●
WNMG 080412-RP	1-6 mm	0.25-0.5 mm/U	039 ●	040 ●	-

Prod. Gr. 156



RP rough machining

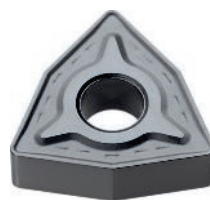


ORION® WNMG rough machining negative

ISO P

Carbide type			OHC7615	OHC7625	OHC7635
Machining conditions for indexable insert			Good	Medium	Unfavourable
Vc in steel ●			205-370 m/min	190-335 m/min	155-280 m/min
Vc in stainless steel ●			190-350 m/min	110-225 m/min	90-165 m/min
Vc in cast iron ●			190-350 m/min	180-360 m/min	
ISO name	min./max. ap	f min./max.	17869... Ident. No.	17869... Ident. No.	17869... Ident. No.
WNMG 080408-RU	1-5 mm	0.2-0.5 mm/U	145 ●	158 ●	164 ●
WNMG 080412-RU	1.2-5 mm	0.15-0.55 mm/U	146 ●	159 ●	166 ●

Prod. Gr. 133



RU rough machining of steel



ATORN® WNMG smoothing negative

ISO M

Carbide type			HC7510	HC7520
Machining conditions for indexable insert			Good	Medium
Vc in steel ●			140-320 m/min	
Vc in stainless steel ●			175-270 m/min	110-260 m/min
Vc in special alloys ●				30-60 m/min
ISO name	min./max. ap	f min./max.	17869... Ident. No.	17869... Ident. No.
WNMG 060404-FM	0.2-1 mm	0.05-0.12 mm/U	601 ●	602 ●
WNMG 080404-FM	0.2-1 mm	0.05-0.12 mm/U	603 ●	604 ●

Prod. Gr. 156



FM finishing

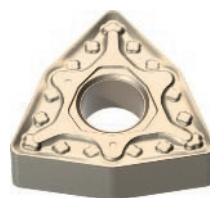


ATORN® WNMG medium machining negative

ISO M

Carbide type			HC7530	HC7520
Machining conditions for indexable insert			Unfavourable	Medium
Vc in steel ●			90-200 m/min	110-260 m/min
Vc in special alloys ●			30-60 m/min	30-60 m/min
ISO name	min./max. ap	f min./max.	17869... Ident. No.	17869... Ident. No.
WNMG 060404-MM	0.5-4 mm	0.16-0.25 mm/U	605 ●	-
WNMG 060408-MM	0.5-5 mm	0.18-0.4 mm/U	607 ●	606 ●
WNMG 080408-MM	1-6 mm	0.22-0.4 mm/U	-	608 ●

Prod. Gr. 156



MM medium machining



ORION® WNMG medium machining negative

ISO M

Carbide type			OHC7515	OHC7530
Machining conditions for indexable insert			Good	Medium
Vc in steel ●			170-375 m/min	130-245 m/min
Vc in stainless steel ●			100-225 m/min	75-145 m/min
Vc in special alloys ●			30-110 m/min	25-70 m/min
ISO name	min./max. ap	f min./max.	17869... Ident. No.	17869... Ident. No.
WNMG 060404-MU	0.5-3 mm	0.1-0.3 mm/U	129 ●	165 ●
WNMG 080408-MU	0.8-3 mm	0.15-0.45 mm/U	131 ●	168 ●

Prod. Gr. 133



MU medium machining of stainless steel



ORION® WNMG medium machining negative

ISO M

Carbide type			OHC7525	
Machining conditions for indexable insert			Medium	
Vc in steel ●			165-255 m/min	
Vc in non-ferrous metals ●			245-890 m/min	
Vc in stainless steel ●			95-150 m/min	
Vc in cast iron ●			155-240 m/min	
Vc in special alloys ●			30-75 m/min	
ISO name	min./max. ap	f min./max.	17869... Ident. No.	
WNMG 60404 MW-ER	0.8-4.2 mm	0.2-0.3 mm/U	176	●
WNMG 80404 MW-ER	0.8-5 mm	0.2-0.3 mm/U	178	●
WNMG 80408 MW-ER	0.8-5 mm	0.2-0.5 mm/U	180	●

Prod. Gr. 133



OHC7525 highly positive chip breaker, stainless steel



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ORION® WNMG medium machining negative

ISO M

Carbide type			OHC7525	
Machining conditions for indexable insert			Medium	
Vc in steel ●			165-255 m/min	
Vc in non-ferrous metals ●			245-890 m/min	
Vc in stainless steel ●			95-150 m/min	
Vc in cast iron ●			155-240 m/min	
Vc in special alloys ●			30-75 m/min	
ISO name	min./max. ap	f min./max.	17869... Ident. No.	
WNMG 60404 MW-EL	0.8-4.2 mm	0.2-0.3 mm/U	177	●
WNMG 80404 MW-EL	0.8-5 mm	0.2-0.3 mm/U	179	●
WNMG 80408 MW-EL	0.8-5 mm	0.2-0.5 mm/U	181	●

Prod. Gr. 133



OHC7525 highly positive chip breaker, stainless steel



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ATORN® WNMG rough machining negative

ISO M

Carbide type			HC7520	HC7530
Machining conditions for indexable insert			Medium	Unfavourable
Vc in stainless steel ●			110-260 m/min	90-200 m/min
Vc in special alloys ●			30-60 m/min	30-60 m/min
ISO name	min./max. ap	f min./max.	17869... Ident. No.	17869... Ident. No.
WNMG 080408-RM	1.2-6 mm	0.22-0.4 mm/U	610	611

Prod. Gr. 156



RM rough machining



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ORION® WNMG rough machining negative

ISO M

Carbide type			OHC7515	OHC7530
Machining conditions for indexable insert			Good	Medium
Vc in steel ●			170-375 m/min	130-245 m/min
Vc in stainless steel ●			100-225 m/min	75-145 m/min
Vc in special alloys ●			30-110 m/min	25-70 m/min
ISO name	min./max. ap	f min./max.	17869... Ident. No.	17869... Ident. No.
WNMG 080408-RU	1-5 mm	0.2-0.55 mm/U	132	169
WNMG 080412-RU	1.2-5 mm	0.25-0.7 mm/U	133	-

Prod. Gr. 133



RU rough machining of stainless steel



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ATORN® WNMG medium machining negative
 ISO S

Carbide type			HC7220	HC7210
Machining conditions for indexable insert			Medium	Medium
Vc in stainless steel ●			120-210 m/min	120-210 m/min
Vc in special alloys ●			30-60 m/min	30-60 m/min
ISO name	min./max. ap	f min./max.	17869... Ident. No.	17869... Ident. No.
WNMG 080408-MS	0.6-5 mm	0.18-0.4 mm/U	650 ●	651 ●

Prod. Gr. 156

**MS** medium machining

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THAT MEET THE TOUGHEST DEMANDS?**

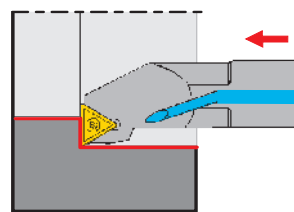
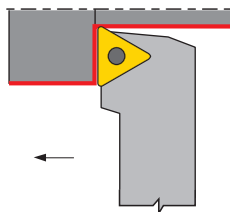
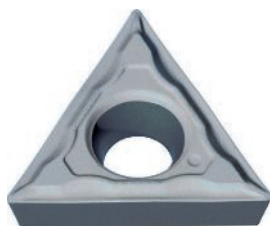
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TC.. Indexable inserts - for longitudinal and copy turning

For longitudinal and copy turning

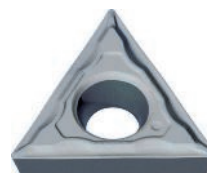


ATORN® TCMT smoothing positive

ISO P

Machining conditions for indexable insert			Carbide type	HC7620
			Medium	
			Vc in steel ●	110-320 m/min
			Vc in cast iron ●	140-260 m/min
ISO name	min./max. ap	f min./max.	17868... Ident. No.	
TCMT 110202-FP	0.1-1 mm	0.04-0.12 mm/U	068	●
TCMT 110204-FP	0.1-1.5 mm	0.05-0.16 mm/U	072	●
TCMT 16T304-FP	0.1-1.5 mm	0.05-0.16 mm/U	075	●
TCMT 16T308-FP	0.1-2.5 mm	0.08-0.2 mm/U	077	●

Prod. Gr. 156



FP finishing



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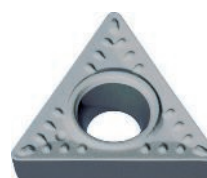
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ATORN® TCMT medium machining positive

ISO P

Machining conditions for indexable insert			Carbide type	HC7610	HC7620	HC7630
			Good	Good	Medium	Unfavourable
			Vc in steel ●	160-340 m/min	110-320 m/min	80-220 m/min
			Vc in cast iron ●	140-240 m/min	140-260 m/min	
ISO name	min./max. ap	f min./max.	17868... Ident. No.		17868... Ident. No.	17868... Ident. No.
TCMT 110204-MP	0.4-3 mm	0.12-0.25 mm/U	081	●	082	083
TCMT 16T304-MP	0.4-3 mm	0.16-0.25 mm/U	084	●	085	086
TCMT 16T308-MP	0.6-4 mm	0.16-0.3 mm/U	087	●	088	089

Prod. Gr. 156



MP medium machining



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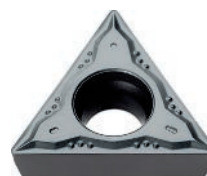
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ORION® TCMT medium machining positive

ISO P

Machining conditions for indexable insert			Carbide type	OHC7625	OHC7615
			Medium	Medium	Good
			Vc in steel ●	190-305 m/min	160-290 m/min
			Vc in stainless steel ●	110-180 m/min	
			Vc in cast iron ●	180-285 m/min	160-275 m/min
ISO name	min./max. ap	f min./max.	17868... Ident. No.		17868... Ident. No.
TCMT 110202-MU	0.2-2 mm	0.1-0.12 mm/U	541	●	-
TCMT 110204-MU	0.4-2 mm	0.1-0.24 mm/U	542	●	512
TCMT 16T304-MU	0.4-3 mm	0.15-0.24 mm/U	543	●	513
TCMT 16T308-MU	0.8-3 mm	0.15-0.35 mm/U	544	●	514

Prod. Gr. 133



MU medium machining of steel



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ORION® TCMW medium machining positive

ISO P

			Carbide type	OHC6605
Machining conditions for indexable insert				Good
Vc in steel ●				280-450 m/min
Vc in cast iron ●				300-400 m/min
Vc in hardened steel ●				50-90 m/min
ISO name	min./max. ap	f min./max.	17996... Ident. No.	
TCMW 110204	0.1-1.5 mm	0.05-0.2 mm/U	080	●
TCMW 16T304	0.1-1.5 mm	0.05-0.2 mm/U	085	●
TCMW 16T308	0.1-1.5 mm	0.12-0.2 mm/U	090	●

Prod. Gr. 133



OHC6605 medium machining for hard materials up to 55 HRC



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ATORN® TCMT medium machining positive

ISO M

			Carbide type	HC7520	HC7530
Machining conditions for indexable insert				Medium	Unfavourable
Vc in stainless steel ●				80-210 m/min	90-160 m/min
Vc in special alloys ●				30-60 m/min	20-50 m/min
ISO name	min./max. ap	f min./max.	17868... Ident. No.		17868... Ident. No.
TCMT 110204-MP	0.4-3 mm	0.12-0.25 mm/U	615	●	616
TCMT 16T304-MP	0.4-3 mm	0.12-0.25 mm/U	617	●	-
TCMT 16T308-MP	0.6-4 mm	0.18-0.35 mm/U	618	●	619

Prod. Gr. 156



MM medium machining



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ORION® TCMT medium machining positive

ISO M

			Carbide type	OHC7515	OHC7530	OHC7535
Machining conditions for indexable insert				Good	Medium	Unfavourable
Vc in steel ●				145-255 m/min	125-195 m/min	130-185 m/min
Vc in stainless steel ●				85-150 m/min	75-115 m/min	75-110 m/min
Vc in special alloys ●				25-75 m/min	25-60 m/min	25-55 m/min
ISO name	min./max. ap	f min./max.	17868... Ident. No.		17868... Ident. No.	17868... Ident. No.
TCMT 110204-MU	0.4-2 mm	0.08-0.24 mm/U	552	●	557	562
TCMT 16T308-MU	0.8-3 mm	0.15-0.35 mm/U	553	●	560	563

Prod. Gr. 133



MU medium machining of stainless steel



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ORION® TCMT medium machining positive

ISO M

			Carbide type	OHC7525
Machining conditions for indexable insert				Medium
Vc in steel ●				145-225 m/min
Vc in non-ferrous metals ●				215-785 m/min
Vc in stainless steel ●				85-135 m/min
Vc in cast iron ●				135-210 m/min
Vc in special alloys ●				25-65 m/min
ISO name	min./max. ap	f min./max.	17868... Ident. No.	
TCGT 110202 MW-ER	0.4-1.6 mm	0.08-0.12 mm/U	580	●
TCGT 110204 MW-ER	0.4-1.6 mm	0.08-0.24 mm/U	581	●

Prod. Gr. 133



OHC7525 highly positive chip breaker, stainless steel



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ORION® TCMT medium machining positive

ISO M

			Carbide type	OHC7525
			Machining conditions for indexable insert	Medium
			Vc in steel	145-225 m/min
			Vc in non-ferrous metals	215-785 m/min
			Vc in stainless steel	85-135 m/min
			Vc in cast iron	135-210 m/min
			Vc in special alloys	25-65 m/min
ISO name	min./max. ap	f min./max.	17868... Ident. No.	
TCGT 110202 MW-EL	0.4-1.6 mm	0.08-0.12 mm/U	582	●
TCGT 110204 MW-EL	0.4-1.6 mm	0.08-0.24 mm/U	583	●

Prod. Gr. 133



OHC7525 highly positive chip breaker, stainless steel



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ATORN® TCGT medium machining positive

ISO N

			Carbide type	HC6310
			Machining conditions for indexable insert	Good
			Vc in non-ferrous metals	160-1000 m/min
			Vc in stainless steel	80-220 m/min
ISO name	min./max. ap	f min./max.	17868... Ident. No.	
TCGT 110202-MN	0.2-1.5 mm	0.1-0.35 mm/U	711	●
TCGT 110204-MN	0.3-1.8 mm	0.1-0.35 mm/U	721	●

Prod. Gr. 156



MN medium machining



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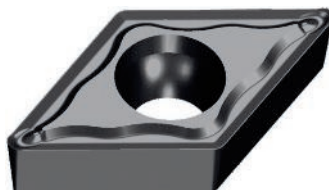
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ORION® CERMET indexable inserts

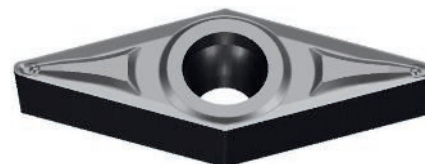
Finishing with low cutting depth in steel, stainless steel, cast steel



Ident. No. 016



Ident. No. 018-020



Ident. No. 022-024

			Carbide type	OHC6601
			Machining conditions for indexable insert	Good
ISO name	min./max. ap	f min./max.	17995... Ident. No.	
CCGT09T304-SF	0.5-1.5 mm	0.05-0.2 mm/U	016	●
DCGT 11T302-SF	0.5-1.5 mm	0.05-0.2 mm/U	018	●
DCGT 11T304-SF	0.5-1.5 mm	0.05-0.2 mm/U	020	●
VCGT110302-SF	0.5-1.5 mm	0.05-0.2 mm/U	022	●
VCGT110304-SF	0.5-1.5 mm	0.05-0.2 mm/U	024	●

Prod. Gr. 133



Hard machining process with CBN

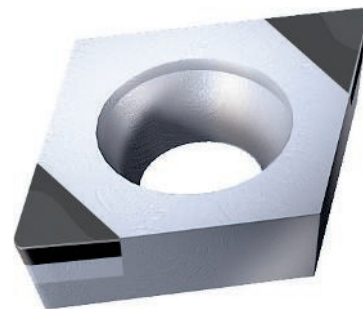
Cutting hardened steel is referred to as hard cutting. By introducing energy in the form of cutting speed v_c , feed f , depth of cut a_p and different cutting edges = chamfer, self-induced hot cutting is produced. This requires a defined high temperature of approx. 550 to 750° C in the shear zone. Cooling is not required for this process.

To generate and maintain the ideal cutting temperature in the shear zone, the following must be observed:

- Selection of appropriate cutting material for different materials,
- Determination of appropriate bevel geometry A-H
- Identification of cutting speed in event charts (hardness diagram with increasing temperature)

The following points must be noted:

- Exact specification of the type of steel and its hardness in HRC.
- Required surface quality R_a in μm as well as cutting depth.
- Machining conditions smooth, slightly interrupted or severely interrupted cut



Selection of the cutting material types when machining with PCBN

We distinguish between materials based on the concentration of CBN content. In the case of a high CBN content, materials such as cast iron, special alloys and sintered steels can be machined. For hard machining, the CBN content must be reduced.

A distinction is made between the following cutting materials:

Coating	CBN content									
	100	90	80	70	60	50	40	30	20	10
uncoated	ABC-10									
uncoated	ABC-25									
uncoated	ABC-40									
coated	ABC-10B									
coated	ABC-25B									
coated	ABC-40B									

CBN grades, uncoated:

ABC-10

- Uncoated CBN type with very high CBN content (95%) for application in grey cast iron, special alloys, sintered steels
- Fine grain 1-1.5 μm
- Application both in favourable conditions (smooth cut) and unfavourable conditions (non-continuous cut) $a_p = 0.1-0.7$ mm

ABC-25

- Uncoated CBN type with low CBN content (65%) in hard cutting, dry + wet from HRC 52 - 65
- Fine grain (3 μm)
- Application in favourable conditions (smooth cut) and very lightly interrupted cutting $a_p = 0.05 - 0.4$ mm

ABC-40

- Uncoated CBN type with low CBN content (65%)
- Hard machining, dry + wet from HRC 54 - 65
- Application in unfavourable conditions for lightly and heavily interrupted cutting $a_p = 0.05 - 0.4$ mm

CBN grades, coated:

ABC-10B

- CBN cutting material coated with 95% CBN content for application in grey cast iron (GG20-GG40) and special alloys such as Inconel 718, Nicomic, Hastelloy, Waspaloy
- Fine grain (1-1.5 μm)
- Application both in favourable conditions (smooth cut) and unfavourable conditions (non-continuous cut) $a_p = 0.1-0.7$ mm

ABC-25B

- CBN cutting material coated with 65% CBN content for application in hard machining 48-62 HRC (wet-dry)
- Fine grain (1 - 2 μm)
- Application in favourable conditions (smooth cut) $a_p = 0.02 - 0.4$ mm

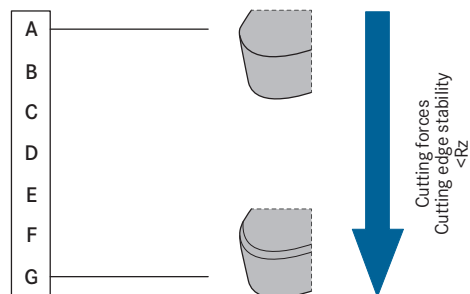
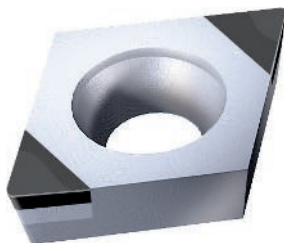
ABC-40B

- CBN cutting material coated with 55% CBN content for application in hard machining 48-62 HRC (wet-dry)
- Superfine grain (0.75 μm)
- Application in unfavourable conditions for lightly and heavily interrupted cutting $a_p = 0.05-0.4$ mm



Cutting edge design for CBN cutting materials

The ATORN cutting edge range includes various distinct cutting edge designs. The standard range includes different chamfers on the cutting edge. These include sharp-edge (A) to high chamfer versions (G), depending on the application. The use of high chamfers on the cutting edge can achieve very good surfaces, but the forces are increased. Sharp-edge variants are the appropriate choice for long projections with unstable conditions.



Machining parameters for CBN cutting materials - ABC-10

Super alloys: Inconel 718, Nimonic, Hastelloy, Waspaloy

V _c : m/min		Cutting edge design (negative chamfer)								
		A	B	C	D	E	F	G	H	
Cutting speed ↑ ↑ ↑	700									
	600									
	500									
	400									
	300									
	200									
	100									
Feed		f: 0.02-0.25	f: 0.04-0.25	f: 0.05-0.25	f: 0.05-0.4	f: 0.06-0.5	f: 0.08-0.35	f: 0.1-0.35	f: 0.12-0.35	Feed
Cutting depth ABC-10		a _p : 0.02-0.4	a _p : 0.03-0.4	a _p : 0.06-0.4	a _p : 0.06-0.4	a _p : 0.08-0.5	a _p : 0.08-0.4	a _p : 0.1-0.4	a _p : 0.12-0.4	Cutting depth ABC-10
Cutting conditions		Smooth to medium interrupted cut								Cutting conditions



Selecting the corner radius

Selecting the appropriate corner radius is an important component for machining: In principle, small corner radii of 2, 4 mm are highly suitable for ensuring chip control. Larger radii of 8, 12 mm have a positive impact on the surface quality and chip formation (thin chips). Scour wear is thereby minimized. Generally, a large corner radius offers a higher cutting edge stability and as a result, a longer service life.



Machining parameters for CBN cutting materials - ABC-10

Grey cast iron GG20 - GG25 - GG30 - GG40

V _c : m/min		Cutting edge design (negative chamfer)								
		A	B	C	D	E	F	G	H	
Cutting speed ↑ ↑ ↑	1750									
	1500									
	1250									
	1000									
	750									
	500									
	300									
Feed		f: 0.02-0.25	f: 0.04-0.25	f: 0.05-0.25	f: 0.05-0.4	f: 0.06-0.5	f: 0.08-0.35	f: 0.1-0.35	f: 0.12-0.35	Feed
Cutting depth ABC-10		a _p : 0.02-0.25	a _p : 0.03-0.3	a _p : 0.06-0.4	a _p : 0.06-0.4	a _p : 0.08-0.5	a _p : 0.08-0.4	a _p : 0.1-0.4	a _p : 0.12-0.4	Cutting depth ABC-10
Cutting conditions		Smooth to strongly interrupted cut								Cutting conditions



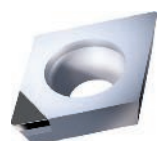
Machining parameters for CBN cutting materials - ABC-25 / ABC-25B

V _c : m/min		Cutting edge design (negative chamfer)								R _a (μm)									
		A	B	C	D	E	F	G	H		Surface quality ↑ ↑ ↑ ↑								
Cutting speed ↑ ↑ ↑ ↑		V _C 	V _C 	V _C 	R _a 	V _C 	R _a 	V _C 	R _a 	V _C 		R _a 							
	350												R _a 	R _a 	R _a 	R _a 	R _a 	V _C 	V _C 
	300																		
	250																		
	200																		
	150																		
	100																		
	50																		
Feed		f: 0.02–0.15	f: 0.03–0.15	f: 0.04–0.20	f: 0.05–0.25	f: 0.06–0.25	f: 0.06–0.25	f: 0.06–0.20	f: 0.06–0.20	Feed									
Cutting depth ABC-25B		a _p : 0.04–0.25	a _p : 0.04–0.3	a _p : 0.06–0.4	a _p : 0.06–0.4	a _p : 0.08–0.4	a _p : 0.08–0.4	a _p : 0.1–0.4	a _p : 0.12–0.4	Cutting depth ABC-25B									
Cutting depth ABC-25		a _p : 0.04–0.25			a _p : 0.06–0.4					Cutting depth ABC-25									
Cutting conditions		Smooth cut								Cutting conditions									

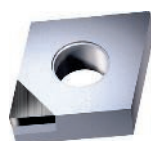


Machining parameters for CBN cutting materials - ABC-40 / ABC-40B

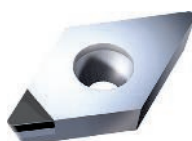
V _c : m/min		Cutting edge design (negative chamfer)								R _s (μm)	
		A	B	C	D	E	F	G	H		
Cutting speed ↑ ↑ ↑ ↑											Surface quality ↑ ↑ ↑ ↑
	350									0.1 μm	
	300									0.2 μm	
	250									0.4 μm	
	200									0.8 μm	
	150									1.6 μm	
	100									3.2 μm	
	50									6.4 μm	
Feed		f: 0.02-0.12	f: 0.03-0.15	f: 0.04-0.20	f: 0.06-0.20	f: 0.06-0.25	f: 0.06-0.25	f: 0.08-0.20	f: 0.08-0.20	Feed	
Cutting depth ABC-40B		a _p : 0.05-0.25	a _p : 0.06-0.3	a _p : 0.08-0.3	a _p : 0.08-0.3	a _p : 0.10-0.4	a _p : 0.10-0.4	a _p : 0.15-0.4	a _p : 0.20-0.4	Cutting depth ABC-40B	
Cutting depth ABC-40		a _p : 0.04-0.25				a _p : 0.07-0.4				Cutting depth ABC-40	
Cutting conditions		Very low		Light		Medium		Strong		Cutting conditions	
Cutting conditions		Interrupted cut								Cutting conditions	

ATORN® CBN indexable inserts ABC 10 single-tipped
 For application in cast iron and special alloys


Ident. No. 001-062



Ident. No. 067-119



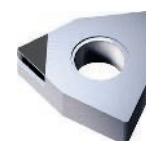
Ident. No. 201-242



Ident. No. 301-312



Ident. No. 601-619



Ident. No. 818-831



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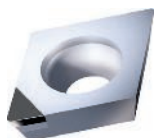
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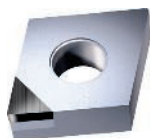
Cutting material		CBN		CBN	
Type of cutting material		ABC10/A		ABC10/F	
Machining conditions for indexable insert		Good Unfavourable		Good Unfavourable	
Design of the chamfer		A (sharp)		F (chamfered)	
Materials group		K (primary application) S (secondary application)		K (primary application) S (secondary application)	
Vc in cast iron ●		800-1000 m/min		700-1200 m/min	
Vc in special alloys ●		250-700 m/min		180-450 m/min	
min./max. ap		0.02-0.25 mm		0.08-0.4 mm	
f min./max.		0.02-0.25 mm/U		0.08-0.35 mm/U	
ISO name		17871... Ident. No.		17871... Ident. No.	
CCGW 060202		001	●	002	●
CCGW 060204		011	○	012	○
CCGW 060208		018	●	019	●
CCGW 09T304		021	●	022	●
CCGW 09T308		031	○	032	○
CCGW 120404		041	●	042	○
CCGW 120408		061	●	062	●
CNGA 120404		101	●	102	○
CNGA 120408		111	●	112	●
CNGA 120412		118	●	119	●
CNGA 120402		067	●	068	●
DCGW 070202		201	●	202	○
DCGW 070204		211	○	212	●
DCGW 070208		218	●	219	●
DCGW 11T302		221	○	222	●
DCGW 11T304		231	●	232	●
DCGW 11T308		241	●	242	●
DNGA 150604		301	●	302	○
DNGA 150608		311	●	312	○
TNGA 160404		601	○	602	●
TNGA 160408		611	●	612	○
TNGA 160412		618	●	619	●
WNGA 080404		818	●	819	●
WNGA 080408		824	●	825	●
WNGA 080412		830	●	831	●

Prod. Gr. 144

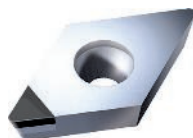
ATORN® CBN indexable inserts ABC 25/40 single-tipped for use on hardened steel



Ident. No. 003-066



Ident. No. 069-123



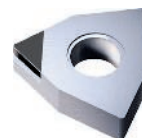
Ident. No. 203-247



Ident. No. 303-317



Ident. No. 603-623



Ident. No. 820-835

 
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Cutting material	CBN	CBN	CBN	CBN
Type of cutting material	ABC25/A	ABC25/D	ABC40/A	ABC40/E
Machining conditions for indexable insert	Good	Good	Unfavourable	Unfavourable
Design of the chamfer	A (sharp)	D (chamfered)	A (sharp)	E (chamfered)
Materials group	P (primary application)	P (primary application)	P (primary application)	P (primary application)
	H (primary application)	H (primary application)	H (primary application)	H (primary application)
Vc in steel ●	100-300 m/min	170-260 m/min	100-300 m/min	110-200 m/min
Vc in hardened steel ●	100-300 m/min	120-220 m/min	100-300 m/min	110-200 m/min
min./max. ap	0.04-0.25 mm	0.04-0.25 mm	0.05-0.25 mm	0.10-0.40 mm
f min./max.	0.02-0.15 mm/U	0.06-0.40 mm/U	0.02-0.12 mm/U	0.06-0.25 mm/U
ISO name	17871... Ident. No.	17871... Ident. No.	17871... Ident. No.	17871... Ident. No.
CCGW 060202	003 ●	004 ●	006 ●	007 ●
CCGW 060204	013 ●	014 ●	016 ●	017 ●
CCGW 060208	020 ●	026 ●	027 ●	028 ●
CCGW 09T304	023 ●	024 ●	046 ●	047 ●
CCGW 09T308	033 ●	034 ●	048 ●	049 ●
CCGW 120404	043 ●	044 ●	050 ●	060 ●
CCGW 120408	063 ●	064 ●	065 ●	066 ●
CNGA 120404	103 ●	104 ●	106 ●	107 ●
CNGA 120408	113 ●	114 ●	116 ●	117 ●
CNGA 120412	120 ●	121 ●	122 ●	123 ●
CNGA 120402	069 ●	070 ●	071 ●	072 ●
DCGW 070202	203 ●	204 ●	206 ●	207 ●
DCGW 070204	213 ●	214 ●	216 ●	217 ●
DCGW 070208	220 ●	226 ●	227 ●	228 ●
DCGW 11T302	223 ●	224 ●	229 ●	230 ●
DCGW 11T304	233 ●	234 ●	236 ●	237 ●
DCGW 11T308	243 ○	244 ●	246 ●	247 ●
DNGA 150604	303 ●	304 ●	306 ●	307 ●
DNGA 150608	313 ○	314 ●	316 ●	317 ●

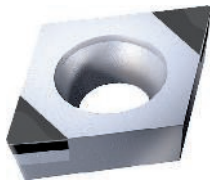


Cutting material	CBN	CBN	CBN	CBN
Type of cutting material	ABC25/A	ABC25/D	ABC40/A	ABC40/E
Machining conditions for indexable insert	Good	Good	Unfavourable	Unfavourable
Design of the chamfer	A (sharp)	D (chamfered)	A (sharp)	E (chamfered)
Materials group	P (primary application) H (primary application)	P (primary application) H (primary application)	P (primary application) H (primary application)	P (primary application) H (primary application)
Vc in steel ●	100-300 m/min	170-260 m/min	100-300 m/min	110-200 m/min
Vc in hardened steel ●	100-300 m/min	120-220 m/min	100-300 m/min	110-200 m/min
min./max. ap	0.04-0.25 mm	0.04-0.25 mm	0.05-0.25 mm	0.10-0.40 mm
f min./max.	0.02-0.15 mm/U	0.06-0.40 mm/U	0.02-0.12 mm/U	0.06-0.25 mm/U
ISO name	17871... Ident. No.	17871... Ident. No.	17871... Ident. No.	17871... Ident. No.
TNGA 160404	603 ●	604 ●	606 ●	607 ●
TNGA 160408	613 ●	614 ○	616 ●	617 ●
TNGA 160412	620 ●	621 ●	622 ●	623 ●
WNGA 080404	820 ●	821 ●	822 ●	823 ●
WNGA 080408	826 ●	827 ●	828 ●	829 ●
WNGA 080412	832 ●	833 ●	834 ●	835 ●

Prod. Gr. 144

ATORN® CBN indexable inserts ABC 10 double-tipped

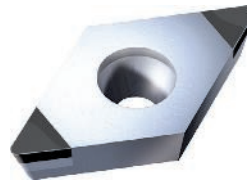
For application in cast iron and special alloys



Ident. No. 002-128



Ident. No. 152-196



Ident. No. 212-316



Ident. No. 332-356



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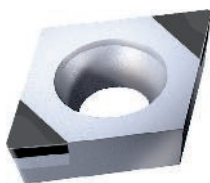
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Cutting material	CBN	CBN	CBN
Type of cutting material	ABC10B/A	ABC10B/E	ABC10B/G
Machining conditions for indexable insert	Good Unfavourable	Good Unfavourable	Good Unfavourable
Design of the chamfer	A (sharp)	E (chamfered)	G (chamfered)
Materials group	K (primary application) S (secondary application)	K (primary application) S (secondary application)	K (primary application) S (secondary application)
Vc in cast iron ●	800-1000 m/min	200-480 m/min	180-450 m/min
Vc in special alloys ●	250-700 m/min	750-1350 m/min	700-1000 m/min
min./max. ap	0.02-0.25 mm	0.08-0.5 mm	0.08-0.4 mm
f min./max.	0.02-0.25 mm/U	0.08-0.5 mm/U	0.08-0.35 mm/U
ISO name	17872... Ident. No.	17872... Ident. No.	17872... Ident. No.
CCGW 060202	002 ●	004 ●	006 ●
CCGW 060204	022 ●	024 ●	026 ●
CCGW 060208	052 ●	054 ●	056 ●
CCGW 09T302	072 ●	074 ●	076 ●
CCGW 09T304	092 ●	094 ●	096 ●
CCGW 09T308	122 ●	124 ●	128 ●
CNGA 120404	152 ●	-	156 ●
CNGA 120408	172 ●	-	176 ●
CNGA 120412	192 ●	-	196 ●
DCGW 070202	212 ●	214 ●	216 ●
DCGW 070204	232 ●	234 ●	236 ●
DCGW 070208	252 ●	254 ●	256 ●
DCGW 11T302	272 ●	274 ●	276 ●
DCGW 11T304	292 ●	294 ●	296 ●
DCGW 11T308	312 ●	314 ●	316 ●
DNGA 150604	332 ●	335 ●	336 ●
DNGA 150608	352 ●	354 ●	356 ●

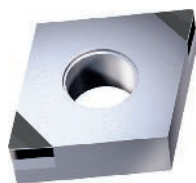
Prod. Gr. 1BA

ATORN® CBN indexable inserts ABC 25/40 coated, double-tipped

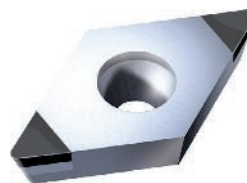
for use on hardened steel



Ident. No. 008-142



Ident. No. 158-206



Ident. No. 218-328



Ident. No. 338-368

Cutting material	CBN		CBN		CBN		CBN		CBN		CBN		CBN	
Type of cutting material	ABC25B/A		ABC25B/D		ABC25B/F		ABC40B/A		ABC40B/E		ABC40B/G		ABC40B/A	
Machining conditions for indexable insert	Good		Good		Good		Unfavourable		Unfavourable		Unfavourable		Unfavourable	
Design of the chamfer	A (sharp)		D (chamfered)		F (chamfered)		A (sharp)		E (chamfered)		G (chamfered)		A (sharp)	
Materials group	P (primary application) H (primary application)		P (primary application) H (primary application)		P (primary application) H (primary application)		P (primary application) H (primary application)		P (primary application) H (primary application)		P (primary application) H (primary application)		P (primary application) H (primary application)	
V _c in steel ●	100-300 m/min		170-260 m/min		120-200 m/min		100-300 m/min		110-200 m/min		70-180 m/min		100-300 m/min	
V _c in hardened steel ●	100-300 m/min		170-260 m/min		120-200 m/min		120-300 m/min		110-200 m/min		70-180 m/min		120-300 m/min	
min./max. ap	0.04-0.25 mm		0.04-0.25 mm		0.04-0.40 mm		0.05-0.40 mm		0.10-0.40 mm		0.15-0.40 mm		0.05-0.40 mm	
f min./max.	0.02-0.15 mm/U		0.06-0.40 mm/U		0.06-0.25 mm/U		0.04-0.25 mm/U		0.06-0.25 mm/U		0.08-0.20 mm/U		0.04-0.25 mm/U	
ISO name	17872... Ident. No.		17872... Ident. No.		17872... Ident. No.		17872... Ident. No.		17872... Ident. No.		17872... Ident. No.		17872... Ident. No.	
CCGW 060202	008	●	010	●	012	●	014	●	016	●	018	●	-	-
CCGW 060204	028	●	030	●	032	●	034	●	036	●	038	●	-	-
CCGW 060208	058	●	060	●	062	●	064	●	066	●	068	●	-	-
CCGW 09T302	078	●	080	●	082	●	084	●	086	●	088	●	-	-
CCGW 09T304	098	●	100	●	102	●	104	●	106	●	110	●	-	-
CCGW 09T308	130	●	132	●	136	●	138	●	140	●	142	●	-	-
CNGA 120404	158	●	160	●	-	-	164	●	166	●	-	-	-	-
CNGA 120408	178	●	180	●	-	-	184	●	186	●	-	-	-	-
CNGA 120412	198	●	200	●	-	-	204	●	206	●	-	-	-	-
DCGW 070202	218	●	220	●	222	●	224	●	225	●	228	●	-	-
DCGW 070204	238	●	240	●	242	●	244	●	246	●	248	●	-	-
DCGW 070208	258	●	260	●	262	●	264	●	266	●	268	●	-	-
DCGW 11T302	278	●	280	●	282	●	284	●	286	●	288	●	-	-
DCGW 11T304	298	●	300	●	302	●	304	●	306	●	308	●	-	-
DCGW 11T308	318	●	320	●	322	●	324	●	326	●	328	●	-	-
DNGA 150604	338	●	340	●	342	●	-	-	346	●	348	●	344	●
DNGA 150608	358	●	360	●	362	●	364	●	366	●	368	●	-	-

Price/unit, €

Prod. Gr. 1BA

ATORN® CBN indexable inserts ABC 10, coated, 4-6 tips (sandwich)

For application in cast iron and special alloys



Ident. No. 004-048



Ident. No. 084-088



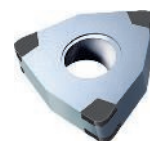
Ident. No. 104-128



Ident. No. 144-188



Ident. No. 204-228



Ident. No. 244-288

Cutting material	CBN		CBN		CBN	
Type of cutting material	ABC10B/A		ABC10B/E		ABC10B/G	
Machining conditions for indexable insert	Good Unfavourable		Good Unfavourable		Good Unfavourable	
Design of the chamfer	A (sharp)		E (chamfered)		G (chamfered)	
Materials group	K (primary application) S (secondary application)		K (primary application) S (secondary application)		K (primary application) S (secondary application)	
V _c in cast iron ●	800-1000 m/min		200-480 m/min		180-450 m/min	
V _c in special alloys ●	250-700 m/min		750-1350 m/min		700-1000 m/min	
min./max. ap	0.02-0.25 mm		0.08-0.5 mm		0.08-0.4 mm	
f min./max.	0.02-0.25 mm/U		0.08-0.5 mm/U		0.08-0.35 mm/U	
ISO name	17873... Ident. No.		17873... Ident. No.		17873... Ident. No.	
CNGA 120404	004	●	006	●	008	●
CNGA 120408	024	●	026	●	028	●
CNGA 120412	044	●	046	●	048	●
DNGA 150604	104	●	106	●	108	●
DNGA 150608	124	●	126	●	128	●
TNGA 160404	144	●	146	●	148	●
TNGA 160408	164	●	166	●	168	●
TNGA 160412	184	●	186	●	188	●
VNGA 160404	204	●	206	●	208	●
VNGA 160408	224	●	226	●	228	●
WNGA 080404	244	●	246	●	248	●
WNGA 080408	264	●	266	●	268	●
WNGA 080412	284	●	286	●	288	●

Prod. Gr. 1BA

ATORN® CBN indexable inserts ABC 25/40, coated, 4-6 tips (sandwich) for use on hardened steel



Ident. No. 010-060



Ident. No. 090-100



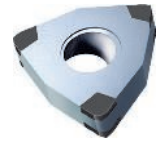
Ident. No. 110-140



Ident. No. 150-200



Ident. No. 210-240



Ident. No. 250-298



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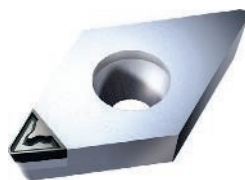
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Cutting material	CBN		CBN		CBN		CBN		CBN		CBN	
Type of cutting material	ABC25B/A		ABC25B/D		ABC25B/F		ABC40B/A		ABC40B/E		ABC40B/G	
Machining conditions for indexable insert	Good		Good		Good		Unfavourable		Unfavourable		Unfavourable	
Design of the chamfer	A (sharp)		D (chamfered)		F (chamfered)		A (sharp)		E (chamfered)		G (chamfered)	
Materials group	P (primary application) H (primary application)		P (primary application) H (primary application)		P (primary application) H (primary application)		P (primary application) H (primary application)		P (primary application) H (primary application)		P (primary application) H (primary application)	
Vc in steel ●	100-300 m/min		170-260 m/min		120-200 m/min		100-300 m/min		110-200 m/min		70-180 m/min	
Vc in hardened steel ●	100-300 m/min		170-260 m/min		120-200 m/min		120-300 m/min		110-200 m/min		70-180 m/min	
min./max. ap	0.04-0.25 mm		0.04-0.25 mm		0.04-0.40 mm		0.05-0.40 mm		0.10-0.40 mm		0.15-0.40 mm	
f min./max.	0.02-0.15 mm/U		0.06-0.40 mm/U		0.06-0.25 mm/U		0.04-0.25 mm/U		0.06-0.25 mm/U		0.08-0.20 mm/U	
ISO name	17873... Ident. No.		17873... Ident. No.		17873... Ident. No.		17873... Ident. No.		17873... Ident. No.		17873... Ident. No.	
CNGA 120404	090	●	092	●	094	●	096	●	098	●	100	●
CNGA 120408	030	●	032	●	034	●	036	●	038	●	040	●
CNGA 120412	050	●	052	●	054	●	056	●	058	●	060	●
DNGA 150604	110	●	112	●	114	●	116	●	118	●	120	●
DNGA 150608	130	●	132	●	134	●	136	●	138	●	140	●
TNGA 160404	150	●	152	●	154	●	156	●	158	●	160	●
TNGA 160408	170	●	172	●	174	●	176	●	178	●	180	●
TNGA 160412	190	●	192	●	194	●	196	●	198	●	200	●
VNGA 160404	210	●	212	●	214	●	216	●	218	●	220	●
VNGA 160408	230	●	232	●	234	●	236	●	238	●	240	●
WNGA 080404	250	●	252	●	254	●	256	●	258	●	260	●
WNGA 080408	270	●	272	●	274	●	276	●	278	●	280	●
WNGA 080412	289	●	292	●	294	●	296	●	298	●	290	●

Prod. Gr. 1BA



Ultra-hard diamond cutting materials and their areas of application



with diamond as cutting material, the material groups of non-ferrous metals, plastics, graphite are machined primarily, as illustrated in the table, very high cutting speeds are possible with low wear.

material	cutting speed Vc (m/min)
aluminium and aluminium alloys 0 - 20% SiC	1250 - 5000
plastics	500 - 3000
non-ferrous metals, bronze, brass, copper	750 - 3200
GFK (80%)	300 - 800
graphite CFK (80%)	250 - 800
MMC	750 - 1300
GGC	300 - 600



Selection of the cutting material types when machining with PCD

Our standard range includes two cutting materials with the following properties:

ADC

- Polycrystalline diamond as a composite cutting material with a cemented carbide backing with high cutting sharpness and low cutting pressure in a narrow tolerance field
- Low wear resistance with high durability
- Fine grain
- Fine finishing and smoothing of all non-ferrous metals with low proportion of abrasive filler materials

ADC-S

- Polycrystalline diamond as a composite cutting material with a cemented carbide backing (coarse grain)
- With favourable cutting sharpness and low cutting pressure with narrow tolerances
- Low wear resistance with high durability
- Fine finishing and smoothing of all non-ferrous metals with low proportion of abrasive filler materials

A variety of diamond cutting materials are also available outside of our standard ranges:

MDC DM

Solid mono-crystalline diamond without structure. Absolute cutting edge sharpness and cutting edges without notches, thus virtually no cutting pressure (burr-free) and compliance with narrowest of tolerances ± 0.001 mm. Absolute wear resistance and highest thermal conductivity (HSC and HPC), low toughness. Super finishing of all non-ferrous metals and non-ferrous materials without abrasive fillers (HSC high-tech).

TFC PD

Solid poly-crystalline CVD diamond without binding agent or cemented carbide backing. Perfect cutting edge sharpness and cutting edges free of notches. No cutting pressure and compliance with the narrowest of tolerances. Maximum wear resistance and very high thermal conductivity (HSC and HPC), higher toughness. Super finishing up to semi-finish of all non-ferrous metals and non-ferrous composite materials with high proportions of abrasive fillers. Maximum service life with GFRP (80% glass) and CFRP.

PDC-CU-S DP composite

Solid poly-crystalline diamond cutting material (composite) without cemented carbide backing, coarse grain, favourable cutting edge sharpness and low cutting pressure for narrow tolerances, highly suitable for milling tools with high cutting depths. Very high wear resistance with increased toughness due to very high diamond volume. Fine finishing, finishing and milling of all non-ferrous metals and non-ferrous materials with very high proportions of abrasive fillers. Maximum material removal rate, CFRP and GFRP



Chip breaker and cutting edge designs with diamond cutting materials

A variety of diamond cutting materials are also available outside of our standard ranges:

Neutral

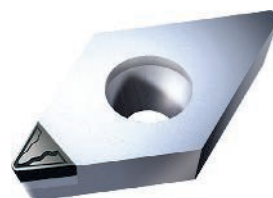
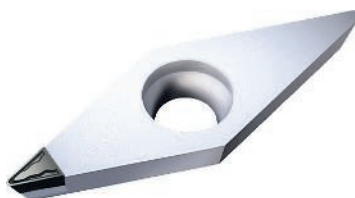
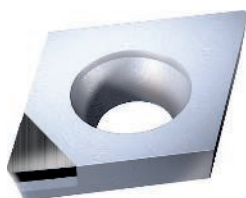
- Medium cutting pressure for solid or robust workpieces in the narrowest tolerance field with excellent surface quality
- Long continuous chips produced and no chip breaking

X1

- Virtually no cutting pressure for thin-walled or robust workpieces in narrow tolerance field with medium surface quality
- Favourable chip breaking owing to chip breaker geometry

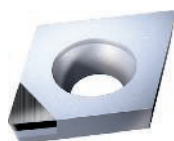
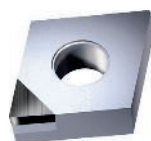
X2

- Increased cutting pressure for solid or robust workpieces in narrowest tolerance field with good surface quality
- Favourable chip breaking owing to chip breaker geometry

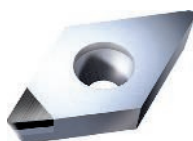


Cutting radius (mm)	X1				X2			
	ap (mm)		f (mm/U)		ap (mm)		f (mm/U)	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
0,1	0,05	0,30	0,02	0,05				
0,2	0,06	0,40	0,03	0,08	0,50	0,80	0,08	0,12
0,4	0,10	0,80	0,04	0,15	0,60	1,50	0,08	0,20
0,8	0,15	1,00	0,08	0,20	0,70	1,50	0,15	0,30
1,2	0,30	1,50	0,12	0,25	0,80	2,00	0,20	0,40

ATORN® PCD indexable inserts Neutral version

Ident. No. 005-045,
900-904

Ident. No. 105-115, 906



Ident. No. 205-245, 908



Ident. No. 305-315



Ident. No. 605-615, 910

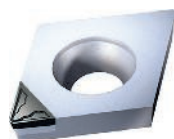


Ident. No. 805-815

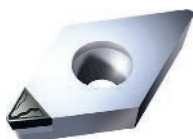
Cutting material		PCD
Type of cutting material		ADC, neutral
Machining conditions for indexable insert		Good
Design of the chamfer		Neutral
Materials group		N (primary application)
Vc in non-ferrous metals ●		1200-5000 m/min
min./max. ap		0.05-3.5 mm
f min./max.		0.05-0.5 mm/U
ISO name		17871... Ident. No.
CCGW 060202		005 ●
CCGW 060204		015 ○
CCGW 09T304		025 ●
CCGW 09T308		035 ●
CCGW 120404		045 ●
CCGW 060208		900 ●
CCGW 09T302		902 ●
CCGW 120408		904 ●
CNGA 120404		105 ●
CNGA 120408		115 ●
CNGA 120412		906 ●
DCGW 070202		205 ●
DCGW 070204		215 ●
DCGW 070208		908 ●
DCGW 11T302		225 ●
DCGW 11T304		235 ●
DCGW 11T308		245 ○
DNGA 150604		305 ○
DNGA 150608		315 ●
TNGA 160404		605 ●
TNGA 160408		615 ○
TNGA 160412		910 ●
VNGA 160404		805 ●
VNGA 160408		815 ○

Prod. Gr. 144

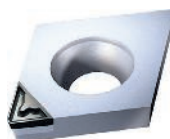
ATORN® PCD indexable inserts Chip breaker geometry



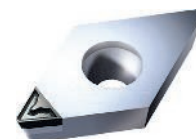
Ident. No. 912-926



Ident. No. 928-940

Ident. No. 942-950,
990-998

Ident. No. 960-974



Ident. No. 976-988

Cutting material		PCD	PCD
Type of cutting material		ADC, X1	ADC-S, X2
Machining conditions for indexable insert		Good	Good
Design of the chamfer		X1	X2
Materials group		N (primary application)	N (primary application)
Vc in non-ferrous metals ●		1200-5000 m/min	1200-5000 m/min
min./max. ap		0.05-3.5 mm	0.05-3.5 mm
f min./max.		0.05-0.5 mm/U	0.05-0.5 mm/U
ISO name		17871... Ident. No.	17871... Ident. No.
CCGT 060202..		912 ●	960 ●
CCGT 060204..		914 ●	962 ●
CCGT 060208		916 ●	964 ●
CCGT 09T302		918 ●	966 ●
CCGT 09T304		920 ●	968 ●
CCGT 09T308		922 ●	970 ●
CCGT 120404..		924 ●	972 ●
CCGT 120408		926 ●	974 ●
DCGT 070202		928 ●	976 ●
DCGT 070204		930 ●	978 ●



Turning tools \ Indexable inserts PCD

Cutting material		PCD	PCD
Type of cutting material		ADC,X1	ADC-S,X2
Machining conditions for indexable insert		Good	Good
Design of the chamfer		X1	X2
Materials group		N (primary application)	N (primary application)
Vc in non-ferrous metals ●		1200-5000 m/min	1200-5000 m/min
min./max. ap		0.05-3.5 mm	0.05-3.5 mm
f min./max.		0.05-0.5 mm/U	0.05-0.5 mm/U
ISO name		17871... Ident. No.	17871... Ident. No.
DCGT 070208		932 ●	980 ●
DCGT 11T302		934 ●	982 ●
DCGT 11T304		936 ●	984 ●
DCGT 11T308		938 ●	986 ●
VBGT 160404		940 ●	988 ●
VBGT 160408		942 ●	990 ●
VCGT 110302		944 ●	992 ●
VCGT 110304		946 ●	994 ●
VCGT 160404		948 ●	996 ●
VCGT 160408		950 ●	998 ●

Prod. Gr. 144



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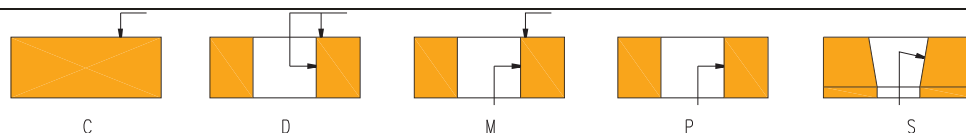
clamp holder for turning for outside machining

clamp system, dimensions and tolerances

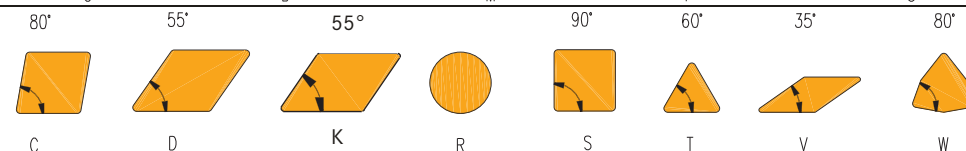
Designations

Clamping holder for turning according to DIN 4983

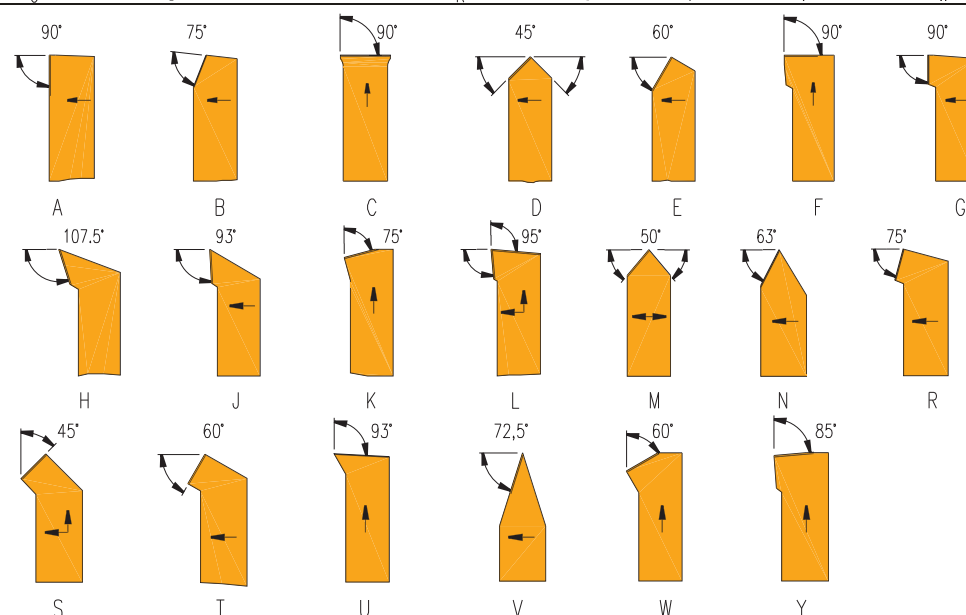
Clamping system ①



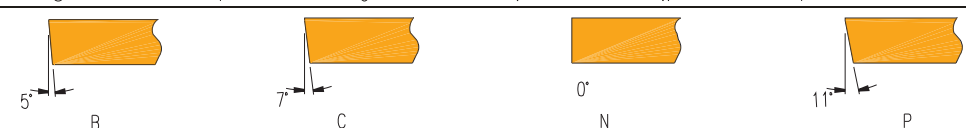
Insert shape ②



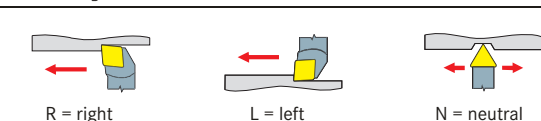
Holder shape ③



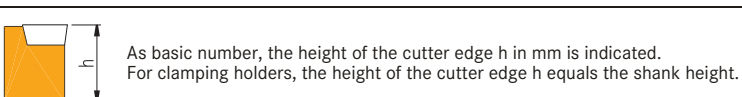
Clearance angle indexable insert ④



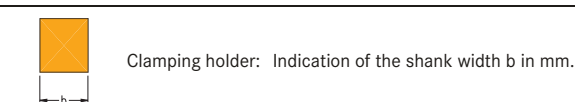
Cut direction ⑤



Cut direction ⑥



Shank width ⑦



Holder length ⑧

	A	B	C	D	E	F	G	H	J	K	L	M	N
mm	32	40	50	60	70	80	90	100	110	125	140	150	160
	P	Q	R	S	T	U	V	W	X	Y	-		
mm	170	180	200	250	300	350	400	450		500			

Cutter length ⑨

Indication of the cutter length in mm without decimal point, in case of one-digit numerals with leading 0 (e. g. 08).
In case of round indexable inserts, the diameter is always indicated.

Additional indications

These indications do not form part of the standard and are facultative, e. g. "-U" stands: with shim.

Example

①	②	③	④	⑤	⑥	⑦	⑧	⑨
S	C	L	C	R	16	16	H	09



high-performance clamp holder range with internal cooling



the newly developed ATORN high-performance clamp holders ensure an improvement in service life of up to 30 % in series production.

the advantages include:

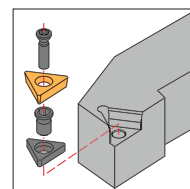
- three cooling channels directed straight at the cutting edges, ensuring optimum cooling of the cutting edge and excellent chip breaking
- individual connection options (bore hole in bottom of holder or connection with coolant hose)
- very compact holder design providing good access to the component and reliable chip removal

			page
17830700-725	SCLC clamp holder with internal cooling, positive For facing and longitudinal turning using CC indexable inserts		-
17835700-725	SDJC clamp holder with internal cooling, positive for longitudinal and copy turning with DC indexable insert		-
17833700-735	SVJC clamp holder with internal cooling, positive For copy, longitudinal face lathing with VC indexable insert		-
17837705-730	PCLN clamp holder with internal cooling, negative For facing and longitudinal turning using CN indexable inserts		600
17838705-730	PDJN clamp holder with internal cooling, negative for copy and longitudinal lathing with DN indexable insert		-
17839715-730	PWLN clamp holder with internal cooling, negative For copy and longitudinal face turning using WN indexable inserts		-



clamp holder external – clamping system S for positive indexable inserts with hole

clamping positive indexable inserts which are pulled into the insert setting via a central clamping screw. modern and reliable clamping system for positive lathe machining. the advantage of this system is the high level of accessibility due to the compact design. chips can be removed reliably with this system.



			page
17830012-092	SCLC clamp holder positive, right-hand For face and longitudinal turning with CC indexable insert		590
17835001-041	SDHC clamp holder, positive, right For copy and longitudinal turning with DC indexable insert		590-591
17831012-072	SDJC clamp holder positive, right-hand For longitudinal and copy turning with DC indexable insert		591
17861	SDNC clamp holder, positive, neutral For longitudinal turning with DC indexable insert		591
17924	SRDC clamp holder, positive, neutral For copy, longitudinal face lathing with RC indexable insert		592
17834012-062	SSSC clamp holder positive, right-hand For copy, longitudinal face lathing with SC indexable insert		592

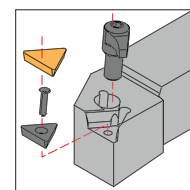


			page
178341 10-125	STGC Clamp holder, positive, right For longitudinal turning with TC indexable insert		593
17836002-041	SVHC clamp holder, positive, right For copy, longitudinal and face turning with VC indexable insert		593
178361 10-115	SVJB clamp holder, positive, right For copy, longitudinal and face turning with VB indexable insert		594
178330 12-062	SVJC clamp holder positive, right-hand For copying, longitudinal and face turning with VC indexable insert		594
17836200-205	SVVB clamp holder, positive neutral For copy and longitudinal face turning using VB indexable inserts		595
17832	SVVC clamp holder positive, neutral For copying, longitudinal and face turning with VC indexable insert		595



clamp holder external - clamping system C for positive indexable inserts without hole

clamping positive indexable inserts without hole. classic clamping system for positive indexable inserts in sinter versions with and without chip breaker.

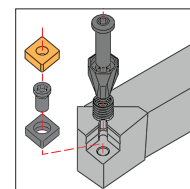


			page
178250 10-030	CKJN clamp holder, negative, right For copy, longitudinal and face turning with KNUX indexable insert		596



clamp holder external - clamping system D for negative indexable inserts with hole

clamping negative indexable inserts using clamping lever and adjustable clamp. the system avoids vibrations of the indexable insert at high feed rate or with severely interrupted machining.

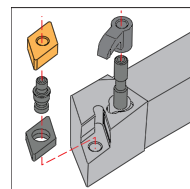


			page
178260 10-021	DCLN clamp holder, negative, right For face and longitudinal turning with CN indexable insert		596
17826 100-115	DDJN clamp holder, negative, right For copy and longitudinal turning with DN indexable insert		597
17859001-002	MTEN clamp holder, negative, neutral For copy and longitudinal turning with TN indexable insert		597
178590 10-015	MTJN clamp holder, negative, right For copy and longitudinal turning with TN indexable insert		597



clamp holder external - clamping system M for negative indexable inserts with hole

clamping negative indexable inserts using clamping lever and adjustable clamp. the system minimises vibration of the indexable insert. it is the first choice for negative ceramic inserts with central hole and also for cermet indexable inserts.

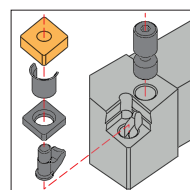


			page
17859110-120	MVJN clamp holder, negative, right For copy and longitudinal turning with VN indexable insert		598
17859200-205	MVVN clamp holder, negative, neutral For copy and longitudinal turning with VN indexable insert		598
17860020-060	MWLN clamp holder, negative, right For copy, longitudinal and face turning with WN indexable insert		599



clamp holder external - clamping system P for negative indexable inserts with hole

clamping negative indexable inserts using clamping lever. clamping system P allows a wide range of applications. it is the first choice for general turning operations. the advantage of this system is the high level of accessibility due to the compact design. chips can be removed reliably with this system.



Overview of ISO clamp holders

			page
17837110-130	PCBN clamp holder, negative, right For longitudinal turning using CN indexable insert		599
17837210-220	PCKN clamp holder, negative, right For face turning using CN indexable insert		600
17837001-057	PCLN clamp holder, negative, right For face and longitudinal turning with CN indexable insert		600-601
17838001-061	PDJN clamp holder, negative, right For copy turning and longitudinal turning using DN indexable insert		601
17856002-010	PDNN clamp holder, neutral For copy turning and longitudinal turning using DN indexable insert		602
17857	PSNN clamp holder, neutral For chamfering and longitudinal turning using SN indexable insert		602
17840020-040	PSNN clamp holder, right For copy turning and longitudinal turning using SN indexable insert		602
17839011-031	PTGN clamp holder, right For copy turning and longitudinal turning using TN indexable insert		603



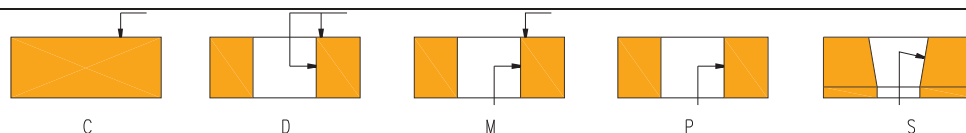
clamp holder for turning for outside machining

clamp system, dimensions and tolerances

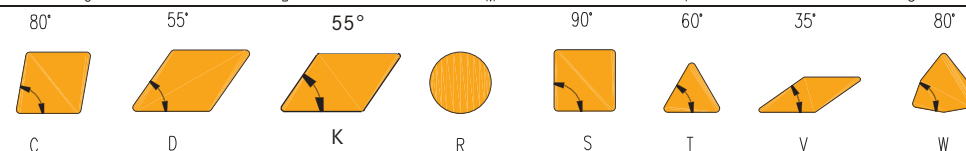
Designations

Clamping holder for turning according to DIN 4983

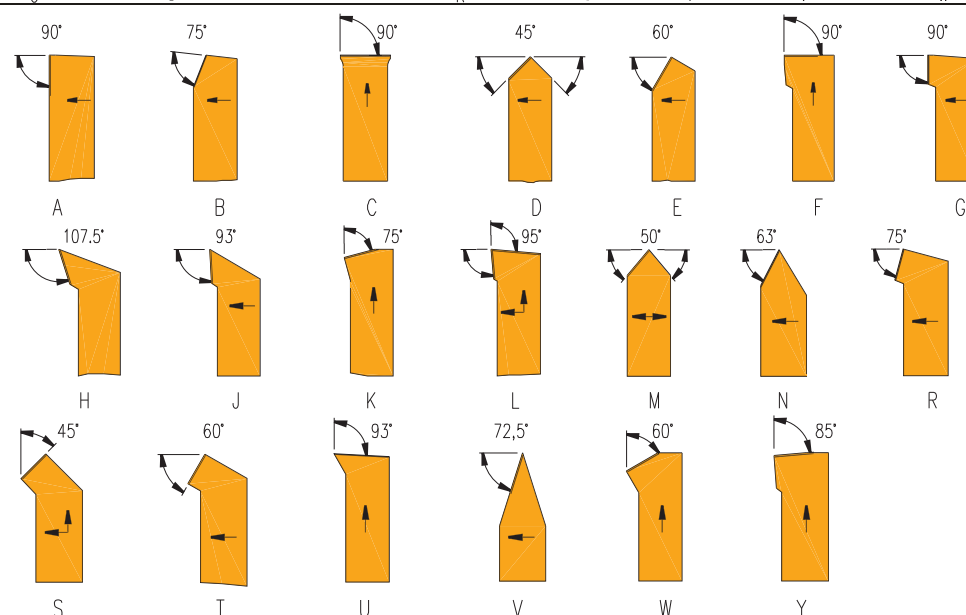
Clamping system ①



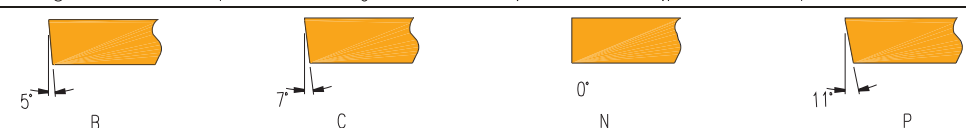
Insert shape ②



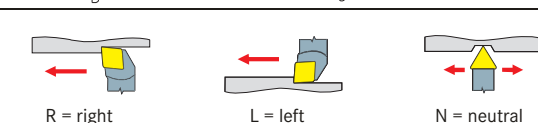
Holder shape ③



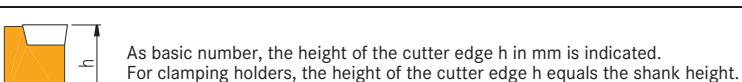
Clearance angle indexable insert ④



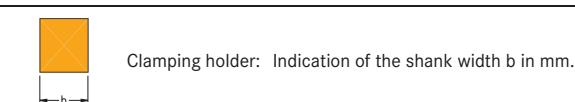
Cut direction ⑤



Cut direction ⑥



Shank width ⑦



Holder length ⑧

	A	B	C	D	E	F	G	H	J	K	L	M	N
mm	32	40	50	60	70	80	90	100	110	125	140	150	160
	P	Q	R	S	T	U	V	W	X	Y	-		
mm	170	180	200	250	300	350	400	450		500			

Cutter length ⑨

Indication of the cutter length in mm without decimal point, in case of one-digit numerals with leading 0 (e. g. 08).
In case of round indexable inserts, the diameter is always indicated.

Additional indications

These indications do not form part of the standard and are facultative, e. g. "-U" stands: with shim.

Example

①	②	③	④	⑤	⑥	⑦	⑧	⑨
S	C	L	C	R	16	16	H	09

ATORN® SCLC R/L clamp holder, positive (DIN 4983) For facing and longitudinal turning using CC indexable inserts

Application:

For face and longitudinal turning with CC indexable insert 80°

Execution:

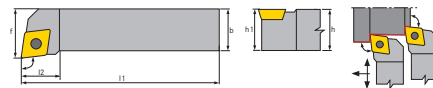
- Precision-made steel carrier, burnished, hardened, type C, attack angle 95°, tip angle 80°, clearance angle 7°

Advantage:

- Universal use for face and longitudinal turning
- Positive body geometry ensures low cutting forces
- Very good surfaces, for medium and finishing infeed



Ident. No. 012, 022, 032, 042, 052, 062, 072, 086, 092



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ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	Tool design Suitable for in- dexable inserts	Right		Left	
							17830... Ident. No.		17830... Ident. No.	
SCLC R/L 0808 D06	8	8	60	9	10	CC.. 0602..	012	●	017	●
SCLC R/L 1010 E06	10	10	70	10	9	CC.. 0602..	022	●	027	●
SCLC R/L 1212 F09	12	12	80	15	16	CC.. 09T3..	032	●	037	●
SCLC R/L 1616 H09	16	16	100	15	17	CC.. 09T3..	042	●	047	●
SCLC R/L 2020 K09	20	20	125	17	25	CC.. 09T3..	052	●	057	●
SCLC R/L 2525 M09	25	25	150	20	32	CC.. 09T3..	062	●	067	●
SCLC R/L 1616 H12	16	16	100	20	32	CC.. 1204..	072	●	077	●
SCLC R/L 2020 K12	20	20	125	20	25	CC.. 1204..	086	●	091	●
SCLC R/L 2525 M12	25	25	150	20	32	CC.. 1204..	092	●	097	●

Prod. Gr. 107

ATORN® SDHC R/L clamp holder, positive (DIN 4983) For copy and longitudinal lathing with DC indexable insert

Application:

For copy and longitudinal turning with DC indexable insert, 55°

Execution:

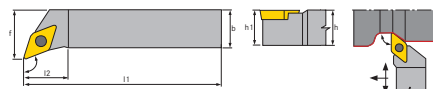
- Precision-manufactured steel support, burnished, hardened, type D, working angle 107.5°, tip angle 55°, clearance angle 7°

Advantage:

- Streamlined geometry, optimised for contour lathe work
- Positive geometry for the body ensures low cutting forces
- Very good surface quality for medium infeed and finishing



Ident. No. 001, 011, 021, 031, 041



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ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	Tool design Suitable for in- dexable inserts	Right		Left	
							17835... Ident. No.		17835... Ident. No.	
SDHC R/L 1010 E07	10	10	70	5.5	12	DC.. 0702..	001	●	006	●
SDHC R/L 1212 F07	12	12	80	12	16	DC.. 0702..	011	●	016	●
SDHC R/L 1616 H11	16	16	100	20	10.4	DC.. 11T3..	021	●	026	●
SDHC R/L 2020 K11	20	20	125	14	25	DC.. 11T3..	031	●	036	●
SDHC R/L 2525 M11	25	25	150	20	32	DC.. 11T3..	041	●	046	●

Prod. Gr. 107

ATORN® SDJC R/L clamp holder, positive (DIN 4983) For longitudinal and copy turning using DC indexable inserts

Application:

For longitudinal and copy turning with DC indexable insert 55°

Execution:

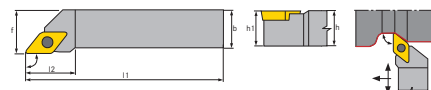
- Precision-made steel carrier, burnished, hardened, type D, attack angle 93°, tip angle 55°, clearance angle 7°

Advantage:

- Narrow geometry optimised for contour-turning work
- Positive body geometry ensures low cutting forces
- Very good surfaces, for medium and finishing infeed



Ident. No. 012, 022, 032, 052, 062, 072



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ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	Tool design Suitable for indexable inserts	Right		Left	
							17831... Ident. No.		17831... Ident. No.	
SDJC R/L 0808 D07	8	8	60	13	10	DC.. 0702..	012	•	017	•
SDJC R/L 1010 E07	10	10	70	13	12	DC.. 0702..	022	•	027	•
SDJC R/L 1212 F07	12	12	80	14.5	16	DC.. 0702..	032	•	037	•
SDJC R/L 1616 H11	16	16	100	20	20	DC.. 11T3..	052	•	057	•
SDJC R/L 2020 K11	20	20	125	20.5	25	DC.. 11T3..	062	•	067	•
SDJC R/L 2525 M11	25	25	150	21.5	32	DC.. 11T3..	072	•	077	•

Prod. Gr. 107

ATORN® SDNC clamp holder, positive neutral (DIN 4983) For copy and longitudinal lathing with DC indexable insert

Application:

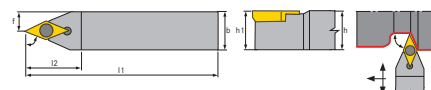
For copy and longitudinal turning with DC indexable insert, 55°

Execution:

- Precision-manufactured steel support, burnished, hardened, type D, working angle 62.5°, tip angle 55°, clearance angle 7°

Advantage:

- Streamlined geometry, optimised for contour lathe work
- Positive geometry for the body ensures low cutting forces
- Very good surface quality for medium infeed and finishing



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ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	Tool design Suitable for indexable inserts	Neutral	
							17861... Ident. No.	
SDNC N 0808 D07	8	8	60	16	4	DC.. 0702..	010	•
SDNC N 1010 E07	10	10	70	16	5	DC.. 0702..	015	•
SDNC N 1616 H11	16	16	100	22	8	DC.. 11T3..	020	•
SDNC N 2020 K11	20	20	125	22	10	DC.. 11T3..	025	•
SDNC N 2525 M11	25	25	150	22	12.5	DC.. 11T3..	030	•

Prod. Gr. 107

ATORN® SRDC clamp holder, positive neutral (DIN 4983) For copy and longitudinal lathing with RC indexable insert

Application:

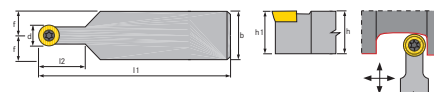
For copy and longitudinal turning with RC indexable insert

Execution:

- Precision-manufactured steel support, burnished, hardened, type R

Advantage:

- Streamlined geometry, optimised for contour lathe work
- Positive geometry for the body ensures low cutting forces



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ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	Tool design Suitable for indexable inserts	Neutral	
							Ident. No.	
SRDC N 1212 F06	12	12	80	12.4	6	RC.. 0602..	17924... 005	●
SRDC N 1616 H06	16	16	100	12.4	8	RC.. 0602..	010	●
SRDC N 2020 K06	20	20	125	12.4	10	RC.. 0602..	015	●
SRDC N 2525 M06	25	25	150	12.4	12.5	RC.. 0602..	020	●
SRDC N 1616 H08	16	16	100	16.4	8	RC.. 1003..	025	●
SRDC N 2020 K08	20	20	125	16.4	10	RC.. 0803..	030	●
SRDC N 2525 M08	25	25	150	16.4	12.5	RC.. 0803..	035	●
SRDC N 1616 H10	16	16	100	20.3	8	RC.. 1003..	040	●
SRDC N 2020 K10	20	20	125	20.3	10	RC.. 1003..	045	●
SRDC N 2525 M10	25	25	150	20.3	12.5	RC.. 1003..	050	●

Prod. Gr. 107

ATORN® SSSC R clamp holder, positive (DIN 4983) For facing and longitudinal turning using SC indexable inserts

Application:

For face and longitudinal turning with SC indexable insert 90°

Execution:

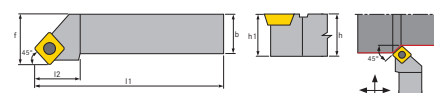
- Precision-made steel carrier, burnished, hardened, type S, attack angle 45°, tip angle 90°, clearance angle 7°

Advantage:

- Rigid geometry for use in challenging conditions
- Positive body geometry ensures low cutting forces
- Very good surfaces, for medium and finishing infeed



Ident. No. 012, 022, 032, 042, 052, 062



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ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	Tool design Suitable for indexable inserts	Right		Left	
							Ident. No.		Ident. No.	
SSSC R/L 1212 F09	12	12	80	18	16	SC.. 09T3..	012	●	017	●
SSSC R/L 1616 H09	16	16	100	20	20	SC.. 09T3..	022	●	027	●
SSSC R/L 2020 K09	20	20	125	20	25	SC.. 09T3..	032	●	037	●
SSSC R/L 1616 H12	16	16	100	25	20	SC.. 1204..	042	●	047	●
SSSC R/L 2020 K12	20	20	125	25	25	SC.. 1204..	052	●	057	●
SSSC R/L 2525 M12	25	25	150	25	32	SC.. 1204..	062	●	067	●

Prod. Gr. 107

ATORN® STGC R/L clamp holder, positive (DIN 4983) For longitudinal turning using TC indexable inserts

Application:

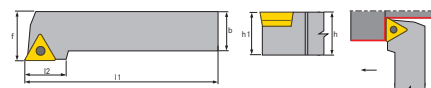
For face and longitudinal turning with TC indexable insert, 60°

Execution:

- Precision-manufactured steel support, burnished, hardened, type T, working angle 90°, tip angle 30°, clearance angle 7°

Advantage:

- Triple-edge geometry lowers cost per cut
- Positive geometry for the body ensures low cutting forces
- Very good surface quality for medium infeed and finishing



ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	Tool design Suitable for indexable inserts	Right		Left	
							17834... Ident. No.		17834... Ident. No.	
STGC R/L 1212 F11	12	12	80	18	16	TC.. 1102..	110	•	111	•
STGC R/L 1616 H11	16	16	100	22	20	TC.. 1102..	115	•	116	•
STGC R/L 2020 K16	20	20	125	22	25	TC.. 16T3..	120	•	121	•
STGC R/L 2525 M16	25	25	150	22	32	TC.. 16T3..	125	•	126	•

Prod. Gr. 107

ATORN® SVHC R/L clamp holder, positive (DIN 4983) For copy, longitudinal face lathing with VC indexable insert

Application:

For copy, longitudinal and face turning with VC indexable insert, 35°

Execution:

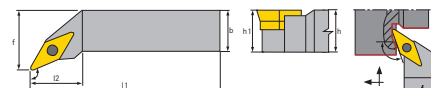
- Precision-manufactured steel support, burnished, hardened, type V, working angle 107.5°, tip angle 35°, clearance angle 7°

Advantage:

- Very streamlined geometry, optimised for contour lathe work
- Positive geometry for the body ensures low cutting forces
- Very good surface quality for medium infeed and finishing



Ident. No. 002, 004, 011, 021, 031, 041



ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	Tool design Suitable for indexable inserts	Right		Left	
							17836... Ident. No.		17836... Ident. No.	
SVHC R/L 1212 F11	12	12	80	11.4	16	VC.. 1103..	002	•	003	•
SVHC R/L 1616 H11	16	16	100	11.4	20	VC.. 1103..	004	•	005	•
SVHC R/L 2020 K11	20	20	125	14.6	25	VC.. 1103..	011	•	016	•
SVHC R/L 2525 M11	25	25	150	20.9	32	VC.. 1103..	021	•	026	•
SVHC R/L 2020 K16	20	20	125	13.2	25	VC.. 1604..	031	•	036	•
SVHC R/L 2525 M16	25	25	150	19.6	32	VC.. 1604..	041	•	046	•

Prod. Gr. 107

ATORN® SVJB R/L clamp holder, positive (DIN 4983) For copy and longitudinal face turning using VB indexable inserts

Application:

For copy, longitudinal and face turning with VB indexable insert, 35°

Execution:

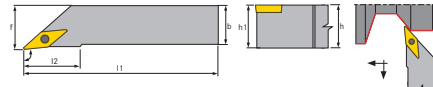
- Precision-manufactured steel support, burnished, hardened, type V, working angle 93°, tip angle 35°, clearance angle 5°

Advantage:

- Very streamlined geometry, optimised for contour lathe work
- Positive geometry for the body ensures low cutting forces
- Very good surface quality for medium infeed and finishing



Ident. No. 110, 115



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ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	Tool design Suitable for in- dexable inserts	Right		Left	
							17833... Ident. No.		17833... Ident. No.	
SVJB R/L 2020 K16	20	20	125	37	25	VB.. 1604..	110	•	111	•
SVJB R/L 2525 M16	25	25	150	37	32	VB.. 1604..	115	•	116	•

Prod. Gr. 107

ATORN® SVJC R/L clamp holder, positive (DIN 4983) For copy, longitudinal face lathing with VC indexable insert

Application:

For copying, longitudinal and face turning with VC indexable insert 35°

Execution:

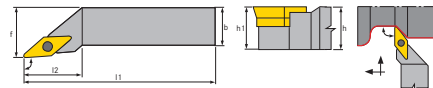
- Precision-manufactured steel support, burnished, hardened, type V, working angle 93°, tip angle 35°, clearance angle 7°

Advantage:

- Very narrow geometry optimised for contour-turning work
- Positive body geometry ensures low cutting forces
- Very good surfaces, for medium and finishing infeed



Ident. No. 012, 022, 032, 042, 052, 062



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ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	Tool design Suitable for in- dexable inserts	Right		Left	
							17833... Ident. No.		17833... Ident. No.	
SVJC R/L1212 F11	12	12	80	21.5	16	VC.. 1103..	012	•	017	•
SVJC R/L1616 H11	16	16	100	21.5	20	VC.. 1103..	022	•	027	•
SVJC R/L2020 K11	20	20	125	23	25	VC.. 1103..	032	•	037	•
SVJC R/L2525 M11	25	25	150	25.5	32	VC.. 1103..	042	•	047	•
SVJC R/L2020 K16	20	20	125	29.5	25	VC.. 1604..	052	•	057	•
SVJC R/L2525 M16	25	25	150	32.5	32	VC.. 1604..	062	•	067	•

Prod. Gr. 107

ATORN® SVVB clamp holder, positive neutral (DIN 4983)

For copy and longitudinal lathing with VB indexable insert

Application:

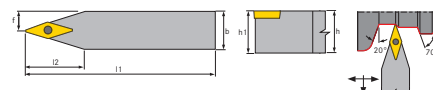
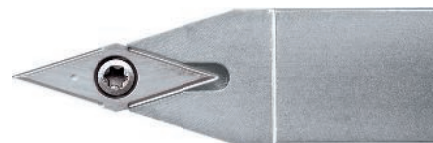
For copy, longitudinal and face turning with VB indexable insert, 35°

Execution:

- Precision-manufactured steel support, burnished, hardened, type V, working angle 72.5°, tip angle 35°, clearance angle 5°

Advantage:

- Very streamlined geometry, optimised for contour lathe work
- Positive geometry for the body ensures low cutting forces
- Very good surface quality for medium infeed and finishing



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ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	Tool design Suitable for indexable inserts	Neutral	
							17836... Ident. No.	
SVVB N 2020 K16	20	20	125	37	10.6	VB.. 1604..	200	●
SVVB N 2525 M16	25	25	150	37	13.1	VB.. 1604..	205	●

Prod. Gr. 107

ATORN® SVVC clamp holder, positive neutral (DIN 4983)

For copy, longitudinal face lathing with VC indexable insert

Application:

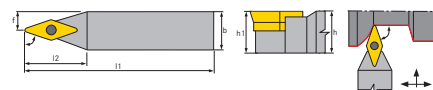
For copying, longitudinal and face turning with VC indexable insert 35°

Execution:

- Precision-manufactured steel support, burnished, hardened, type V, working angle 72.5°, tip angle 35°, clearance angle 7°

Advantage:

- Very narrow geometry optimised for contour-turning work
- Positive body geometry ensures low cutting forces
- Very good surfaces, for medium and finishing infeed



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ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	Tool design Suitable for indexable inserts	Neutral	
							17832... Ident. No.	
SVVC N 1212 F11	12	12	80	19	6	VC.. 1103..	011	●
SVVC N 1616 H11	16	16	100	25	8	VC.. 1103..	021	●
SVVC N 2020 K11	20	20	125	32	10	VC.. 1103..	025	●
SVVC N 2525 M11	25	25	150	40	12.5	VC.. 1103..	027	●
SVVC N 2020 K16	20	20	125	32	10	VC.. 1604..	033	●
SVVC N 2525 M16	25	25	150	40	12.5	VC.. 1604..	043	●

Prod. Gr. 107

ATORN® CKJN R/L clamp holder, negative (DIN 4983)

For copy and longitudinal face turning using KNUX indexable inserts

Application:

For copy, longitudinal and face turning with KNUX indexable insert, 55°

Execution:

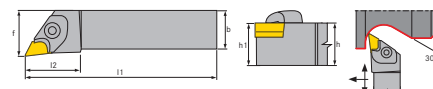
- Precision-manufactured steel support, burnished, hardened, adjustable clamp, type K, working angle 93°, tip angle 55°, clearance angle 0°

Advantage:

- For copy, longitudinal and face turning particularly on low-performance machines
- Positive cutting geometry of the indexable insert ensures low cutting forces
- Broad range of use: suitable for both finishing and roughing operations



Ident. No. 010, 015, 020, 030



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Turning tools \ ISO clamp holders for external machining

ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	Tool design Suitable for in- dexable inserts	Right		Left	
							17825... Ident. No.		17825... Ident. No.	
CKJN R/L 2020 K16	20	20	125	34	30	KNUX 1604..	010	●	011	●
CKJN R/L 2525 M16	25	25	150	34	32	KNUX 1604..	015	●	016	●
CKJN R/L 3225 P16	32	25	170	34	32	KNUX 1604..	020	●	021	●
CKJN R/L 3232 P16	32	32	170	34	40	KNUX 1604..	030	●	031	●

Prod. Gr. 107

ATORN® DCLN R/L clamp holder, negative (DIN 4983) For facing and longitudinal turning using CN indexable inserts

Application:

For face and longitudinal turning with CN indexable insert, 80°.

system, type C, working angle 95°, tip angle 80°, clearance angle 0°

Execution:

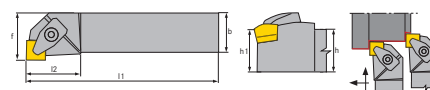
- **Ident. No. 010, 015, 017, 019, 021:** Precision-manufactured steel support, burnished, hardened, adjustable clamping system, type C, working angle 95°, tip angle 80°, clearance angle 0°
- **Ident. No. 011, 016, 018, 020, 022:** Precision-manufactured steel support, burnished, hardened, adjustable clamp, adjustable clamping

Advantage:

- Universal use for face and longitudinal turning with large feed depths and unfavourable conditions
- Negative geometry of the body ensures good stability and force absorption at large cutting depths
- Broad range of use: suitable for both finishing and roughing operations
- Adjustable clamp minimises vibrations and ensures good force transfer



Ident. No. 010, 015, 017, 019, 021



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ISO name	h=h1 (mm)	b (mm)	l2 (mm)	l1 (mm)	f (mm)	Tool design Suitable for in- dexable inserts	Right		Left	
							17826... Ident. No.		17826... Ident. No.	
DCLN R/L 2020 K12	20	20	28	125	25	CN.. 1204..	010	●	011	●
DCLN R/L 2525 M12	25	25	28	150	32	CN.. 1204..	015	●	016	●
DCLN R/L 3232 P12	32	32	28	170	40	CN.. 1906..	017	●	018	●
DCLN R/L 3232 P19	32	32	42	170	40	CN.. 1906..	019	●	020	●
DCLN R/L 4040 S19	40	40	43	250	50	CN.. 1906..	021	●	022	○

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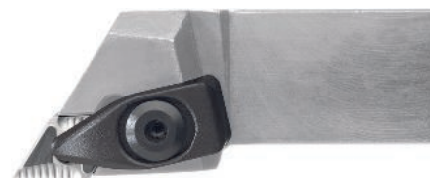
ATORN® DDJN R/L clamp holder, negative (DIN 4983) For copy and longitudinal lathing with DN indexable insert

Application:

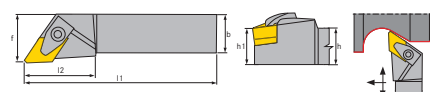
For copy and longitudinal turning with DN indexable insert, 55°.

Advantage:

- Streamlined geometry, optimised for contour lathe work with large feed depths and unfavourable conditions
- Negative geometry of the body ensures good stability and force absorption at large cutting depths
- Broad range of use: suitable for both finishing and roughing operations
- Adjustable clamp minimises vibrations and ensures good force transfer



Ident. No. 100, 105, 110, 115



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ISO name	h=h1 (mm)	b (mm)	l2 (mm)	l1 (mm)	f (mm)	Tool design Suitable for in- dexable inserts	Right		Left	
							17826... Ident. No.		17826... Ident. No.	
DDJN R/L 2020 K11	20	20	30	125	25	DN.. 1104..	100	●	101	●
DDJN R/L 2525 M11	25	25	30	150	32	DN.. 1104..	105	●	106	●
DDJN R/L 2020 K15	20	20	34	125	25	DN.. 1506..	110	●	111	●
DDJN R/L 2525 M15	25	25	34	150	32	DN.. 1506..	115	●	116	●

Prod. Gr. 107

ATORN® MTEN clamp holder, negative neutral (DIN 4983)

For copy and longitudinal lathing with TN indexable insert

Application:

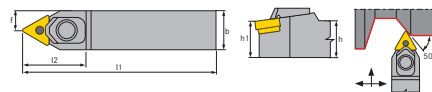
For copy and longitudinal turning with TN indexable insert, 60°.

Execution:

- Precision-manufactured steel support, burnished, hardened, adjustable clamping system, type T, working angle 93°, tip angle 60°, clearance angle 0°

Advantage:

- Triple-edge geometry lowers cost per cut
- Negative geometry of the body ensures good stability and force absorption at large cutting depths
- Broad range of use: suitable for both finishing and roughing operations
- Adjustable clamp minimises vibrations and ensures good force transfer



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ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	Tool design Suitable for indexable inserts	Neutral	
							17859... Ident. No.	
MTEN N 2020 K16	20	20	125	34	10.5	TN.. 1604..	001	•
MTEN N 2525 M16	25	25	150	34	13	TN.. 1604..	002	•

Prod. Gr. 107

ATORN® MTJN R/L clamp holder, negative (DIN 4983)

For copy and longitudinal lathing with TN indexable insert

Application:

For copy, longitudinal and face turning with TN indexable insert, 60°.

Execution:

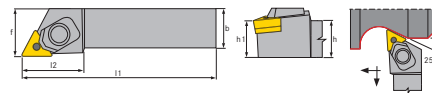
- Precision-manufactured steel support, burnished, hardened, adjustable clamping system, type T, working angle 93°, tip angle 60°, clearance angle 0°

Advantage:

- Triple-edge geometry lowers cost per cut
- Negative geometry of the body ensures good stability and force absorption at large cutting depths
- Broad range of use: suitable for both finishing and roughing operations
- Adjustable clamp minimises vibrations and ensures good force transfer



Ident. No. 010, 015



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ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	Tool design Suitable for indexable inserts	Right		Left	
							17859... Ident. No.		17859... Ident. No.	
MTJN R/L 2020 K16	20	20	125	35	25	TN.. 1604..	010	•	011	•
MTJN R/L 2525 M16	25	25	150	32	32	TN.. 1604..	015	•	016	•

Prod. Gr. 107

ATORN® MVJN R/L clamp holder, negative (DIN 4983) For copy and longitudinal lathing with VN indexable insert

Application:

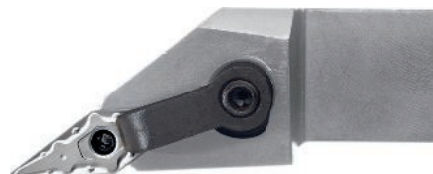
For copy and longitudinal turning with VN indexable insert, 35°.

Execution:

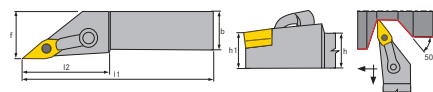
- Precision-manufactured steel support, burnished, hardened, adjustable clamping system, type V, working angle 93°, tip angle 35°, clearance angle 0°

Advantage:

- Very streamlined geometry, optimised for contour lathe work with large feed depths and unfavourable conditions
- Negative geometry of the body ensures good stability and force absorption at large cutting depths
- Broad range of use: suitable for both finishing and roughing operations
- Adjustable clamp minimises vibrations and ensures good force transfer



Ident. No. 110, 115, 120



p. 565 p. 516

ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	Tool design Suitable for indexable inserts	Right		Left	
							17859... Ident. No.		17859... Ident. No.	
MVJN R/L 2020 K16	20	20	125	37	25	VN.. 1604..	110	•	111	•
MVJN R/L 2525 M16	25	25	150	37	32	VN.. 1604..	115	•	116	•
MVJN R/L 3225 P16	32	25	170	43	32	VN.. 1604..	120	•	121	•

Prod. Gr. 107

ATORN® MVVN clamp holder, negative neutral (DIN 4983) For copy and longitudinal turning using VN indexable inserts

Application:

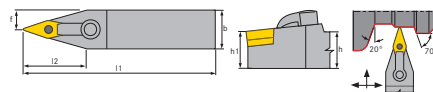
For copy and longitudinal turning with VN indexable insert, 35°.

Execution:

- Precision-manufactured steel support, burnished, hardened, adjustable clamping system, type V, working angle 93°, tip angle 35°, clearance angle 0°

Advantage:

- Very streamlined geometry, optimised for contour lathe work with large feed depths and unfavourable conditions
- Negative geometry of the body ensures good stability and force absorption at large cutting depths
- Broad range of use: suitable for both finishing and roughing operations
- Adjustable clamp minimises vibrations and ensures good force transfer



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ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	Tool design Suitable for indexable inserts	Neutral	
							17859... Ident. No.	
MVVN N 2020 K16	20	20	125	43	10.0	VN.. 1604..	200	•
MVVN N 2525 M16	25	25	150	43	12.5	VN.. 1604..	205	•

Prod. Gr. 107

ATORN® MWLN R/L clamp holder, negative (DIN 4983) For copy and longitudinal face turning using WN indexable inserts

Application:

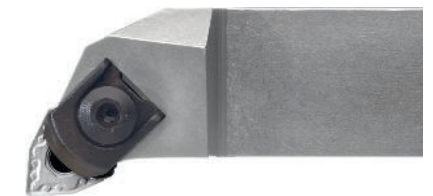
For copy, longitudinal and face turning with WN indexable insert, 80°.

Execution:

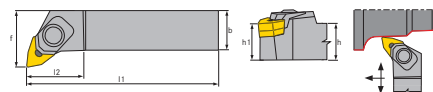
- Precision-manufactured steel support, burnished, hardened, adjustable clamping system, type W, working angle 93°, tip angle 80°, clearance angle 0°

Advantage:

- Triple-edge geometry lowers cost per cut
- Negative geometry of the body ensures good stability and force absorption at large cutting depths
- Broad range of use: suitable for both finishing and roughing operations
- Adjustable clamp minimises vibrations and ensures good force transfer



Ident. No. 020, 030, 040, 050, 060



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ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	Tool design Suitable for in- dexable inserts	Right		Left	
							17860... Ident. No.		17860... Ident. No.	
MWLN R/L 2020 K06	20	20	125	25	25	WN.. 0604..	020	●	025	●
MWLN R/L 2525 M06	25	25	150	25	32	WN.. 0604..	030	●	035	●
MWLN R/L 2020 K08	20	20	125	34	25	WN.. 0804..	040	●	045	●
MWLN R/L 2525 M08	25	25	150	34	32	WN.. 0804..	050	●	055	●
MWLN R/L 3232 P08	32	32	170	-	40	WN.. 0804..	060	●	065	●

Prod. Gr. 107

ATORN® PCBN R/L clamp holder, negative (DIN 4983)

For longitudinal turning using CN indexable inserts

Application:

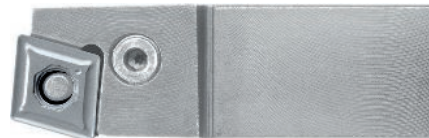
For longitudinal turning using CN indexable insert 80°.

Execution:

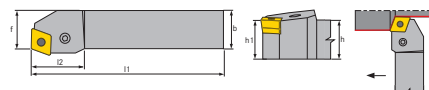
- precision-engineered steel support, burnished, hardened, toggle clamp system, type C, 75° pitch angle, 80° tip angle, 0° clearance angle

Advantage:

- extremely stable geometry for longitudinal machining with large feed depths and challenging conditions
- negative body geometry ensures good stability and absorption of force for large cutting depths



Ident. No. 110, 115, 120, 130



ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	Tool design Suitable for in- dexable inserts	Right		Left	
							17837... Ident. No.		17837... Ident. No.	
PCBN R/L 2020 K12	20	20	125	28	22	CN.. 1204..	110	●	111	●
PCBN R/L 2525 M12	25	25	150	28	22	CN.. 1204..	115	●	116	●
PCBN R/L 2525 M16	25	25	150	34	22	CN.. 1606..	120	●	121	●
PCBN R/L 3232 P19	32	32	170	42	27	CN.. 1906..	130	●	131	●

Prod. Gr. 107

ATORN® PCKN R/L clamp holder, negative (DIN 4983)

For facing using CN indexable inserts

Application:

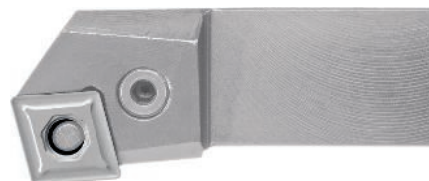
For face turning using CN indexable insert 80°.

Execution:

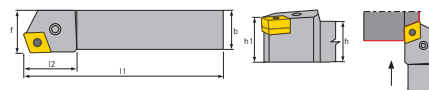
- precision-engineered steel support, burnished, hardened, toggle clamp system, type C, 75° pitch angle, 80° tip angle, 0° clearance angle

Advantage:

- very stable geometry for face turning with large feed depths and challenging conditions
- negative body geometry ensures good stability and absorption of force for large cutting depths
- Ident. No. 211, 216, 221:** wide range of delivery: suitable for both finishing and roughing



Ident. No. 210, 215, 220



ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	Tool design Suitable for in- dexable inserts	Right		Left	
							17837... Ident. No.		17837... Ident. No.	
PCKN R/L 2020 K12	20	20	125	28	25	CN.. 1204..	210	●	211	●
PCKN R/L 2525 M12	25	25	150	28	32	CN.. 1204..	215	●	216	●
PCKN R/L 3225 P12	32	25	170	28	32	CN.. 1204..	220	●	221	●

Prod. Gr. 107

ATORN® PCLN R/L clamp holder, negative (DIN 4983) For facing and longitudinal turning using CN indexable inserts

Application:

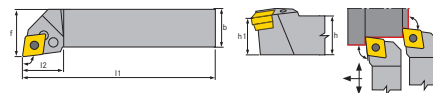
for longitudinal and face turning with CN indexable insert, 80°

Execution:

- precision-made steel carrier with high-performance cooling system, nickel-plated, hardened, toggle-joint clamping system, type C, attack angle 95°, tip angle 80°, clearance angle 0°

Advantage:

- high-performance cooling channel system with three outlets ensures an extremely long service life and reliable working
- Universal use for face and longitudinal turning with large feed depths and unfavourable conditions
- Negative geometry of the body ensures good stability and force absorption at large cutting depths
- Broad range of use: suitable for both finishing and roughing operations



p. 547 p. 516

ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	Tool design Suitable for in- dexable inserts	Right		Left	
							17837... Ident. No.		17837... Ident. No.	
PCLN R/L 1616 H12 IK G1/8	16	16	100	26	20	CN.. 1204..	705	●	710	●
PCLN R/L 2020 K12 IK G1/8	20	20	125	28	25	CN.. 1204..	715	●	720	●
PCLN R/L 2525 M12 IK G1/8	25	25	150	28	32	CN.. 1204..	725	●	730	●

Prod. Gr. 1BM

ATORN® PCLN R/L clamp holder, negative (DIN 4983) For facing and longitudinal turning using CN indexable inserts

Application:

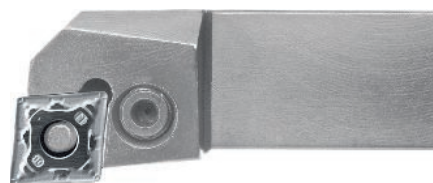
For longitudinal and face turning with CN indexable insert, 80°

Execution:

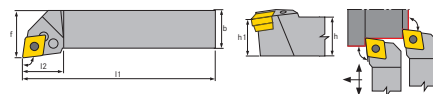
- Precision-manufactured steel support, burnished, hardened, toggle-joint clamping system, type C, working angle 95°, tip angle 80°, clearance angle 0°

Advantage:

- Universal use for face and longitudinal turning with large feed depths and unfavourable conditions
- Negative geometry of the body ensures good stability and force absorption at large cutting depths
- Broad range of use: suitable for both finishing and roughing operations



Ident. No. 001, 011, 021-023, 027, 031, 041-043, 047-051, 053, 057



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ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	Tool design Suitable for in- dexable inserts	Right		Left	
							17837... Ident. No.		17837... Ident. No.	
PCLN R/L 1616 H12	16	16	100	26	20	CN.. 1204..	001	●	006	●
PCLN R/L 2020 K12	20	20	125	28	25	CN.. 1204..	011	●	016	●
PCLN R/L 2525 M12	25	25	150	28	32	CN.. 1204..	021	●	026	●
PCLN R/L 3225 P12	32	25	170	28	32	CN.. 1204..	023	●	024	●
PCLN R/L 3232 P12	32	32	170	28	40	CN.. 1204..	027	●	028	●
PCLN R/L 2525 M16	25	25	150	34	32	CN.. 1606..	031	●	036	●
PCLN R/L 3225 P16	32	25	170	34	32	CN.. 1606..	041	●	046	●
PCLN R/L 3232 P16	32	32	170	34	40	CN.. 1606..	043	●	044	●
PCLN R/L 4040 S16	40	40	250	34	50	CN.. 1606..	047	●	049	●
PCLN R/L 2525 M19	25	25	150	42	32	CN.. 1906..	051	●	052	●
PCLN R/L 3225 P19	32	25	170	42	32	CN.. 1906..	053	●	054	●
PCLN R/L 4040 S19	40	40	250	45	50	CN.. 1906..	057	●	058	○

Prod. Gr. 107

ATORN® PDJN R/L clamp holder, negative (DIN 4983)

For copy and longitudinal lathing with DN indexable insert

Application:

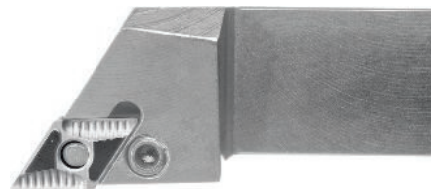
For copy turning and longitudinal turning using DN indexable insert 55°.

Execution:

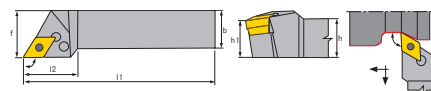
- precision-engineered steel support, burnished, hardened, toggle clamp system, type D, 93° pitch angle, 55° tip angle, 0° clearance angle

Advantage:

- very slim geometry, optimised for contour turning with large feed depths and challenging conditions
- negative body geometry ensures good stability and absorption of force for large cutting depths
- wide range of delivery: suitable for both finishing and roughing



Ident. No. 001, 006–007, 011, 021, 051, 061



ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	Tool design Suitable for indexable inserts	Right		Left	
							17838... Ident. No.		17838... Ident. No.	
PDJN R/L 1616 H11	16	16	100	28	20	DN.. 1104..	001	●	002	●
PDJN R/L 2020 K11	20	20	125	28	25	DN.. 1104..	006	●	009	●
PDJN R/L 2525 M11	25	25	150	28	32	DN.. 1104..	007	●	008	●
PDJN R/L 2020 K15	20	20	125	34	25	DN.. 1506..	011	●	016	●
PDJN R/L 2525 M15	25	25	150	34	32	DN.. 1506..	021	●	026	●
PDJN R/L 3225 P15	32	25	170	24	32	DN.. 1506..	051	●	056	●
PDJN R/L 3232 P15	32	32	170	34	40	DN.. 1506..	061	●	066	●

Prod. Gr. 107

ATORN® PDNN clamp holder, neutral (DIN 4983)

For copy and longitudinal lathing with DN indexable insert

Application:

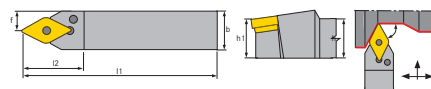
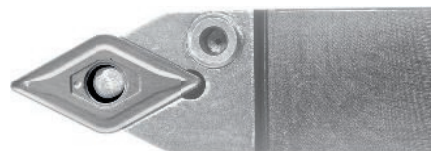
For copy turning and longitudinal turning using DN indexable insert 55°.

Execution:

- precision-engineered steel support, burnished, hardened, toggle clamp system, type D, 93° pitch angle, 55° tip angle, 0° clearance angle

Advantage:

- very slim geometry, optimised for contour turning with large feed depths and challenging conditions
- negative body geometry ensures good stability and absorption of force for large cutting depths
- wide range of delivery: suitable for both finishing and roughing



ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	Tool design Suitable for indexable inserts	Neutral	
							17856... Ident. No.	
PDNN N 2020 K15	20	20	125	34	10	DN.. 1506..	002	●
PDNN N 2525 M15	25	25	150	34	12.5	DN.. 1506..	004	●
PDNN N 3232 P15	32	32	170	34	16	DN.. 1506..	006	●
PDNN N 4025 S15	40	25	250	34	12.5	DN.. 1506..	008	●
PDNN N 5032 S15	50	32	250	34	16	DN.. 1506..	010	○

Prod. Gr. 107

ATORN® PSSN clamp holder, neutral (DIN 4983) For chamfer and longitudinal lathing with SN indexable insert

Application:

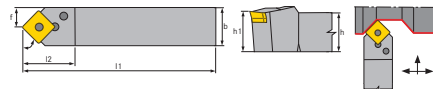
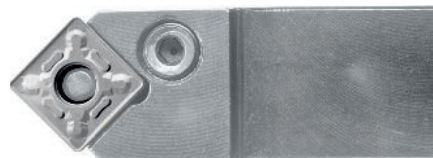
For chamfering and longitudinal turning using SN indexable insert 90°.

Execution:

- precision-engineered steel support, burnished, hardened, toggle clamp system, type S, 90° pitch angle, 90° tip angle, 0° clearance angle

Advantage:

- extremely stable geometry for longitudinal machining with large feed depths and challenging conditions
- negative body geometry ensures good stability and absorption of force for large cutting depths



ISO name	h=h1 (mm)	b (mm)	L1 (mm)	L2 (mm)	f (mm)	Tool design Suitable for indexable inserts	Neutral	
							Ident. No.	
PSDN N 2020 K12	20	20	125	28	10	SN.. 1204..	17857...	●
PSDN N 2525 M12	25	25	150	28	12.5	SN.. 1204..	010	●
PSDN N 3232 P12	32	32	170	28	16	SN.. 1204..	015	●

Prod. Gr. 107

ATORN® PSSN R/L clamp holder, negative (DIN 4983) For facing and longitudinal turning using SN indexable inserts

Application:

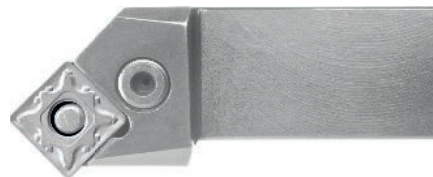
For copy turning and longitudinal turning using SN indexable insert 90°.

Execution:

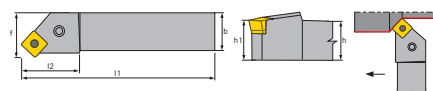
- precision-engineered steel support, burnished, hardened, toggle clamp system, type S, 45° pitch angle, 90° tip angle, 0° clearance angle

Advantage:

- very stable geometry with large feed depths and challenging conditions
- negative body geometry ensures good stability and absorption of force for large cutting depths



Ident. No. 020, 030, 040



ISO name	h=h1 (mm)	b (mm)	L1 (mm)	L2 (mm)	f (mm)	Tool design Suitable for indexable inserts	Right		Left	
							Ident. No.		Ident. No.	
PSSN R/L 2020 K12	20	20	125	28	25	SN.. 1204..	020	●	025	●
PSSN R/L 2525 M12	25	25	150	28	32	SN.. 1204..	030	●	035	●
PSSN R/L 3232 P19	32	32	170	42	40	SN.. 1906..	040	●	050	●

Prod. Gr. 107

ATORN® PTGN R/L clamp holder, negative (DIN 4983) For copy and longitudinal turning using TN indexable inserts

Application:

For copy turning and longitudinal turning using TN indexable insert 60°

Execution:

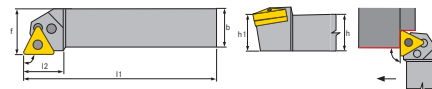
- precision-engineered steel support, burnished, hardened, toggle clamp system, type T, 90° pitch angle, 60° tip angle, 0° clearance angle

Advantage:

- three-edge geometry lowers costs per cut
- negative body geometry ensures good stability and absorption of force for large cutting depths
- wide range of delivery: suitable for both finishing and roughing



Ident. No. 011, 021, 031



p. 562



p. 516

ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	Tool design Suitable for in- dexable inserts	Right		Left	
							17839... Ident. No.		17839... Ident. No.	
PTGN R/L 1616 H16	16	16	100	22	20	TN.. 1604..	011	•	016	•
PTGN R/L 2020 K16	20	20	125	22	25	TN.. 1604..	021	•	026	•
PTGN R/L 2525 M16	25	25	150	22	32	TN.. 1604..	031	•	036	•

Prod. Gr. 107

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Overview of ISO boring bars

Clamping systems, dimensions

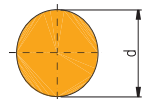
Designations

Clamping holder with cylindric shank (boring bar) according to DIN 8024

Shank design ①

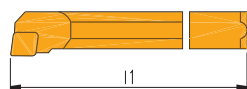
A	Steel with inner cooling lubrication feed	E	Carbide with inner cooling lubrication feed
C	Carbide	S	Steel

Shank diameter ②



Shank diameter in mm.
In case of diameters of less than 10 mm, there will be a leading 0, e. g. 08.

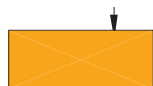
Holder length ③



X	Special length
----------	----------------

Symbols	H	J	K	L	M	N	P	Q	R	S	T	U	V
mm	100	110	125	140	150	160	170	180	200	250	300	350	400

Clamping system ④



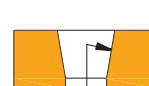
C



M

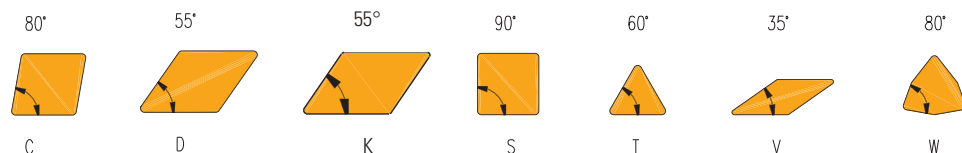


P

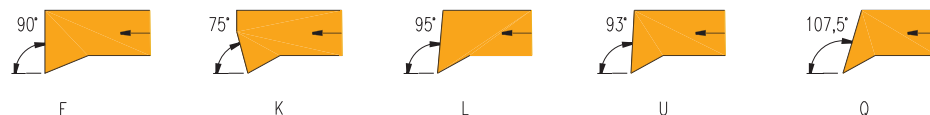


S

Insert shape ⑤



Holder shape ⑥



Clearance angle indexable insert ⑦



Cut direction ⑧



R = right

L = left

Cutter length ⑨

Indication of the cutter length in mm without decimal point, in case of one-digit numerals with leading 0 (e. g. 08).
In case of round indexable inserts, the diameter is always indicated.

Additional indications

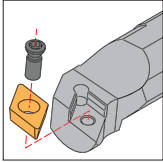
These indications do not form part of the standard and are facultative, e. g. "-U" stands: with shim.

Example

①	②	③	④	⑤	⑥	⑦	⑧	⑨
S	32	U	P	C	L	C	R	12



boring bars - clamping system S for positive indexable inserts with hole

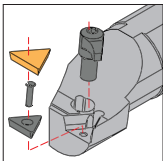


clamping positive indexable inserts which are pulled into the insert setting via a central clamping screw. modern and reliable clamping system for positive lathe machining. the advantage of this system is the high level of accessibility due to the compact design. chips can be removed reliably with this system.

			page
17846168-174	SCLC boring bar, offset, steel, positive, right-hand For face and longitudinal turning with CC indexable insert		609
17846013-083	SCLC steel boring bar, positive right for face and longitudinal turning using CC indexable insert		610-611
17847210-214	SDUC boring bar, offset, steel, positive, right-hand For longitudinal and copy turning with DC indexable insert		611
17847012-032	SDUC offset steel boring bar, positive, right for longitudinal and copy turning using DC indexable insert		612-613
17848210-218	SDQC offset steel boring bar, positive, right for longitudinal and copy turning with DC indexable insert		613
17848022-072	SDQC steel boring bar, positive right for longitudinal and copy turning using DC indexable insert		614-615
17850021-081	STFC boring bar steel positive, right-hand For longitudinal turning with TC indexable insert		615
17850300-320	SVJC boring bar steel positive, right-hand For blind hole radius turning with VC indexable insert		616
17855050-055	SVUB boring bar steel, positive, right-hand For copying and longitudinal turning with VB indexable insert		617
17849012-052	SVUC boring bar steel positive, right-hand For longitudinal and copy turning with VC indexable insert		617



boring bar - clamping system C for positive indexable inserts without hole

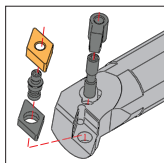


clamping positive indexable inserts without hole. classic clamping system for positive indexable inserts in sinter versions with and without chip breaker.

			page
17851010-020	CKUN steel boring bar, negative, right for longitudinal turning with KN indexable insert		618



boring bar - clamping system M for negative indexable inserts with hole

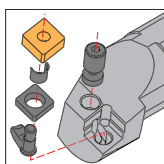


clamping negative indexable inserts using clamping lever and adjustable clamp. the system minimises vibration of the indexable insert. it is the first choice for negative ceramic inserts with central hole and also for cermet indexable inserts.

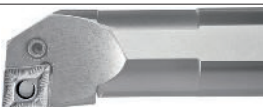
			page
17851110-120	MVUN steel boring bar, negative, right For copy and longitudinal turning using VN indexable insert		618



clamp holder external - clamping system P for negative indexable inserts with hole



clamping negative indexable inserts using clamping lever. clamping system P allows a wide range of applications. it is the first choice for general turning operations. the advantage of this system is the high level of accessibility due to the compact design. chips can be removed reliably with this system.

			page
17852011-041	PCLN steel boring bar, negative, right for facing and longitudinal turning using CN indexable insert		619
17853001-041	PDUN steel boring bar, negative, right for copy and longitudinal turning using DN indexable insert		619
17854050-075	PWLN steel boring bar, negative, right for facing and longitudinal turning using WN indexable insert		620
17856011-021	PSKN steel boring bar, negative, right for longitudinal turning using SN indexable insert		620
17858111-151	PTFN steel boring bar, negative, right for longitudinal turning using TN indexable insert		621



boring bars in steel construction



internal drilling down to a removal depth of up to $3xD$



boring bars in HSS design



inner boring up to a drill depth of $4xD$. HSS has good vibration-damping properties.



boring bars in cemented carbide design



inner boring up to a drill depth of $5xD$. cemented carbide has very good vibration-damping properties.



Overview of ISO boring bars

Clamping systems, dimensions

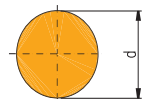
Designations

Clamping holder with cylindric shank (boring bar) according to DIN 8024

Shank design ①

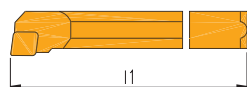
A	Steel with inner cooling lubrication feed	E	Carbide with inner cooling lubrication feed
C	Carbide	S	Steel

Shank diameter ②



Shank diameter in mm.
In case of diameters of less than 10 mm, there will be a leading 0, e. g. 08.

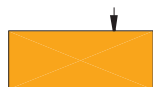
Holder length ③



X Special length

Symbols	H	J	K	L	M	N	P	Q	R	S	T	U	V
mm	100	110	125	140	150	160	170	180	200	250	300	350	400

Clamping system ④



C



M



P



S

Insert shape ⑤

80°

55°

55°

90°

60°

35°

80°



C



D



K



S



T

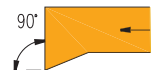


V



W

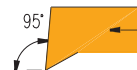
Holder shape ⑥



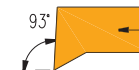
F



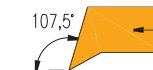
K



L



U



Q

Clearance angle indexable insert ⑦



B



C

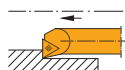


N

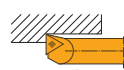


P

Cut direction ⑧



R = right



L = left

Cutter length ⑨

Indication of the cutter length in mm without decimal point, in case of one-digit numerals with leading 0 (e. g. 08).
In case of round indexable inserts, the diameter is always indicated.

Additional indications

These indications do not form part of the standard and are facultative, e. g. "-U" stands: with shim.

Example

①	②	③	④	⑤	⑥	⑦	⑧	⑨
S	32	U	P	C	L	C	R	12

ATORN® SCLC boring bar, offset, positive, steel and HSS (DIN 8024) For facing and longitudinal turning using CC indexable inserts

Application:

For face and longitudinal turning with CC indexable insert 80°.

Execution:

▪ **Ident. No. 168–174:** Precision-made boring bar, **steel**, with internal cooling, offset, type C, attack angle 95°, tip angle 80°, clearance angle 7°

▪ **Ident. No. 176–182:** precision-manufactured boring bar, **steel**, with internal cooling, offset, type C, attack angle 95°, tip angle 80°, clearance angle 7°

▪ **Ident. No. 184–190, 300–315:** Precision-made boring bar, **HSS**, with internal cooling, offset, type C, attack angle 95°, tip angle 80°, clearance angle 7°

▪ **Ident. No. 192–198:** precision-manufactured **HSS** boring bar, with inner cooling, offset, C type, 95° pitch angle, 80° tip angle, 7° clearance angle

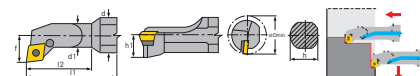
Advantage:

▪ Universal use for face and longitudinal turning
 ▪ Positive body geometry ensures low cutting forces

▪ **Ident. No. 184–315:** Very high rigidity and very good cut quality due to HSS base material



Ident. No. 168–174



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ISO name	D min. (mm)	d1 (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	Tool design Suitable for indexable inserts	Right		Left	
									17846... Ident. No.		17846... Ident. No.	
A 0608 H SCLC R/L 06	8	6	8	25	100	7	4	CC.. 06..	168	●	176	●
A 0810 J SCLC R/L 06	12	8	10	32	110	9	6	CC.. 06..	170	●	178	●
A 1012 K SCLC R/L 06	14	10	12	38	125	11	7	CC.. 06..	172	●	180	●
A 1216 M SCLC R/L 06	18	12	16	50	150	15	9	CC.. 06..	174	●	182	●
AH 0410 H SCLC R/L 03	5	4	10	24	100	9	2.5	CC.. 03..	300	●	305	●
AH 0610 H SCLC R/L 03	7	6	10	24	100	9	2.5	CC.. 03..	310	●	315	●
AH 0608 H SCLC R/L 06	8	6	8	25	100	7	4	CC.. 06..	184	●	192	●
AH 0810 J SCLC R/L 06	12	8	10	32	110	9	6	CC.. 06..	186	●	194	●
AH 1012 J SCLC R/L 06	14	10	12	38	110	11	7	CC.. 06..	188	●	196	●
AH 1216 M SCLC R/L 06	18	12	16	50	150	15	9	CC.. 06..	190	●	198	●

Prod. Gr. 107

ATORN® SCLC boring bar set, offset, positive, steel and HSS (DIN 8024) For facing and longitudinal turning using CC indexable inserts

Application:

For copy turning and longitudinal turning using CC indexable insert 80°.

Execution:

▪ **Ident. No. 100–105:** precision-manufactured **steel** boring bar, with inner cooling, offset, C type, 95° pitch angle, 80° tip angle, 7° clearance angle

▪ **Ident. No. 107–108:** precision-manufactured **HSS** boring bar, with inner cooling, offset, C type, 95° pitch angle, 80° tip angle, 7° clearance angle

Advantage:

▪ universal use for facing and longitudinal turning
 ▪ positive body geometry ensures low cutting forces
 ▪ **Ident. No. 107–108:** high level of rigidity and good cutting quality thanks to HSS supporting material

Technical data:

▪ Number of pieces in assortment/set: 4 PCS
 ▪ Suitable for indexable inserts: CC.. 0602..



Fig. shows HSS variant

ISO name	Material	Machining direction Composition of set	Right		Left	
			17846... Ident. No.		17846... Ident. No.	
SCLC R06	Steel	1 piece each 17846 168-174 (A0608H, A0810J, A1012K, A1216M)	100	●	-	-
SCLC L06	Steel	1 piece each 17846 176-182 (A0608H, A0810J, A1012K, A1216M)	-	-	105	●
SCLC R06	HSS	1 piece each 17846 184-190 (AH0608H, AH0810J, AH1012K, AH1216M)	107	●	-	-
SCLC L06	HSS	1 piece each 17846 192-198 (AH0608H, AH0810J, AH1012K, AH1216M)	-	-	108	●

Prod. Gr. 107



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ATORN® SCLC steel boring bar, positive, steel, HSS, CC (DIN 8024) For facing and longitudinal turning using CC indexable inserts

Application:

For copy turning and longitudinal turning using CC indexable insert 80°.

Execution:

- **Ident. No. 013–088:** precision-manufactured steel boring bar, with inner cooling, C type, 95° pitch angle, 80° tip angle, 7° clearance angle
- **Ident. No. 093–177:** precision-manufactured solid carbide boring bar, with inner cooling, C type, 95° pitch angle, 80° tip angle, 7° clearance angle

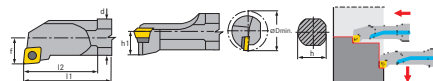
- **Ident. No. 320–375:** precision-manufactured HSS boring bar, with inner cooling, C type, 95° pitch angle, 80° tip angle, 7° clearance angle

Advantage:

- universal use for facing and longitudinal turning
- positive body geometry ensures low cutting forces
- **Ident. No. 093–177:** extremely high rigidity and very good cutting quality thanks to solid carbide supporting material
- **Ident. No. 320–375:** very high rigidity and excellent cutting quality thanks to HSS supporting material



Ident. No. 013, 023, 033, 043, 053, 063, 073, 083



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ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	Tool design Suitable for indexable inserts	Right		Left	
									17846... Ident. No.		17846... Ident. No.	
A 08 H SCLC R/L 06	12	8	3.5	12	100	7	6	CC.. 0602..	013	●	018	●
A 10 K SCLC R/L 06	14	10	4.5	16	125	9	7	CC.. 0602..	023	●	028	●
A 12 R SCLC R/L 06	18	12	5.5	20	140	11	9	CC.. 0602..	033	●	038	●
A 16 Q SCLC R/L 09	22	16	7.5	25	180	15	11	CC.. 09T3..	043	●	048	●
A 20 R SCLC R/L 09	26	20	9	32	200	18	13	CC.. 09T3..	053	●	058	●
A 25 R SCLC R/L 12	34	25	11.5	40	200	23	17	CC.. 1204..	063	●	068	●
A 32 S SCLC R/L 12	40	32	15	20	250	30	22	CC.. 1204..	073	●	078	●
A 40 T SCLC R/L 12	50	40	18.5	25	300	37	27	CC.. 1204..	083	●	088	●
C 04 G SCLC R/L 03	5	4	1.5	10	90	3	2.5	CC.. 0301..	093	●	094	●
C 05 H SCLC R/L 03	6	5	2	10	100	4	3	CC.. 0301..	095	●	096	●
E 06 J SCLC R/L 03	7	6	2.5	10	110	5	3.5	CC.. 0301..	097	●	098	●
E 08 K SCLC R/L 06	10	8	3.5	10	125	7	5	CC.. 0602..	112	●	117	●
E 10 K SCLC R/L 06	12	10	4.5	10	125	9	6	CC.. 0602..	122	●	127	●
E 12 M SCLC R/L 06	14	12	5.5	10	150	11	7	CC.. 0602..	132	●	137	●
E 16 R SCLC R/L 09	18	16	7.5	16	200	15	9	CC.. 09T3..	142	●	147	●
E 20 S SCLC R/L 09	23	20	9	16	250	18	11.5	CC.. 09T3..	152	●	157	●
E 25 S SCLC R/L 12	30	25	11.5	16	250	23	13	CC.. 1204..	162	●	167	●
E 32 U SCLC R/L 12	40	32	15	22	350	30	20	CC.. 1204..	173	●	177	○
AH 08 K SCLC R/L 06	10	8	3.5	20	125	7	5	CC.. 0602..	320	●	325	●
AH 10 K SCLC R/L 06	12	10	4.5	20	125	9	6	CC.. 0602..	330	●	335	●
AH 12 M SCLC R/L 06	14	12	5.5	20	150	11	7	CC.. 0602..	340	●	345	●
AH 16 Q SCLC R/L 09	18	16	7.5	27	180	15	9	CC.. 09T3..	350	●	355	●
AH 20 R SCLC R/L 09	23	20	9	27	200	18	11.5	CC.. 09T3..	360	●	365	●
AH 25 R SCLC R/L 09	28	25	11.5	40	200	23	14	CC.. 1204..	370	●	375	●

Prod. Gr. 107

ATORN® SCLC boring bar set, positive, cemented carbide (DIN 8024)

For facing and longitudinal turning using CC indexable inserts

Application:

For copy turning and longitudinal turning using CC indexable insert 80°.

- positive body geometry ensures low cutting forces
- very high level of rigidity and good cutting quality thanks to solid carbide supporting material

Execution:

- precision-manufactured **solid carbide** boring bar, with inner cooling, C type, 95° pitch angle, 80° tip angle, 7° clearance angle

Technical data:

- Material: VHM
- Number of pieces in assortment/set: 3 PCS
- Suitable for indexable inserts: CC.. 0602..

**Advantage:**

- universal use for facing and longitudinal turning

ISO name	Machining direction Composition of set	Right		Left	
		17846... Ident. No.		17846... Ident. No.	
SCLC R06	1 piece each 17846 112-132 (E08K, E10K, E12M)	200	●	-	-
SCLC L06	1 piece each 17846 117-137 (E08K, E10K, E12M)	-	-	205	●

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ATORN® SDUC boring bar, offset, positive, steel, HSS, cemented carbide (DIN 8024)

for longitudinal and copy turning with DC indexable insert

Application:

Ident. No. 210–221: For longitudinal and copy turning with DC indexable insert 55°.

Ident. No. 238–243: For longitudinal and copy turning with DC 55° indexable insert.

Execution:

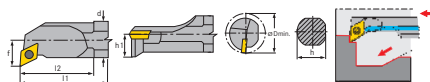
- Ident. No. 210–215:** Precision-made boring bar, **steel**, with internal cooling, offset, type D, attack angle 93.5°, tip angle 55°, clearance angle 7°
- Ident. No. 216–221:** Precision-made boring bar, **HSS**, with internal cooling, offset, type D, attack angle 93.5°, tip angle 55°, clearance angle 7°
- Ident. No. 238–243:** precision-manufactured **solid carbide** boring bar, with inner cooling, D type, 93.5° pitch angle, 55° tip angle, 7° clearance angle

Advantage:

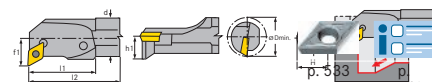
- Ident. No. 210–221:**
 - Narrow contour optimised for copying-turning work
 - Positive body geometry ensures low cutting forces
- Ident. No. 216–221:** Very high rigidity and very good cut quality due to HSS base material
- Ident. No. 238–243:**
 - slim contour, optimised for copy turning
 - positive body geometry ensures low cutting forces
 - extremely high rigidity and very good cutting quality thanks to solid carbide supporting material



Ident. No. 210, 212, 214



Ident. No. 210–221



Ident. No. 239, 241, 243

ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	Tool design Suitable for indexable inserts	Right		Left	
								17847... Ident. No.		17847... Ident. No.	
A 0810 H SDUC R/L 07	12.5	10	22	100	9	7	DC.. 0702..	210	●	211	●
A 1012 H SDUC R/L 07	15.5	12	28	125	11	9	DC.. 0702..	212	●	213	●
A 1216 R/L SDUC R/L 07	19.5	16	36	150	15	11	DC.. 0702..	214	●	215	●
AH 0810 H SDUC R/L 07	12.5	10	22	100	9	7	DC.. 0702..	216	●	217	●
AH 1012 K SDUC R/L 07	15.5	12	28	125	11	9	DC.. 0702..	218	●	219	●
AH 1216 M SDUC R/L 07	19.5	16	36	150	15	11	DC.. 0702..	220	●	221	●
E 08 K SDUC R/L 07	13.5	8	10	125	7	7.5	DC.. 0702..	238	●	239	●
E 10 K SDUC R/L 07	13.5	10	10	125	9	7.5	DC.. 0702..	240	●	241	●
E 12 M SDUC R/L 07	15	12	12.5	150	11	7.5	DC.. 0702..	242	●	243	●

Prod. Gr. 107

ATORN® SDUC boring bar set, offset, positive, steel, HSS, cemented carbide (DIN 8024) for longitudinal and copy turning with DC indexable insert

Application:

For longitudinal and copy turning with DC 55° indexable insert.

type, 93.5° pitch angle, 55° tip angle, 7° clearance angle

Execution:

- Ident. No. 100–105:** precision-manufactured steel boring bar set, offset, with inner cooling, D type, 93.5° pitch angle, 55° tip angle, 7° clearance angle
- Ident. No. 230–235:** precision-manufactured HSS boring bar set, offset, with inner cooling, D type, 93.5° pitch angle, 55° tip angle, 7° clearance angle
- Ident. No. 250–255:** precision-manufactured solid carbide boring bar set, with inner cooling, D

Advantage:

- very slim geometry, optimised for contour turning work
- positive body geometry ensures low cutting forces
- Ident. No. 230–235:** high level of rigidity and good cutting quality thanks to HSS supporting material
- Ident. No. 250–255:** very high level of rigidity and good cutting quality thanks to solid carbide supporting material

Technical data:

- Suitable for indexable inserts: DC.. 0702..



Fig. shows HSS variant



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ISO name	Material	Composition of set	Machining direction Number of pieces in assortment/set (PCS)	Right		Left	
				17847... Ident. No.		17847... Ident. No.	
SDUC R07	Steel	1 piece each 17847 210-214 (A0810HK, A1012H, A1216H)	3	100	●	-	-
SDUC L07	Steel	1 piece each 17847 211-215 (A0810HK, A1012H, A1216H)	3	-	-	105	●
SDUC R07	HSS	1 piece each 17847 216-220 (AH0810HK, AH1012H, AH1216H)	3	230	●	-	-
SDUC L07	HSS	1 piece each 17847 217-221 (AH0810HK, AH1012H, AH1216H)	3	-	-	235	●
SDUC R07	VHM	1 piece each 17847 240-242 (E10K, E12M)	2	250	●	-	-
SDUC L07	VHM	1 piece each 17847 241-243 (E10K, E12M)	2	-	-	255	●

Prod. Gr. 107

ATORN® SDUC boring bar, offset, positive, steel, HSS, cemented carbide (DIN 8024) for longitudinal and copy turning with DC indexable insert

Application:

For longitudinal and copy turning with DC 55° indexable insert.

Execution:

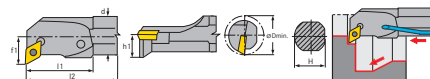
- Ident. No. 012–068:** precision-manufactured steel boring bar, with inner cooling, D type, 93.5° pitch angle, 55° tip angle, 7° clearance angle
- Ident. No. 071–109:** precision-manufactured HSS boring bar, with inner cooling, D type, 93.5° pitch angle, 55° tip angle, 7° clearance angle
- Ident. No. 238–249:** precision-manufactured solid carbide boring bar, with inner cooling, D type, 93.5° pitch angle, 55° tip angle, 7° clearance angle

Advantage:

- positive body geometry ensures low cutting forces
- Ident. No. 012–109, 246–249:** very slim geometry, optimised for contour turning work
- Ident. No. 071–109:** very high rigidity and excellent cutting quality thanks to HSS supporting material
- Ident. No. 238–245:** slim contour, optimised for copy turning
- Ident. No. 238–249:** extremely high rigidity and very good cutting quality thanks to solid carbide supporting material



Ident. No. 012, 022, 032



Ident. No. 012–109, 239, 241, 243, 245–249



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ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	Tool design Suitable for indexable inserts	Right		Left	
									17847... Ident. No.		17847... Ident. No.	
A 10 H SDUC R/L 07	14	10	4.5	8	100	9	7	DC.. 0702..	012	●	017	●
A 12 L SDUC R/L 07	18	12	5.5	20	140	11	9	DC.. 0702..	022	●	027	●
A 16 Q SDUC R/L 07	22	16	7.5	25	180	15	11	DC.. 0702..	032	●	037	●
A 20 R SDUC R/L 11	26	20	9	32	200	18	13	DC.. 11T3..	042	●	047	●
A 25 R SDUC R/L 11	34	25	11.5	40	200	23	17	DC.. 11T3..	052	●	057	●
A 32 S SDUC R/L 11	40	32	15	50	250	30	22	DC.. 11T3..	061	●	066	●
A 40 T SDUC R/L 11	50	40	18.5	50	300	37	25	DC.. 11T3..	067	●	068	●
AH 10 K SDUC R/L 07	14	10	4.5	20	125	9	7.5	DC.. 0702..	071	●	076	●
AH 12 M SDUC R/L 07	16	12	5.5	25	150	11	8	DC.. 0702..	081	●	086	●
AH 16 Q SDUC R/L 07	20	16	7.5	25	180	15	10	DC.. 0702..	091	●	096	●
AH 20 R SDUC R/L 11	26	20	9	30	200	18	13	DC.. 11T3..	101	●	103	●



ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	Tool design Suitable for indexable inserts	Right		Left	
									17847... Ident. No.		17847... Ident. No.	
AH 25 R SDUC R/L 11	32	25	11.5	40	200	23	16	DC.. 11T3..	107	●	109	●
E 08 K SDUC R/L 07	13.5	8	3.5	10	125	7	7.5	DC.. 0702..	238	●	239	●
E 10 K SDUC R/L 07	13.5	10	4.5	10	125	9	7.5	DC.. 0702..	240	●	241	●
E 12 M SDUC R/L 07	15	12	5.5	12.5	150	11	7.5	DC.. 0702..	242	●	243	●
E 16 R SDUC R/L 07	19	16	7.5	16.5	200	15	9.5	DC.. 0702..	244	●	245	●
E 20 S SDUC R/L 11	25	20	9	20.5	250	18	14	DC.. 11T3..	246	●	247	●
E 25 S SDUC R/L 11	27	25	11.5	26	250	23	16	DC.. 11T3..	248	●	249	●

Prod. Gr. 107

ATORN® SDQC boring bar, offset, positive, steel (DIN 8024) for longitudinal and copy turning with DC indexable insert

Application:

For longitudinal and copy turning with DC 55° indexable insert.

Advantage:

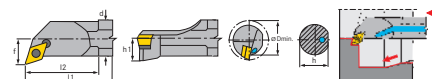
- slim contour, optimised for copy turning work
- positive body geometry ensures low cutting forces



Execution:

- precision-manufactured steel boring bar, with inner cooling, offset, D type, 107.5° pitch angle, 55° tip angle, 7° clearance angle

Ident. No. 210, 214, 218



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ISO name	D min. (mm)	d1 (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	Tool design Suitable for indexable inserts	Right		Left	
									17848... Ident. No.		17848... Ident. No.	
A 0810 H SDQC R/L 07	12.5	8	10	22	100	9	7	DC.. 0702..	210	●	212	●
A 1012 K SDQC R/L 07	15.5	10	12	28	125	11	9	DC.. 0702..	214	●	216	●
A 1216 M SDQC R/L 07	19.5	12	16	36	150	15	11	DC.. 0702..	218	●	220	●

Prod. Gr. 107

ATORN® SDQC boring bar set, offset, positive, steel (DIN 8024) for longitudinal and copy turning with DC indexable insert

Application:

For longitudinal and copy turning with DC 55° indexable insert.

Execution:

- precision-manufactured steel boring bar, offset, with inner cooling, D type, 107.5° pitch angle, 55° tip angle, 7° clearance angle

Advantage:

- very slim geometry, optimised for contour turning work
- positive body geometry ensures low cutting forces

Technical data:

- Material: Steel
- Number of pieces in assortment/set: 3 PCS
- Suitable for indexable inserts: DC.. 0702..



ISO name	Machining direction Composition of set	Right		Left	
		17848... Ident. No.		17848... Ident. No.	
SDQC R07	1 piece each 17848 210-218 (A0810H, A1012K, A1216M)	200	•	-	-
SDQC L07	1 piece each 17848 212-220 (A0810H, A1012K, A1216M)	-	-	205	•

Prod. Gr. 107

ATORN® SDQC boring bar, positive, steel, HSS, cemented carbide (DIN 8024) for longitudinal and copy turning with DC indexable insert

Application:

Ident. No. 022-077: For longitudinal and copy turning with DC 55° indexable insert.

Ident. No. 082-187: For longitudinal and copy turning with DC indexable insert 55°.

Execution:

- Ident. No. 022-077:** precision-manufactured steel boring bar, with inner cooling, D type, 107.5° pitch angle, 55° tip angle, 7° clearance angle
- Ident. No. 082-127:** Precision-made boring bar, HSS, with internal cooling, type D, attack angle 107.5°, tip angle 55°, clearance angle 7°
- Ident. No. 132-187:** Precision-made boring bar, steel, with internal cooling, type D, attack angle 107.5°, tip angle 55°, clearance angle 7°

Advantage:

- Ident. No. 022-077:**
 - very slim geometry, optimised for contour turning work
 - positive body geometry ensures low cutting forces
- Ident. No. 082-127:** Very high rigidity and very good cut quality due to HSS base material
- Ident. No. 082-187:**
 - Very narrow geometry optimised for contour-turning work
 - Positive body geometry ensures low cutting forces
- Ident. No. 132-187:** Extremely high rigidity and very good cut quality due to solid carbide base material



Ident. No. 022, 032, 042, 052, 062, 072



ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	Tool design Suitable for indexable inserts	Right		Left	
									17848... Ident. No.		17848... Ident. No.	
A 12 L SDQC R/L 07	18	12	5.5	20	125	11	9	DC.. 0702..	022	•	027	•
A 16 Q SDQC R/L 07	22	16	7.5	25	150	15	11	DC.. 0702..	032	•	037	•
A 20 R SDQC R/L 11	26	20	9	32	200	18	13	DC.. 11T3..	042	•	047	•
A 25 R SDQC R/L 11	34.5	25	11.5	40	200	23	17	DC.. 11T3..	052	•	057	•
A 32 S SDQC R/L 11	44	32	15	33.5	250	30	22	DC.. 11T3..	062	•	067	•
A 40 T SDQC R/L 11	54	40	18.5	50	300	37	27	DC.. 11T3..	072	•	077	•
AH 10 K SDQC R/L 07	13	10	4.5	20	125	9	7	DC.. 0702..	082	•	087	•
AH 12 M SDQC R/L 07	16	12	5.5	20	150	11	8.5	DC.. 0702..	092	•	097	•
AH 16 Q SDQC R/L 07	20	16	7.5	30	180	15	10	DC.. 0702..	102	•	107	•
AH 20 R SDQC R/L 11	25	20	9	40	200	18	12.5	DC.. 11T3..	112	•	117	•
AH 25 R SDQC R/L 11	32	25	11.5	40	200	23	16	DC.. 11T3..	122	•	127	•
E 08 K SDQC R/L 07	12	8	3.5	10	125	7	7	DC.. 0702..	132	•	137	•
E 10 K SDQC R/L 07	13	10	4.5	10	125	9	7	DC.. 0702..	142	•	147	•
E 12 M SDQC R/L 07	16	12	5.5	12.5	150	11	8.5	DC.. 0702..	152	•	157	•
E 16 R SDQC R/L 07	20	16	7.5	16.5	200	15	10	DC.. 0702..	162	•	167	•



ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	Tool design Suitable for indexable inserts	Right		Left	
									17848... Ident. No.		17848... Ident. No.	
E 20 S SDQC R/L 11	25	20	9	13	250	18	12.5	DC.. 11T3..	172	●	177	●
E 25 S SDQC R/L 11	32	25	11.5	17	250	23	16	DC.. 11T3..	182	●	187	○

Prod. Gr. 107

ATORN® STFC boring bar, positive, steel, HSS, cemented carbide (DIN 8024)

For longitudinal turning using TC indexable inserts

Application:

For longitudinal and copy turning with TC indexable insert 60°.

type T, attack angle 90°, tip angle 60°, clearance angle 7°

Execution:

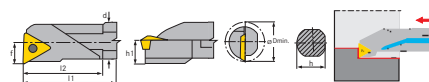
- **Ident. No. 021–086:** Precision-made boring bar, **steel**, with internal cooling, type T, attack angle 90°, tip angle 60°, clearance angle 7°
- **Ident. No. 087–121, 131, 141, 151:** Precision-made boring bar, **HSS**, with internal cooling, type T, attack angle 90°, tip angle 60°, clearance angle 7°
- **Ident. No. 126, 136, 146, 156:** Precision-made boring bar, **solid carbide**, with internal cooling,

Advantage:

- Three-cutter geometry reduces the costs per cutter
- Positive body geometry ensures low cutting forces
- **Ident. No. 087–096:** Very high rigidity and very good cut quality due to HSS base material
- **Ident. No. 121–156:** Extremely high rigidity and very good cut quality due to solid carbide base material



Ident. No. 021, 031, 041, 051, 061, 071, 081



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ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	Tool design Suitable for indexable inserts	Right		Left	
									17850... Ident. No.		17850... Ident. No.	
A 10 K STFC R/L 11	14	10	4.5	16	125	9	7	TC.. 1102..	021	●	026	●
A 12 R STFC R/L 11	18	12	5.5	20	140	11	9	TC.. 1102..	031	●	036	●
A 16 Q STFC R/L 11	22	16	7.5	25	180	15	11	TC.. 1102..	041	●	046	●
A 20 R STFC R/L 16	26	20	9	32	200	18	13	TC.. 16T3..	051	●	056	●
A 25 R STFC R/L 16	34	25	11.5	40	200	23	17	TC.. 16T3..	061	●	066	●
A 32 S STFC R/L 16	40	32	15	21	250	30	22	TC.. 16T3..	071	●	076	●
A 40 T STFC R/L 16	49	40	18.5	21	300	37	27	TC.. 16T3..	081	●	086	●
AH 10 K STFC R/L 11	12	10	4.5	16	125	9	7	TC.. 1102..	087	●	088	●
AH 12 M STFC R/L 11	14	12	5.5	20	150	11	9	TC.. 1102..	089	●	090	●
AH 16 Q STFC R/L 11	18	16	7.5	25	180	15	11	TC.. 1102..	091	●	092	●
AH 20 R STFC R/L 11	23	20	9	32	200	18	13	TC.. 1102..	093	●	094	●
AH 25 R STFC R/L 16	28	25	11.5	40	200	23	17	TC.. 16T3..	095	●	096	●
E 12 M STFC R/L 11	15	12	5.5	20	150	11	7.5	TC.. 1102..	121	●	126	●
E 16 R STFC R/L 11	19	16	7.5	25	200	15	9.5	TC.. 1102..	131	●	136	●
E 20 S STFC R/L 16	24	20	9	32	250	18	12	TC.. 16T3..	141	●	146	○
E 25 S STFC R/L 16	27	25	11.5	40	250	23	13.5	TC.. 16T3..	151	●	156	○

Prod. Gr. 107

ATORN® SVJC boring bar, positive, steel, HSS, cemented carbide (DIN 8024) For turning blind hole radii using VC indexable inserts

Application:

For blind hole radius turning with VC indexable insert 35°.

Execution:

- Ident. No. 300–325: Precision-made boring bar, steel, with internal cooling, type V, attack angle 52°, tip angle 35°, clearance angle 7°

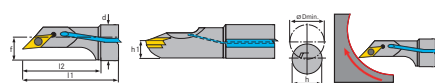
- Ident. No. 400–425: Precision-made boring bar, HSS, with internal cooling, type V, attack angle 52°, tip angle 35°, clearance angle 7°

Advantage:

- Very narrow geometry optimised for contour-turning work
- Positive body geometry ensures low cutting forces
- Ident. No. 400–425: Very high rigidity and very good cut quality due to HSS base material



Ident. No. 300, 310, 320



ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	Tool design Suitable for indexable inserts	Right		Left	
									17850... Ident. No.		17850... Ident. No.	
A 16 M SVJC R/L 11	22	16	7.5	30	150	15	4.6	VC.. 1103..	300	●	305	●
A 20 Q SVJC R/L 11	25	20	9	38	180	18	4.6	VC.. 1103..	310	●	315	●
A 25 R SVJC R/L 16	28	25	11.5	44	200	23	4.6	VC.. 1604..	320	●	325	●
AH 16 M SVJC R/L 11	22	16	7.5	30	150	15	4.6	VC.. 1103..	400	●	405	●
AH 20 Q SVJC R/L 11	25	20	9	38	180	18	4.6	VC.. 1103..	410	●	415	●
AH 25 R SVJC R/L 16	28	25	11.5	44	200	23	4.6	VC.. 1604..	420	●	425	○

Prod. Gr. 107

ATORN® SVJC boring bar set, positive, steel (DIN 8024) For turning blind hole radii using VC indexable inserts

Application:

For turning blind hole radius using 35° VC indexable insert.

Execution:

- precision-manufactured steel boring bar, with inner cooling, V type, 52° pitch angle, 35° tip angle, 7° clearance angle

Advantage:

- very slim geometry, optimised for contour turning work
- positive body geometry ensures low cutting forces

Technical data:

- Material: Steel
- Number of pieces in assortment/set: 2 PCS
- Suitable for indexable inserts: VC.. 1103..



ISO name	Machining direction Composition of set	Right		Left	
		17850... Ident. No.		17850... Ident. No.	
SVJC R11	1 piece each 17850 300-310 (A16M, A20Q)	250	●	-	-
SVJC L11	1 piece each 17850 305-315 (A16M, A20Q)	-	-	255	●

Prod. Gr. 107

ATORN® SVUB boring bar, positive, steel (DIN 8024) For copy and longitudinal lathing with VB indexable insert

Application:

For copying and longitudinal turning with VB indexable insert 35°.

Execution:

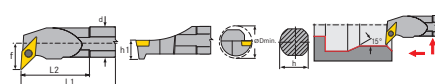
- Precision-made boring bar, steel, with internal cooling, type V, attack angle 93°, tip angle 35°, clearance angle 7°

Advantage:

- Very narrow geometry optimised for contour-turning work
- Positive body geometry ensures low cutting forces



Ident. No. 050, 055





ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	Tool design Suitable for indexable inserts	Right		Left	
									17855... Ident. No.		17855... Ident. No.	
S 25 T SVUB R/L 16	31	25	11.5	40	300	23	17	VB.. 1604..	050	•	051	•
S 32 U SVUB R/L 16	39	32	15	50	350	30	22	VB.. 1604..	055	•	056	•

Prod. Gr. 107

ATORN® SVUC boring bar, positive, steel, HSS, cemented carbide for longitudinal and copy turning using VC indexable inserts

Application:

For longitudinal and copy turning with VC indexable insert 35°.

Execution:

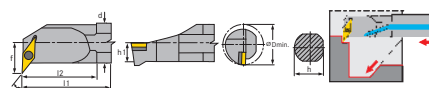
- **Ident. No. 012–057:** Precision-made boring bar, **steel**, with internal cooling, type V, attack angle 93°, tip angle 35°, clearance angle 7°
- **Ident. No. 062–087:** Precision-made boring bar, **solid carbide**, with internal cooling, type V, attack angle 93°, tip angle 35°, clearance angle 7°

Advantage:

- Very narrow geometry optimised for contour-turning work
- Positive body geometry ensures low cutting forces
- **Ident. No. 062–087:** Extremely high rigidity and very good cut quality due to solid carbide base material



Ident. No. 012, 022, 032, 042, 052



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ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	Tool design Suitable for indexable inserts	Right		Left	
									17849... Ident. No.		17849... Ident. No.	
A 16 M SVUC R/L 11	21	16	7.5	16.5	150	15	11	VC.. 1103..	012	•	017	•
A 20 R SVUC R/L 11	25	20	9	20.5	200	18	13	VC.. 1103..	022	•	027	•
A 25 R SVUC R/L 16	31.5	25	11.5	25.5	200	23	17	VC.. 1604..	032	•	037	•
A 32 S SVUC R/L 16	40	32	15	33.5	250	30	22	VC.. 1604..	042	•	047	•
A 40 T SVUC R/L 16	49	40	18.5	40	300	37	27	VC.. 1604..	052	•	057	•
E 16 R SVUC R/L 11	21	16	7.5	16.5	200	15	11	VC.. 1103..	062	•	067	•
E 20 S SVUC R/L 11	25	20	9	20.5	250	18	13	VC.. 1103..	072	•	077	•
E 25 S SVUC R/L 11	31.5	25	11.5	25.5	250	23	17	VC.. 1103..	082	•	087	•

Prod. Gr. 107

ATORN® CKUN boring bar, negative, steel (DIN 8024) For longitudinal turning using KN indexable inserts

Application:

For longitudinal turning using KN 55° indexable insert.

Execution:

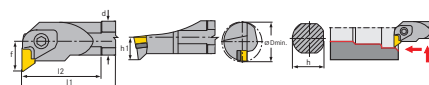
- precision-manufactured steel boring bar, K type, 93° pitch angle, 55° tip angle, 0° clearance angle

Advantage:

- optimised geometry for low-performance machines
- positive cutting geometry of the indexable insert ensures low cutting forces
- wide range of delivery: suitable for both finishing and roughing



Ident. No. 010, 015, 020



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Turning tools \ ISO clamp holders for internal machining

ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	Tool design Suitable for indexable inserts	Right		Left	
								17851... Ident. No.		17851... Ident. No.	
S 25 T CKUN R/L 16	37	25	50	300	23	20.5	KNUX 1604..	010	●	011	●
S 32 U CKUN R/L 16	39	32	54	350	30	22	KNUX 1604..	015	●	016	●
S 40 V CKUN R/L 16	48	40	60	400	37	27	KNUX 1604..	020	●	021	●

Prod. Gr. 107

ATORN® MVUN boring bar, negative, steel (DIN 8024) For copy and longitudinal turning with VN indexable insert

Application:

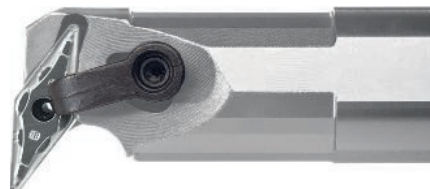
For copy and longitudinal turning using VN 35° indexable insert.

Execution:

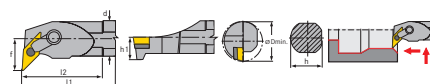
- precision-manufactured steel boring bar, V type, 93° pitch angle, 35° tip angle, 0° clearance angle

Advantage:

- very slim geometry, optimised for contour turning work
- negative body geometry ensures good stability and absorption of force for large cutting depths
- wide range of delivery: suitable for both finishing and roughing



Ident. No. 110, 115, 120



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ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	Tool design Suitable for indexable inserts	Right		Left	
								17851... Ident. No.		17851... Ident. No.	
S 25 T MVUN R/L 16	31	25	40	300	23	17	VN.. 1604..	110	●	111	●
S 32 U MVUN R/L 16	39	32	50	350	30	22	VN.. 1604..	115	●	116	○
S 40 V MVUN R/L 16	48	40	60	400	37	27	VN.. 1604..	120	●	121	●

Prod. Gr. 107

ATORN® PCLN boring bar, negative, steel (DIN 8024) For facing and longitudinal turning using CN indexable inserts

Application:

for facing and longitudinal turning using CN 80° indexable insert

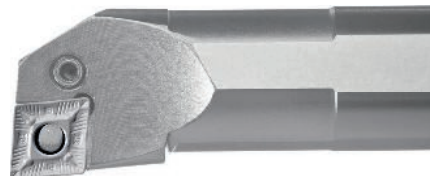
Execution:

- Ident. No. 011-046:** precision-manufactured steel boring bar, C type, 95° pitch angle, 80° tip angle, 0° clearance angle

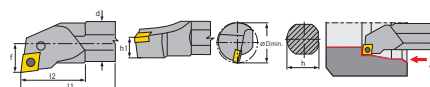
- Ident. No. 051-066:** precision-manufactured steel boring bar with clamping surface, inner cooling, C type, 95° pitch angle, 80° tip angle, 0° clearance angle

Advantage:

- universal use for facing and longitudinal turning
- negative body geometry ensures good stability and absorption of force for large cutting depths



Ident. No. 011, 021, 031, 041



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ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	h1 (mm)	Tool design Suitable for indexable inserts	Right		Left	
									17852... Ident. No.		17852... Ident. No.	
S 25 T PCLN R/L 12	31	25	40	300	23	17	11.5	CN.. 1204..	011	●	016	●
S 32 U PCLN R/L 12	39	32	50	350	30	22	15	CN.. 1204..	021	●	026	●
S 40 V PCLN R/L 12	48	40	60	400	37	27	18.5	CN.. 1204..	031	●	036	●
S 50 W PCLN R/L 16	61	50	65	450	47	35	23.5	CN.. 1604..	041	○	046	○
A 25 R PCLN R/L 12	32	25	40	200	23	17	11.5	CN.. 1204..	051	●	056	●
A 32 S PCLN R/L 12	40	32	50	250	30	22	15	CN.. 1204..	061	●	066	●

Prod. Gr. 107

ATORN® PDUN boring bar, negative, steel (DIN 8024) for copy and longitudinal lathing with DN indexable insert

Application:

For copy turning and longitudinal turning using DN 55° indexable insert

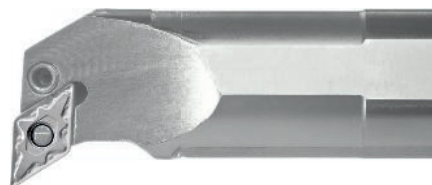
Execution:

- **Ident. No. 001-046:** precision-manufactured steel boring bar, D type, 93° pitch angle, 55° tip angle, 0° clearance angle

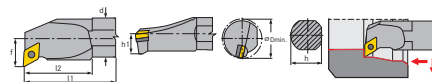
- **Ident. No. 051-076:** precision-manufactured steel boring bar with clamping surface, D type, 93° pitch angle, 55° tip angle, 0° clearance angle

Advantage:

- very slim geometry, optimised for contour turning work
- negative body geometry ensures good stability and absorption of force for large cutting depths



Ident. No. 001, 011, 021, 031, 041



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ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	h1 (mm)	Tool design Suitable for indexable inserts	Right		Left	
									17853... Ident. No.		17853... Ident. No.	
S 20 S PDUN R/L 11	25	20	29	250	18	13	9	DN.. 1104..	001	●	006	●
S 25 T PDUN R/L 11	32	25	40	300	23	17	11.5	DN.. 1104..	011	●	016	●
S 32 U PDUN R/L 15	39	32	50	350	30	22	15	DN.. 1506..	021	●	026	●
S 40 V PDUN R/L 15	48	40	60	400	37	27	18.5	DN.. 1506..	031	●	036	●
S 50 W PDUN R/L 15	61	50	65	450	47	35	23.5	DN.. 1506..	041	○	046	○
A 25 R PDUN R/L 11	32	25	40	200	23	40	11.5	DN.. 1104..	051	●	056	●
A 32 S PDUN R/L 15	40	32	50	250	30	22	15	DN.. 1506..	061	●	066	●
A 40 T PDUN R/L 15	50	40	60	300	37	27	18.5	DN.. 1506..	071	●	076	●

Prod. Gr. 107

ATORN® PWLN boring bar, negative, steel (DIN 8024) For facing and longitudinal turning using WN indexable inserts

Application:

For facing and longitudinal turning using WN 80° indexable insert

Execution:

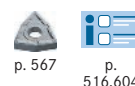
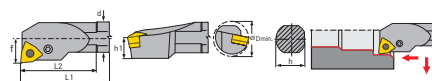
- precision-manufactured steel boring bar, D type, 95° pitch angle, 80° tip angle, 0° clearance angle

Advantage:

- three-edge geometry lowers costs per cut
- negative body geometry ensures good stability and absorption of force for large cutting depths



Ident. No. 050, 055, 060, 065, 070, 075



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Turning tools \ ISO clamp holders for internal machining

ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	h1 (mm)	Tool design Suitable for indexable inserts	Right		Left	
									17854... Ident. No.		17854... Ident. No.	
A 16 M PWLN R/L 06	22	16	28	150	14	11	7	WN.. 0604..	050	●	051	●
A 20 Q PWLN R/L 06	25	20	30	180	18	13	9	WN.. 0604..	055	●	056	●
A 25 R PWLN R/L 06	32	25	33	200	23	17	11.5	WN.. 0604..	060	●	061	●
A 25 R PWLN R/L 08	32	25	40	200	23	17	11.5	WN.. 0804..	065	●	066	●
A 32 S PWLN R/L 08	40	32	50	250	30	22	15	WN.. 0804..	070	●	071	●
A 40 T PWLN R/L 08	50	40	63	300	37	27	18.5	WN.. 0804..	075	●	076	●

Prod. Gr. 107

ATORN® PSKN boring bar, negative, steel For longitudinal turning using SN indexable inserts

Application:

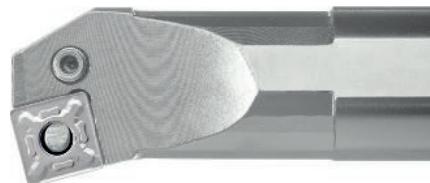
For longitudinal turning using SN 90° indexable insert

Execution:

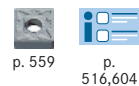
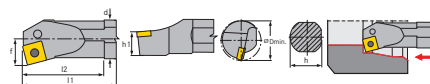
- precision-manufactured steel boring bar, S type, 75° pitch angle, 90° tip angle, 0° clearance angle

Advantage:

- extremely stable geometry for longitudinal machining with large feed depths and challenging conditions
- negative body geometry ensures good stability and absorption of force for large cutting depths



Ident. No. 011, 021



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ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	h1 (mm)	Tool design Suitable for indexable inserts	Right		Left	
									17856... Ident. No.		17856... Ident. No.	
S 25 T PSKN R/L 12	31	25	40	300	23	17	12	SN.. 1204..	011	●	016	●
S 32 U PSKN R/L 12	39	32	50	350	30	22	15	SN.. 1204..	021	●	026	●

Prod. Gr. 107

ATORN® PTFN boring bar, negative, steel

For longitudinal turning using TN indexable inserts

Application:

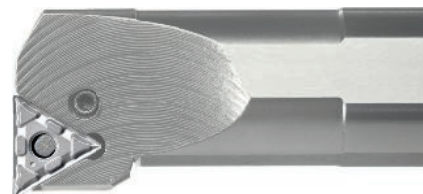
For longitudinal turning using TN 60° indexable insert

Execution:

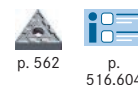
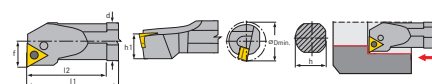
- precision-manufactured steel boring bar, T type, 90° pitch angle, 60° tip angle, 0° clearance angle

Advantage:

- three-edge geometry lowers costs per cut
- negative body geometry ensures good stability and absorption of force for large cutting depths



Ident. No. 111, 121, 141, 151



ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	h1 (mm)	Tool design Suitable for indexable inserts	Right		Left	
									17858... Ident. No.		17858... Ident. No.	
S 25 T PTFN R/L 16	31	25	40	300	23	17	11.5	TN.. 1604..	111	●	116	●
S 32 U PTFN R/L 16	39	32	50	350	30	22	15	TN.. 1604..	121	●	126	●
A 25 R PTFN R/L 16	32	25	40	200	23	17	11.5	TN.. 1604..	141	●	146	●
A 32 S PTFN R/L 16	40	32	50	250	15	22	15	TN.. 1604..	151	●	156	●

Prod. Gr. 107

universal turning and drilling tool

for universal use for facing and longitudinal turning, drilling, countersinking and chamfering



Figure shows right-hand bracket

Application:

Series and single-part production for facing and longitudinal turning, drilling, countersinking and chamfering.

Advantages:

- Process/cost optimisation: up to 30% reduction in changeover time
- Problem solver for restricted tool space on the machine
- Wide range of holders and indexable inserts for a large number of materials

ATORN® Universal turning/drilling tool

For facing and longitudinal turning, drilling, countersinking and chamfering

Application:

For face and longitudinal turning, drilling, countersinking and chamfering.

Execution:

- precision-engineered steel holder, bronzed, with internal cooling

Advantage:

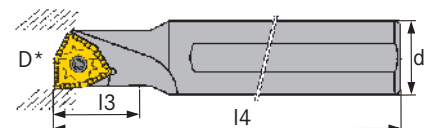
- Tool cost minimisation: One tool for 5 types of machining
- Process-time optimisation: up to 30% changeover time reduction

Notes:

Use for internal cooling drilling work.



Figure shows left-hand bracket



							Universal turning/drilling tool		clamping screws	
Machining direction							Right	Left		
D (mm)	Max. drilling depth (D)	Tolerance of hole Ø	I3 (mm)	I4 (mm)	d1 (mm)	Suitable for indexable inserts	17820... Ident. No.	17820... Ident. No.	17841... Ident. No.	
8	1.5xD	0-0.22 mm	12	80	12	WCHX 0401..	502	●	503	○
10	1.5xD	0-0.22 mm	15	90	12	WCHX 05T1..	504	●	505	○
11	1.5xD	0-0.27 mm	16.5	100	16	WCHX 0602..	506	●	507	○
15	1.5xD	0-0.27 mm	22.5	125	20	WCHX 0703..	508	●	509	○
18	1.5xD	0-0.33 mm	27	135	25	WCHX 0903..	510	●	511	○
20	1.5xD	0-0.33 mm	30	150	25	WCHX 10T3..	512	●	513	○
26	1.5xD	0-0.33 mm	39	180	32	WCHX 1305..	514	●	515	○

Prod. Gr. 1FN

ATORN® Universal turning/drilling tool For facing and longitudinal turning, drilling, countersinking and chamfering

Application:

For face and longitudinal turning, drilling, counter-sinking and chamfering

Execution:

- precision-made steel holder, bronzed, with internal cooling

Advantage:

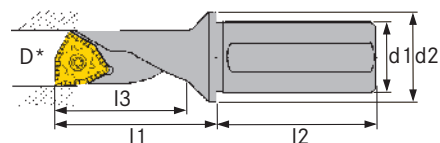
- Tool cost minimisation: One tool for 5 types of machining
- Process-time optimisation: up to 30% changeover time reduction

Notes:

Use for internal cooling drilling work.



Figure shows right-hand bracket



								Universal turning/drilling tool		clamping screws	
Machining direction								Right	Left		
D min. (mm)	Max. drilling depth (D)	Tolerance of hole Ø	l1 (mm)	l2 (mm)	d1 (mm)	d2 (mm)	Suitable for indexable inserts	17820... Ident. No.	17820... Ident. No.	17841... Ident. No.	
8	2.25xD	0-0.22 mm	22.5	38	10	12	WCHX 0401..	518	519	225	○
10	2.25xD	0-0.22 mm	28	42	12	16	WCHX 05T1..	520	521	226	○
11	2.25xD	0-0.27 mm	32	45	16	20	WCHX 0602..	522	523	227	●
15	2.25xD	0-0.27 mm	43	50	20	25	WCHX 0703..	524	525	228	●
18	2.25xD	0-0.33 mm	53	56	25	32	WCHX 0903..	526	527	229	●
20	2.25xD	0-0.33 mm	56	56	25	32	WCHX 10T3..	528	529	230	●
26	2.25xD	0-0.33 mm	60	60	32	40	WCHX 1305..	530	531	231	●

Prod. Gr. 1FN

ATORN® Indexable insert For facing and longitudinal turning, drilling, countersinking and chamfering

Application:

For face and longitudinal turning, drilling, countersinking and chamfering.

Execution:

- Ident. No. 600–612:** 3-tip indexable insert, uncoated
- Ident. No. 620–652:** 3-tip indexable insert, coated

Advantage:

- Ident. No. 600–612:**
 - Innovative cutting geometry with extra sharp cutters for the process-reliable machining of non-ferrous metals

- Very hard substrate ensures long service life
- Very good chip breaking by chip breaker
- Ident. No. 620–632:**
 - Universal and process-reliable use in steel and stainless steel
 - Very good combination of wear resistance and durability
- Ident. No. 620–652:** Medium chip breaker geometry ensures a broad range of uses
- Ident. No. 640–652:**
 - Universal and process-reliable use in steel and stainless steel at increased impact stress
 - Optimised for machining in unfavourable cutting conditions



Ident. No. 600–612



Ident. No. 620–632



Ident. No. 640–652

			Carbide type		HW7310	HC7625	HC7535
Material to be processed					Non-ferrous metal Cast metal	Steel Stainless steel	Steel Stainless steel
Vc in steel ●						100-250 m/min	100-250 m/min
Vc in stainless steel ●						50-150 m/min	50-150 m/min
Vc in non-ferrous metals ●					200-1000 m/min		
Vc in cast iron ●					100-180 m/min		
ISO name	Radius (mm)	min./max. ap	17820... Ident. No.		17820... Ident. No.	17820... Ident. No.	17820... Ident. No.
WCHX040102	0.2	1.8-4.0 mm	600	●	620	●	640
WCHX040104	0.4	1.8-4.0 mm	601	●	621	●	641
WCHX05T102	0.2	2.0-5.0 mm	602	●	622	●	642
WCHX05T104	0.4	2.0-5.0 mm	603	●	623	●	643
WCHX060202	0.2	2.5-5.5 mm	604	●	624	●	644
WCHX060204	0.4	2.5-5.5 mm	605	●	625	●	645
WCHX070304	0.4	3.0-6.5 mm	606	●	626	●	646
WCHX070308	0.8	3.0-6.5 mm	607	●	627	●	647
WCHX090304	0.4	3.5-7.0 mm	608	●	628	●	648
WCHX090308	0.8	3.5-7.0 mm	609	●	629	●	649
WCHX10T304	0.4	4.0-8.0 mm	610	●	630	●	650
WCHX10T308	0.8	4.0-8.0 mm	611	●	631	●	651
WCHX130508	0.8	5.0-12.0 mm	612	●	632	●	652

Prod. Gr. 1FN



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Miniature range with cutting insert

For demanding serial users



application:

miniature range for boring range of 1–10 mm in all material groups.

HC 5640 P30–P50; K25–K40 PVD TIN-coated cemented-carbide type with high durability for reduced cutting speeds.

minimum measurement in machining: 0.07 mm

HC5615 K10–K30; PVD multi-attachment, TiALN-coated cemented carbide type with high hardness for very high cutting speeds.

minimum measurement in machining: 0.07 mm

HW5615 K10–K30; uncoated cemented carbide type with high hardness for low-high cutting speeds.

minimum measurement in machining: 0.04 mm

Note:

necessary coolant pressure for reliable machining: 20 - 30 bar

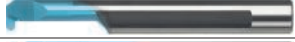
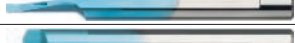
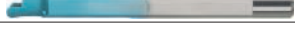
advantages:

- extremely wide range for internal boring, copy turning, reverse boring, thread cutting, chamfering and grooving applications
- suitable cemented-carbide quality and coating for all applications
- outstanding service life with HC5615 in heavy-duty materials, stainless steel and titanium, and hard machining up to 65 HRC
- special designs in all variants with short delivery times
- adjustable cantilever length via adjustment screw in holder
- internal cooling ensures reliable machining

	Vc in steel min./max. ●	Vc in stainless steel min./max. ●	Vc in non-ferrous metals min./max. ●	Vc in cast iron min./max. ●	Vc in special alloys min./max. ●	Vc in hardened steel min./max. ●
HC5640	18-50	25-30	18-70	17-23		
HC5615	25-60	30-45	20-85	20-28	13-24	15-24
HW5616		20-35	20-60	17-20		

			page
17118100-192	Miniature cutting insert holder		625
17119318-458	Miniature cutting insert type AT HC5615 For longitudinal inside boring		626
17120380-516	Miniature cutting insert type AP HC5615 For copying and longitudinal turning		627
17121180-216	Miniature cutting insert, type AQ HC5615 For copy and longitudinal turning		628
17122172-204	Miniature cutting insert type AU HC5615 For longitudinal inside boring		628-629
17123180-200	Miniature cutting insert type AX HC5615 For reverse internal boring		629
17124220-238	Miniature cutting insert type AI HC5615 For thread cutting 60°		630
17124124-134	Miniature cutting insert type AI HC5615 For thread cutting 55°		630
17124332-346	Miniature cutting insert type AI HC5615 For thread cutting 60°		631
17124432-446	Miniature cutting insert type AI HC5615 For thread cutting 55°		632
17125124-132	Miniature cutting insert, type AD HC5615 for chamfering and grooving for thread undercutting		633
17127140-156	Miniature cutting insert, type AC HC5615 for chamfering and longitudinal internal boring		634



			page
17128140-145	Miniature cutting insert, type AW HC5615 for chamfering and profile turning		634
17129270-378	Miniature cutting insert, type AG HC5615 For internal recessing		635
17130164-192	Miniature cutting insert, type AK HC5615 for internal recessing with radius		635
17131152-200	Miniature cutting insert, type AF HC5615 for axial recessing		-
17132152-200	Miniature cutting insert, type AF HC5615 for axial recessing		636-637
17133150-170	Miniature cutting insert type AV HC5615 For deep axial grooving		637
17134180-208	Miniature cutting insert type AZ HC5615 For axial grooving with radius		638

ATORN® Miniature cutting insert holder

Application:

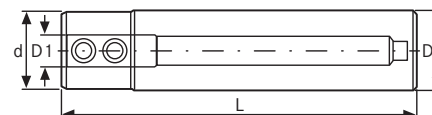
For clamping miniature cutting inserts.

Execution:

- Steel tool holder with two clamping screws and stop screw

Advantage:

- Precision-ground location hole ensures high stability and accuracy
- Adjustable stop screw ensures user-friendly adjustment of protruding length
- High-strength steel carrier for high basic stability



Holder size	D1	L (mm)	D (mm)	Width across flats	d (mm)	17118... Ident. No.	
3	3 mm	88	12	2.5 mm	12	100	○
3	3 mm	75	16	2.5 mm	20	104	○
3	3 mm	88	16	2.5 mm	20	108	○
3	3 mm	88	20	2.5 mm	20	112	○
3	3 mm	88	22	2.5 mm	22	116	○
4	4 mm	88	12	2.5 mm	12	120	○
4	4 mm	75	16	2.5 mm	20	124	○
4	4 mm	88	16	2.5 mm	20	128	○
4	4 mm	88	20	2.5 mm	20	132	○
4	4 mm	88	22	2.5 mm	22	136	○
5	5 mm	88	12	2.5 mm	12	140	○
5	5 mm	75	16	2.5 mm	20	144	○
5	5 mm	88	16	2.5 mm	20	148	○
5	5 mm	88	20	2.5 mm	20	152	○
5	5 mm	88	22	2.5 mm	22	156	○
6	6 mm	75	16	2.5 mm	20	160	○
6	6 mm	88	16	2.5 mm	20	164	○
6	6 mm	88	20	2.5 mm	20	168	○
6	6 mm	88	22	2.5 mm	22	172	○
7	7 mm	88	16	2.5 mm	20	176	○
7	7 mm	88	20	2.5 mm	20	180	○
8	8 mm	88	16	2.5 mm	20	184	○
8	8 mm	88	20	2.5 mm	20	188	○
10	10 mm	88	20	2.5 mm	20	192	○

Prod. Gr. 1FA

ATORN® Miniature cutting insert type AT For longitudinal internal boring

Application:

Ident. No. 100–240: For longitudinal internal threading (boring) for the material groups of steel, (stainless steel), cast iron and non-ferrous metals at low cutting speeds or under challenging cutting conditions.

Ident. No. 244–314: For longitudinal inside boring in steel, (stainless steel), cast iron and non-ferrous metals material groups at low cutting speeds or in unfavourable cutting conditions.

Ident. No. 318–602: For longitudinal internal boring in steel, stainless steel, special alloys material groups, hard machining to 65HRC at high cutting speeds and mid-range cutting conditions.

Ident. No. 606–890: For longitudinal internal boring in steel and (stainless steel) material groups at low to high cutting speeds and mid-range cutting conditions.

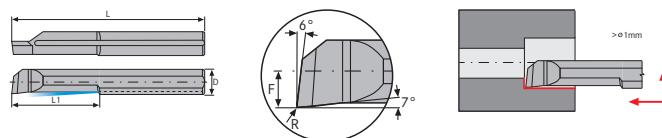
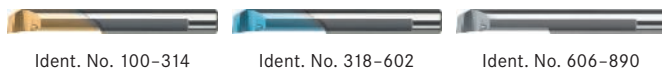
Execution:

- **Ident. No. 100–240:** VHM cutting insert with 96° pitch angle with internal cooling

- **Ident. No. 244–890:** Solid carbide cutting insert with 96° attack angle with internal cooling

Advantage:

- **Ident. No. 100–240:**
 - tough cemented carbide type for broad application field
 - stable geometry, ideal for longitudinal internal threading (boring)
 - ideal for use with inefficient machines and unstable cutting conditions
- **Ident. No. 244–314:**
 - Robust cemented carbide grade for a broad application range
 - Ideal for use with low-performance machines and unstable cutting conditions
- **Ident. No. 244–890:** Stable geometry optimised for longitudinal internal boring machining
- **Ident. No. 318–602:** Innovative coating technology for universal use with very high service life requirements
- **Ident. No. 318–890:** Very hard cemented carbide grade ensures low wear
- **Ident. No. 606–890:** Extremely sharp cutters ensure a process-reliable cut



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Machining direction						Right	Left	Right	Left	Right	Left
Carbide type						HC5640	HC5640	HC5615	HC5615	HW5615	HW5615
Material to be processed						Steel Stainless steel Non-ferrous metal Cast metal	Steel Stainless steel Non-ferrous metal Cast metal	Steel Stainless steel Special alloy Hardened material	Steel Stainless steel Special alloy Hardened material	Stainless steel Non-ferrous metal	Stainless steel Non-ferrous metal
D (mm)	L (mm)	L1 (mm)	R (mm)	F (mm)	D min. (mm)	17119... Ident. No.	17119... Ident. No.	17119... Ident. No.	17119... Ident. No.	17119... Ident. No.	17119... Ident. No.
3	39	4	0.05	0.5	1	100	244	318	462	606	750
3	39	6	0.1	0.7	1.5	104	246	322	466	610	754
3	39	10	0.05	0.8	2.1	108	248	326	470	614	758
3	39	5	0.15	0.8	2.1	112	250	330	474	618	762
3	39	10	0.15	0.8	2.1	116	252	334	478	622	766
3	39	10	0.05	1.3	3.1	120	254	338	482	626	770
3	39	15	0.05	1.3	3.1	124	256	342	486	630	774
3	39	15	0.1	1.3	3.1	128	258	346	490	634	778
3	39	10	0.2	1.3	3.1	132	260	350	494	638	782
3	39	15	0.2	1.3	3.1	136	262	354	498	642	786
4	51	15	0.05	1.7	4.1	140	264	358	502	646	790
4	51	10	0.1	1.7	4.1	144	266	362	506	650	794
4	51	15	0.1	1.7	4.1	148	268	366	510	654	798
4	51	22	0.1	1.7	4.1	152	270	370	514	658	802
4	51	10	0.2	1.7	4.1	156	272	374	518	662	806
4	51	15	0.2	1.7	4.1	160	274	378	522	666	810
4	51	22	0.2	1.7	4.1	164	276	382	526	670	814
5	51	15	0.05	2.1	5.1	168	278	386	530	674	818
5	51	15	0.1	2.1	5.1	172	280	390	534	678	822
5	51	22	0.1	2.1	5.1	176	282	394	538	682	826
5	76	30	0.1	2.1	5.1	180	284	398	542	686	830
5	51	15	0.2	2.1	5.1	184	286	402	546	690	834
5	51	22	0.2	2.1	5.1	188	288	406	550	694	838
5	76	30	0.2	2.1	5.1	192	290	410	554	698	842
6	51	15	0.05	2.8	6.1	196	292	414	558	702	846
6	51	15	0.1	2.8	6.1	200	294	418	562	706	850
6	51	15	0.2	2.8	6.1	204	296	422	566	710	854
6	51	22	0.2	2.8	6.1	208	298	426	570	714	858
6	58	30	0.2	2.8	6.1	212	300	430	574	718	862
6	76	35	0.2	2.8	6.1	216	302	434	578	722	866
7	62	22	0.2	3.3	7.1	220	304	438	582	726	870
7	62	30	0.2	3.3	7.1	224	306	442	586	730	874
8	64	15	0.2	3.8	8.1	228	308	446	590	734	878
8	64	22	0.2	3.8	8.1	232	310	450	594	738	882
8	76	35	0.2	3.8	8.1	236	312	454	598	742	886
10	73	35	0.2	4.8	10.1	240	314	458	602	746	890

Prod. Gr. 1FB

ATORN® Miniature cutting insert type AP For copy and longitudinal turning

Application:

Ident. No. 100–376: For copying and longitudinal turning in steel and (stainless steel) material groups at low to high cutting speeds and mid-range cutting conditions.

Ident. No. 380–516: For copying and longitudinal turning in steel, stainless steel, special alloys material groups, hard machining to 65HRC at high cutting speeds and mid-range cutting conditions.

Ident. No. 520–656: For copy and longitudinal turning in the material groups steel, stainless steel and special alloys, hard machining up to 65 HRC at high cutting speeds and under average cutting conditions.

Ident. No. 660–936: For copy and longitudinal turning in the material groups steel and (stainless steel) at low to high cutting speeds and under average cutting conditions.

Execution:

▪ **Ident. No. 100–516:** Solid carbide cutting insert with 98° attack angle with internal cooling

▪ **Ident. No. 520–936:** Solid carbide cutting insert with 98° working angle with internal cooling

Advantage:

▪ **Ident. No. 100–376:**

- Robust cemented carbide grade for a broad application range
- Ideal for use with low-performance machines and unstable cutting conditions

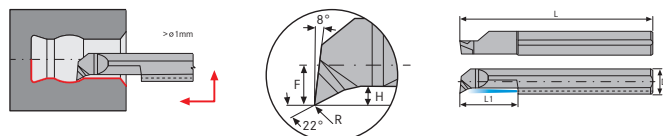
▪ **Ident. No. 100–516:** Stable geometry optimised for internal boring machining

▪ **Ident. No. 380–656:** Innovative coating technology for universal use with very high service life requirements

▪ **Ident. No. 380–936:** Very hard cemented carbide grade ensures low wear

▪ **Ident. No. 520–936:** Stable geometry, ideal for inside turning

▪ **Ident. No. 660–936:** Extremely sharp blades ensure process reliability for cutting



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Machining direction Carbide type							Right HC5640		Left HC5640		Right HC5615		Left HC5615		Right HW5615		Left HW5615	
Material to be processed							Steel Stainless steel Non-fer- rous metal Cast metal		Steel Stainless steel Non-fer- rous metal Cast metal		Steel Stainless steel Special alloy Hardened material		Steel Stainless steel Special alloy Hardened material		Stainless steel Non-ferrous metal		Stainless steel Non-ferrous metal	
							17120... Ident. No.		17120... Ident. No.		17120... Ident. No.		17120... Ident. No.		17120... Ident. No.		17120... Ident. No.	
D (mm)	L (mm)	L1 (mm)	R (mm)	H (mm)	F (mm)	D min. (mm)	100	○	240	○	380	○	520	○	660	○	800	○
3	39	6	0.1	0.3	0.7	1.5	104	○	244	○	384	○	524	○	664	○	804	○
3	39	10	0.1	0.3	0.7	1.5	108	○	248	○	388	○	528	○	668	○	808	○
3	39	10	0.05	0.5	0.8	2.1	112	○	252	○	392	○	532	○	672	○	812	○
3	39	10	0.1	0.5	0.8	2.1	116	○	256	○	396	○	536	○	676	○	816	○
3	39	5	0.15	0.5	0.8	2.1	120	○	260	○	400	○	540	○	680	○	820	○
3	39	10	0.15	0.5	0.8	2.1	124	○	264	○	404	○	544	○	684	○	824	○
3	39	15	0.15	0.5	0.8	2.1	128	○	268	○	408	○	548	○	688	○	828	○
3	39	10	0.05	0.7	1.3	3.1	132	○	272	○	412	○	552	○	692	○	832	○
3	39	15	0.05	0.7	1.3	3.1	136	○	276	○	416	○	556	○	696	○	836	○
3	39	15	0.1	0.7	1.3	3.1	140	○	280	○	420	○	560	○	700	○	840	○
3	47	22	0.1	0.7	1.3	3.1	144	○	284	○	424	○	564	○	704	○	844	○
3	39	10	0.2	0.7	1.3	3.1	148	○	288	○	428	○	568	○	708	○	848	○
3	39	15	0.2	0.7	1.3	3.1	152	○	292	○	432	○	572	○	712	○	852	○
3	47	22	0.2	0.7	1.3	3.1	156	○	296	○	436	○	576	○	716	○	856	○
4	51	15	0.1	0.8	1.7	4.1	160	○	300	○	440	○	580	○	720	○	860	○
4	51	22	0.1	0.8	1.7	4.1	164	○	304	○	444	○	584	○	724	○	864	○
4	51	10	0.2	0.8	1.7	4.1	168	○	308	○	448	○	588	○	728	○	868	○
4	51	15	0.2	0.8	1.7	4.1	172	○	312	○	452	○	592	○	732	○	872	○
4	51	22	0.2	0.8	1.7	4.1	176	○	316	○	456	○	596	○	736	○	876	○
5	51	22	0.1	1.2	2.1	5.1	180	○	320	○	460	○	600	○	740	○	880	○
5	76	30	0.1	1.2	2.1	5.1	184	○	324	○	464	○	604	○	744	○	884	○
5	51	15	0.2	1.2	2.1	5.1	188	○	328	○	468	○	608	○	748	○	888	○
5	51	22	0.2	1.2	2.1	5.1	192	○	332	○	472	○	612	○	752	○	892	○
5	76	30	0.2	1.2	2.1	5.1	196	○	336	○	476	○	616	○	756	○	896	○
6	51	15	0.2	1.4	2.8	6.1	200	○	340	○	480	○	620	○	760	○	900	○
6	51	22	0.2	1.4	2.8	6.1	204	○	344	○	484	○	624	○	764	○	904	○
6	76	30	0.2	1.4	2.8	6.1	208	○	348	○	488	○	628	○	768	○	908	○
7	62	22	0.2	1.5	3.3	7.1	212	○	352	○	492	○	632	○	772	○	912	○
7	62	30	0.2	1.5	3.3	7.1	216	○	356	○	496	○	636	○	776	○	916	○
7	62	35	0.2	1.5	3.3	7.1	220	○	360	○	500	○	640	○	780	○	920	○
8	64	15	0.2	1.6	3.8	8.1	224	○	364	○	504	○	644	○	784	○	924	○
8	64	22	0.2	1.6	3.8	8.1	228	○	368	○	508	○	648	○	788	○	928	○
8	76	35	0.2	1.6	3.8	8.1	232	○	372	○	512	○	652	○	792	○	932	○
10	73	35	0.2	2	4.8	10.1	236	○	376	○	516	○	656	○	796	○	936	○

Prod. Gr. 1FB

ATORN® Miniature cutting insert type AQ For copy and longitudinal turning

Application:

Ident. No. 100–176: For copy and longitudinal turning in the material groups steel and (stainless steel) at low to high cutting speeds and under average cutting conditions.

Ident. No. 180–256: For copy and longitudinal turning in the material groups steel, stainless steel and special alloys, hard machining up to 65 HRC at high cutting speeds and under average cutting conditions.

Ident. No. 260–318: For copying and longitudinal turning in steel and (stainless steel) material groups at low to high cutting speeds and mid-range cutting conditions.

Execution:

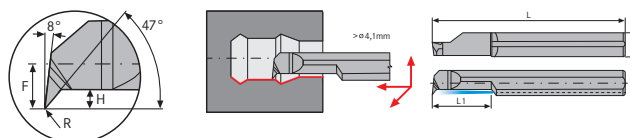
- **Ident. No. 100–256:** Solid carbide cutting insert with 98° working angle with internal cooling



- **Ident. No. 260–318:** Solid carbide cutting insert with 98° attack angle with internal cooling

Advantage:

- **Ident. No. 100–176:**
 - Tough cemented carbide grade ensures a broad scope of application
 - Ideal for use with low-performance machines and unstable cutting conditions
- **Ident. No. 100–256:** Stable geometry, ideal for inside turning
- **Ident. No. 180–256:** Innovative coating technology for universal use with very high service life requirements
- **Ident. No. 180–318:** Very hard cemented carbide grade ensures low wear
- **Ident. No. 260–318:**
 - Stable geometry optimised for internal boring machining
 - Extremely sharp cutters ensure a process-reliable cut



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Machining direction								Right		Left		Right		Left		Right		Left	
Carbide type								HC5640		HC5640		HC5615		HC5615		HW5615		HW5615	
Material to be processed								Steel Stainless steel Non-ferrous metal Cast metal		Steel Stainless steel Non-ferrous metal Cast metal		Steel Stainless steel Special alloy Hardened material		Steel Stainless steel Special alloy Hardened material		Stainless steel Non-ferrous metal		Stainless steel Non-ferrous metal	
D (mm)	L (mm)	L1 (mm)	R (mm)	H (mm)	F (mm)	D min. (mm)		17121... Ident. No.		17121... Ident. No.		17121... Ident. No.		17121... Ident. No.		17121... Ident. No.		17121... Ident. No.	
4	51	10	0.2	0.8	1.8	4.1		100	○	140	○	180	○	220	○	260	○	300	○
4	51	15	0.2	0.8	1.8	4.1		104	○	144	○	184	○	224	○	264	○	302	○
4	51	22	0.2	0.8	1.8	4.1		108	○	148	○	188	○	228	○	268	○	304	○
5	51	15	0.2	1	2.3	5.1		112	○	152	○	192	○	232	○	272	○	306	○
5	51	22	0.2	1	2.3	5.1		116	○	156	○	196	○	236	○	276	○	308	○
6	51	15	0.2	1.4	2.8	6.1		120	○	160	○	200	○	240	○	280	○	310	○
6	51	22	0.2	1.4	2.8	6.1		124	○	164	○	204	○	244	○	284	○	312	○
6	58	30	0.2	1.4	2.8	6.1		128	○	168	○	208	○	248	○	288	○	314	○
8	64	22	0.2	1.6	3.8	8.1		132	○	172	○	212	○	252	○	292	○	316	○
8	64	27	0.2	2	3.8	8.1		136	○	176	○	216	○	256	○	296	○	318	○

Prod. Gr. 1FB

ATORN® Miniature cutting insert type AU For longitudinal internal boring

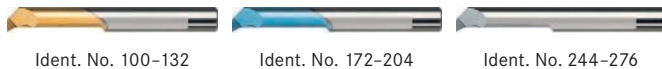
Application:

Ident. No. 100–132, 244–276: For longitudinal internal boring in steel and (stainless steel) material groups at low to high cutting speeds and mid-range cutting conditions.

Ident. No. 172–204: For longitudinal internal boring in steel, stainless steel, special alloys material groups, hard machining to 65HRC at high cutting speeds and mid-range cutting conditions.

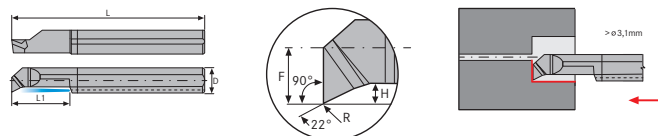
Execution:

- Solid carbide cutting insert with 90° attack angle with internal cooling



Advantage:

- Stable geometry optimised for internal boring machining
- **Ident. No. 100–132:**
 - Robust cemented carbide grade for a broad application range
 - Ideal for use with low-performance machines and unstable cutting conditions
- **Ident. No. 172–204:** Innovative coating technology for universal use with very high service life requirements
- **Ident. No. 172–276:** Very hard cemented carbide grade ensures low wear
- **Ident. No. 244–276:** Extremely sharp cutters ensure a process-reliable cut



p. 624

Machining direction								Right		Right		Right	
Carbide type								HC5640		HC5615		HW5615	
Material to be processed								Steel Stainless steel Non-ferrous metal Cast metal		Steel Stainless steel Special alloy Hardened material		Stainless steel Non-ferrous metal	
D (mm)	L (mm)	L1 (mm)	R (mm)	H (mm)	F (mm)	D min. (mm)	Holder size	17122... Ident. No.		17122... Ident. No.		17122... Ident. No.	
3	39	10	0.05	0.4	1.3	3.1	3	100	○	172	○	244	○
3	39	15	0.05	0.4	1.3	3.1	3	104	○	176	○	248	○
4	51	10	0.1	0.5	1.7	4.1	4	108	○	180	○	252	○
4	51	15	0.1	0.5	1.7	4.1	4	112	○	184	○	256	○
5	51	15	0.15	0.7	2.1	5.1	5	116	○	188	○	260	○
5	51	22	0.15	0.7	2.1	5.1	5	120	○	192	○	264	○
6	51	15	0.15	0.9	2.8	6.1	6	124	○	196	○	268	○
6	51	22	0.15	0.9	2.8	6.1	6	128	○	200	○	272	○
8	64	22	0.2	1.1	3.8	8.1	8	132	○	204	○	276	○

Prod. Gr. 1FB

ATORN® Miniature cutting insert type AX For reverse internal boring

Application:

Ident. No. 100–170, 234–258: For reverse internal boring in steel and (stainless steel) material groups at low to high cutting speeds and mid-range cutting conditions.

Ident. No. 180–230: For reverse internal boring in steel, stainless steel, special alloys material groups, hard machining to 65HRC at high cutting speeds and mid-range cutting conditions.

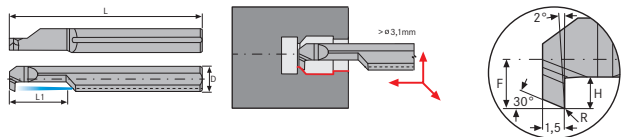
Execution:

- Solid carbide cutting insert with internal cooling



Advantage:

- Stable geometry optimised for reverse internal boring machining
- **Ident. No. 100–170:**
 - Robust cemented carbide grade for a broad application range
 - Ideal for use with low-performance machines and unstable cutting conditions
- **Ident. No. 180–230:** Innovative coating technology for universal use with very high service life requirements
- **Ident. No. 180–258:** Very hard cemented carbide grade ensures low wear
- **Ident. No. 234–258:** Extremely sharp cutters ensure a process-reliable cut



p. 624

Machining direction								Right		Left		Right		Left		Right		Left	
Carbide type								HC5640		HC5640		HC5615		HC5615		HW5615		HW5615	
Material to be processed								Steel Stainless steel Non-ferrous metal Cast metal		Steel Stainless steel Non-ferrous metal Cast metal		Steel Stainless steel Special alloy Hardened material		Steel Stainless steel Special alloy Hardened material		Stainless steel Non-ferrous metal		Stainless steel Non-ferrous metal	
D (mm)	L (mm)	L1 (mm)	R (mm)	H (mm)	F (mm)	D min. (mm)		17123... Ident. No.		17123... Ident. No.		17123... Ident. No.		17123... Ident. No.		17123... Ident. No.		17123... Ident. No.	
4	51	10	0.1	0.5	1.3	3.1		100	○	150	○	180	○	210	○	234	○	248	○
4	51	10	0.15	0.8	1.6	4.1		104	○	154	○	184	○	214	○	236	○	250	○
4	51	15	0.15	0.8	1.6	4.1		108	○	158	○	188	○	218	○	238	○	252	○
5	51	15	0.2	1	2.2	5.1		112	○	162	○	192	○	222	○	240	○	254	○
5	51	22	0.2	1	2.2	5.1		116	○	166	○	196	○	226	○	242	○	256	○
6	51	15	0.2	1.8	2.8	6.1		120	○	170	○	200	○	230	○	244	○	258	○

Prod. Gr. 1FB

ATORN® Miniature cutting insert type AI For thread turning, 60° partial profile

Application:

Ident. No. 180–218, 260–298: For thread cutting 60° in steel and (stainless steel) material groups at low to high cutting speeds and mid-range cutting conditions.

Ident. No. 220–258: For thread cutting 60° in steel, stainless steel, special alloys material groups, hard machining to 65HRC at high cutting speeds and mid-range cutting conditions.

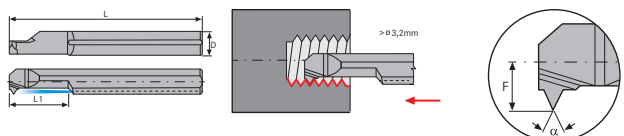
Execution:

- Solid carbide cutting insert 60° with internal cooling



Advantage:

- Stable geometry optimised for female thread cutting machining
- **Ident. No. 180–218:**
 - Robust cemented carbide grade for a broad application range
 - Ideal for use with low-performance machines and unstable cutting conditions
- **Ident. No. 220–258:** Innovative coating technology for universal use with very high service life requirements
- **Ident. No. 220–298:** Very hard cemented carbide grade ensures low wear
- **Ident. No. 260–298:** Extremely sharp cutters ensure a process-reliable cut



p. 624

Machining direction								Right		Left		Right		Left		Right		Left	
Carbide type								HC5640		HC5640		HC5615		HC5615		HW5615		HW5615	
Material to be processed								Stainless steel Non-ferrous metal		Stainless steel Non-ferrous metal		Stainless steel Non-ferrous metal		Stainless steel Non-ferrous metal		Stainless steel Non-ferrous metal		Stainless steel Non-ferrous metal	
D (mm)	α (Degree)	L (mm)	L1 (mm)	Min./max. number of thread starts per inch	Min./max. pitch	F (mm)		17124... Ident. No.		17124... Ident. No.		17124... Ident. No.		17124... Ident. No.		17124... Ident. No.		17124... Ident. No.	
3	60	39	4.8	-	0.25-0.35 mm	0.55		180	○	200	○	220	○	240	○	260	○	280	○
3	60	39	6.3	-	0.35-0.45 mm	0.65		182	○	202	○	222	○	242	○	262	○	282	○
3	60	39	8	-	0.45-0.7 mm	1		184	○	204	○	224	○	244	○	264	○	284	○
3	60	39	15	32-24	0.8-1.0 mm	1.4		186	○	206	○	226	○	246	○	266	○	286	○
4	60	51	15	32-24	0.8-1.0 mm	1.8		188	○	208	○	228	○	248	○	268	○	288	○
5	60	51	15	-	1.0-1.25 mm	2.3		190	○	210	○	230	○	250	○	270	○	290	○
5	60	51	22	-	1.0-1.26 mm	2.3		192	○	212	○	232	○	252	○	272	○	292	○
6	60	51	15	-	1.0-1.5 mm	2.6		194	○	214	○	234	○	254	○	274	○	294	○
6	60	51	22	-	1.0-1.6 mm	2.6		196	○	216	○	236	●	256	○	276	○	296	○
8	60	64	22	-	1.0-2.0 mm	3.6		198	○	218	○	238	○	258	○	278	○	298	○

Prod. Gr. 1FB

ATORN® Miniature cutting insert type AI For thread turning, 55° partial profile

Application:

Ident. No. 100–122, 148–170: For thread cutting 55° in steel and (stainless steel) material groups at low to high cutting speeds and mid-range cutting conditions.

Ident. No. 124–146: For thread cutting 55° in steel, stainless steel, special alloys material groups, hard machining to 65HRC at high cutting speeds and mid-range cutting conditions.

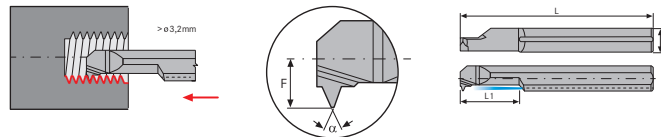
Execution:

- Solid carbide cutting insert 55° with internal cooling



Advantage:

- Stable geometry optimised for female thread cutting machining
- **Ident. No. 100–122:**
 - Robust cemented carbide grade for a broad application range
 - Ideal for use with low-performance machines and unstable cutting conditions
- **Ident. No. 124–146:** Innovative coating technology for universal use with very high service life requirements
- **Ident. No. 124–170:** Very hard cemented carbide grade ensures low wear
- **Ident. No. 148–170:** Extremely sharp cutters ensure a process-reliable cut



p. 624

Machining direction							Right	Left	Right	Left	Right	Left
Carbide type							HC5640	HC5640	HC5615	HC5615	HW5615	HW5615
Material to be processed							Steel Stainless steel Non-ferrous metal Cast metal	Steel Stainless steel Non-ferrous metal Cast metal	Steel Stainless steel Special alloy Hardened material	Steel Stainless steel Special alloy Hardened material	Stainless steel Non-ferrous metal	Stainless steel Non-ferrous metal
							17124... Ident. No.	17124... Ident. No.	17124... Ident. No.	17124... Ident. No.	17124... Ident. No.	17124... Ident. No.
D (mm)	α (Degree)	L (mm)	L1 (mm)	Min./max. pitch	F (mm)	D min. (mm)	100	112	124	136	148	160
3	55	39	15	0.5-1.0 mm	1.4	3.2	100	112	124	136	148	160
4	55	51	15	0.5-1.0 mm	1.8	4.1	102	114	126	138	150	162
5	55	51	15	0.5-1.25 mm	2.3	5.1	104	116	128	140	152	164
5	55	51	22	0.5-1.26 mm	2.3	5.1	106	118	130	142	154	166
6	55	51	15	0.5-1.5 mm	2.6	6	108	120	132	144	156	168
6	55	51	22	0.5-1.6 mm	2.6	6	110	122	134	146	158	170

Prod. Gr. 1FB

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ATORN® Miniature cutting insert type AI For thread turning, 60° full profile

Application:

Ident. No. 300–330, 364–394: For thread cutting 60° in steel and (stainless steel) material groups at low to high cutting speeds and mid-range cutting conditions.

Ident. No. 332–362: For thread cutting 60° in steel, stainless steel, special alloys material groups, hard machining to 65HRC at high cutting speeds and mid-range cutting conditions.

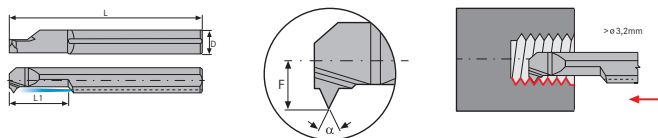
Execution:

- Solid carbide cutting insert 60° with internal cooling



Advantage:

- Exact replication of the thread flanks with exact profile presentation
- No de-burring of thread required due to full-profile geometry
- **Ident. No. 300–330:**
 - Robust cemented carbide grade for a broad application range
 - Ideal for use with low-performance machines and unstable cutting conditions
- **Ident. No. 332–362:** Innovative coating technology for universal use with very high service life requirements
- **Ident. No. 332–394:** Very hard cemented carbide grade ensures low wear
- **Ident. No. 364–394:** Extremely sharp cutters ensure a process-reliable cut



Machining direction							p. 624					
Carbide type							Right	Left	Right	Left	Right	Left
Material to be processed							HC5640	HC5640	HC5615	HC5615	HW5615	HW5615
							Steel Stainless steel Non-ferrous metal Cast metal	Steel Stainless steel Non-ferrous metal Cast metal	Steel Stainless steel Special alloy Hardened material	Steel Stainless steel Special alloy Hardened material	Stainless steel Non-ferrous metal	Stainless steel Non-ferrous metal
D (mm)	α (Degree)	Suitable for screw thread	L (mm)	L1 (mm)	F (mm)	D min. (mm)	17124... Ident. No.	17124... Ident. No.	17124... Ident. No.	17124... Ident. No.	17124... Ident. No.	17124... Ident. No.
3	60	M4 x 0.5	39	15	1.4	3.2	300	316	332	348	364	380
3	60	M4 x 0.7	39	15	1.4	3.2	302	318	334	350	366	382
3	60	M4.5 x 0.75	39	15	1.4	3.2	304	320	336	352	368	384
4	60	M5 x 0.5	51	15	1.8	4.1	306	322	338	354	370	386
4	60	M5 x 0.75	51	15	1.8	4.1	308	324	340	356	372	388
4	60	M5 x 0.8	51	15	1.8	4.1	310	326	342	358	374	390
5	60	M6 x 1	51	15	2.2	4.9	312	328	344	360	376	392
6	60	M8 x 1.25	51	22	2.8	6.1	314	330	346	362	378	394

Prod. Gr. 1FB

ATORN® Miniature cutting insert type AI For thread turning, 55° full profile

Application:

Ident. No. 400–430: For thread cutting 55° in steel and (stainless steel) material groups at low to high cutting speeds and mid-range cutting conditions.

Ident. No. 432–462: For thread cutting 55° in steel, stainless steel, special alloys material groups, hard machining to 65HRC at high cutting speeds and mid-range cutting conditions.

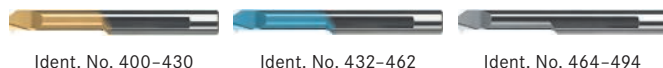
Ident. No. 464–494: For 55° thread cutting in the material groups of steel and (stainless steel) with low to high cutting speeds and medium cutting conditions.

Execution:

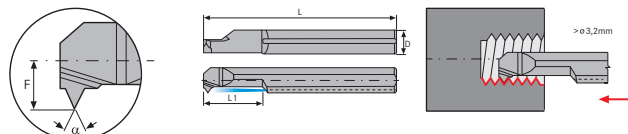
- **Ident. No. 400–462:** Solid carbide cutting insert 55° with internal cooling
- **Ident. No. 464–494:** solid carbide 55° cutting insert with inner cooling

Advantage:

- **Ident. No. 400–414:**
 - Exact replication of the thread flanks with exact profile presentation



- No de-burring of thread required due to full-profile geometry
- **Ident. No. 400–430:**
 - Robust cemented carbide grade for a broad application range
 - Ideal for use with low-performance machines and unstable cutting conditions
- **Ident. No. 416–462:** Exact replication of thread flanks with exact profile presentation, no de-burring of thread required due to full-profile geometry
- **Ident. No. 432–462:**
 - Very hard cemented carbide grade ensures low wear
 - Innovative coating technology for universal use with very high service life requirements
- **Ident. No. 464–494:**
 - very hard cemented carbide type ensures low wear
 - precise mapping of the thread flanges with exact profile illustration, no need to deburr the thread thanks to full profile geometry
 - extremely sharp cutting edges ensure cutting with process reliability



Machining direction							p. 624					
Carbide type							Right	Left	Right	Left	Right	Left
Material to be processed							HC5640	HC5640	HC5615	HC5615	HW5615	HW5615
							Steel Stainless steel Non-ferrous metal Cast metal	Steel Stainless steel Non-ferrous metal Cast metal	Steel Stainless steel Special alloy Hardened material	Steel Stainless steel Special alloy Hardened material	Stainless steel Non-ferrous metal	Stainless steel Non-ferrous metal
D (mm)	α (Degree)	Suitable for screw thread	L (mm)	F (mm)	D min. (mm)		17124... Ident. No.	17124... Ident. No.	17124... Ident. No.	17124... Ident. No.	17124... Ident. No.	17124... Ident. No.
3	55	UNF 8"-36	39	1.4	3.2		400	416	432	448	464	480
3	55	UNC 8"-32	39	1.4	3.2		402	418	434	450	466	482
4	55	UNS 12"-36	51	1.8	4.1		404	420	436	452	468	484
4	55	UNEF 12"-32	51	1.8	4.1		406	422	438	454	470	486
5	55	UNF 1 1/4"-28	51	2.2	4.9		408	424	440	456	472	488



Turning tools \ Miniature turn-out programme D=1-10 mm

Machining direction							Right			Left			Right			Left			Right			Left		
Carbide type							HC5640			HC5640			HC5615			HC5615			HW5615			HW5615		
Material to be processed							Steel Stainless steel Non-ferrous metal Cast metal			Steel Stainless steel Non-ferrous metal Cast metal			Steel Stainless steel Special alloy Hardened material			Steel Stainless steel Special alloy Hardened material			Stainless steel Non-ferrous metal			Stainless steel Non-ferrous metal		
D (mm)	α (Degree)	Suitable for screw thread	L (mm)	F (mm)	D min. (mm)		17124... Ident. No.			17124... Ident. No.			17124... Ident. No.			17124... Ident. No.			17124... Ident. No.			17124... Ident. No.		
5	55	UNC 1/4"-20	51	2.3	5		410	○		426	○		442	○		458	○		474	○		490	○	
6	55	UNF 5/16"-24	51	2.8	6.5		412	○		428	○		444	○		460	○		476	○		492	○	
6	55	UNC 5/16"-18	51	2.8	6.2		414	○		430	○		446	○		462	○		478	○		494	○	

Prod. Gr. 1FB

ATORN® Miniature cutting insert type AI For trapezoidal thread turning, 30° full profile

Application:

Ident. No. 600–622, 648–670: For 30° trapezoidal thread cutting in the material groups of steel and (stainless steel) with low to high cutting speeds and medium cutting conditions.

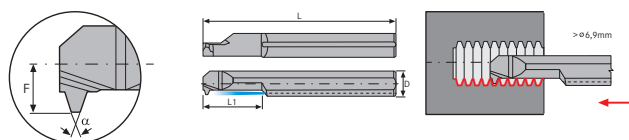
Ident. No. 624–646: For 30° trapezoidal thread cutting in the material groups of steel, stainless steel, special alloys, hard machining up to 65 HRC with high cutting speeds and medium cutting conditions.

Execution:

- solid carbide 30° cutting insert with inner cooling

Advantage:

- precise mapping of the thread flanges with exact profile illustration
- no need to deburr the thread thanks to full profile geometry
- Ident. No. 600–622:**
 - tough cemented carbide type for broad application field
 - ideal for use with inefficient machines and unstable cutting conditions
- Ident. No. 624–646:** innovative coating technology for universal use with extremely demanding service life requirements
- Ident. No. 624–670:** very hard cemented carbide type ensures low wear
- Ident. No. 648–670:** extremely sharp cutting edges ensure cutting with process reliability



Machining direction							Right			Left			Right			Left			Right			Left		
Carbide type							HC5640			HC5640			HC5615			HC5615			HW5615			HW5615		
Material to be processed							Steel Stainless steel Non-ferrous metal Cast metal			Steel Stainless steel Non-ferrous metal Cast metal			Steel Stainless steel Special alloy Hardened material			Steel Stainless steel Special alloy Hardened material			Stainless steel Non-ferrous metal			Stainless steel Non-ferrous metal		
D (mm)	α (Degree)	Suitable for screw thread	Suitable for trapezoid thread pitch (mm)	L (mm)	L1 (mm)	F (mm)	D min. (mm)	17124... Ident. No.		17124... Ident. No.			17124... Ident. No.			17124... Ident. No.			17124... Ident. No.			17124... Ident. No.		
7	30	Tr9 x 2 Tr10 x 2 Tr11 x 2 Tr12 x 2	2	62	25	3.2	6.9	600	○	612	○		624	○		636	○		648	○		660	○	
10	30	Tr14 x 2 Tr16 x 2 Tr18 x 2 Tr20 x 2	2	73	35	4.8	11	602	○	614	○		626	○		638	○		650	○		662	○	
7	30	Tr11 x 3 Tr12 x 3	3	62	35	3.3	7.5	604	○	616	○		628	○		640	○		652	○		664	○	
10	30	Tr14 x 3 Tr22 x 3 Tr24 x 3 Tr26 x 3 Tr28 x 3	3	73	35	4.8	10.5	606	○	618	○		630	○		642	○		654	○		666	○	
10	30	Tr16 x 4 Tr18 x 4 Tr20 x 4	4	105	45	4.8	11.5	608	○	620	○		632	○		644	○		656	○		668	○	
10	30	Tr22 x 5 Tr24 x 5 Tr28 x 5	5	105	55	4.8	11	610	○	622	○		634	○		646	○		658	○		670	○	

Prod. Gr. 1FB

ATORN® Miniature cutting insert type AD For chamfering and recessing thread undercuts

Application:

Ident. No. 100–120, 148–168: For chamfering and grooving for thread undercutting in the material groups of steel and (stainless steel) material groups with low to high cutting speeds and medium cutting conditions.

Ident. No. 124–144: For chamfering and grooving for thread undercutting in the material groups of steel, stainless steel, special alloys, hard machining up to 65 HRC with high cutting speeds and medium cutting conditions.

Execution:

- solid carbide 93° cutting insert with inner cooling



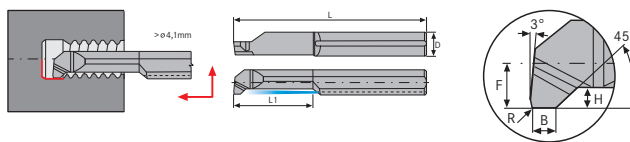
Ident. No. 100–120

Ident. No. 124–144

Ident. No. 148–168

Advantage:

- universal geometry for grooves, chamfers and thread undercuts
- Ident. No. 100–120:**
 - tough cemented carbide type for broad application field
 - ideal for use with inefficient machines and unstable cutting conditions
- Ident. No. 124–144:** innovative coating technology for universal use with extremely demanding service life requirements
- Ident. No. 124–168:** very hard cemented carbide type ensures low wear
- Ident. No. 148–168:** extremely sharp cutting edges ensure cutting with process reliability



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Machining direction								Right	Left	Right	Left	Right	Left
Carbide type								HC5640	HC5640	HC5615	HC5615	HW5615	HW5615
Material to be processed								Steel Stainless steel Non-ferrous metal Cast metal	Steel Stainless steel Non-ferrous metal Cast metal	Steel Stainless steel Special alloy Hardened material	Steel Stainless steel Special alloy Hardened material	Stainless steel Non-ferrous metal	Stainless steel Non-ferrous metal
D (mm)	L (mm)	L1 (mm)	R (mm)	F (mm)	B (mm)	H (mm)	D min. (mm)	17125... Ident. No.	17125... Ident. No.	17125... Ident. No.	17125... Ident. No.	17125... Ident. No.	17125... Ident. No.
4	51	18	0.5	1.8	1.5	0.8	4.1	100	112	124	136	148	160
5	51	24	0.5	2.3	1.5	1.2	5.1	104	116	128	140	152	164
6	58	27	0.5	2.8	1.5	1.4	6.1	108	120	132	144	156	168

Prod. Gr. 1FB

ATORN® Miniature cutting insert type AC For chamfering, 90°

Application:

Ident. No. 100–136, 180–216: For chamfering and longitudinal internal boring in the material groups of steel and (stainless steel) with low to high cutting speeds and medium cutting conditions.

Ident. No. 140–176: For chamfering and longitudinal boring in the material groups of steel, stainless steel, special alloys, hard machining up to 65 HRC with high cutting speeds and medium cutting conditions.

Execution:

- solid carbide cutting insert, 90° chamfer angle with inner cooling



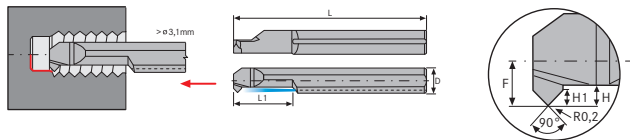
Ident. No. 100–136

Ident. No. 140–176

Ident. No. 180–216

Advantage:

- universal geometry for chamfering and longitudinal internal boring
- Ident. No. 100–136:**
 - tough cemented carbide type for broad application field
 - ideal for use with inefficient machines and unstable cutting conditions
- Ident. No. 140–176:** innovative coating technology for universal use with extremely demanding service life requirements
- Ident. No. 140–216:** very hard cemented carbide type ensures low wear
- Ident. No. 180–216:** extremely sharp cutting edges ensure cutting with process reliability



p. 624

Machining direction								Right	Left	Right	Left	Right	Left
Carbide type								HC5640	HC5640	HC5615	HC5615	HW5615	HW5615
Material to be processed								Steel Stainless steel Non-ferrous metal Cast metal	Steel Stainless steel Non-ferrous metal Cast metal	Steel Stainless steel Special alloy Hardened material	Steel Stainless steel Special alloy Hardened material	Stainless steel Non-ferrous metal	Stainless steel Non-ferrous metal
D (mm)	L (mm)	L1 (mm)	R (mm)	F (mm)	H (mm)	H1 (mm)	D min. (mm)	17127... Ident. No.	17127... Ident. No.	17127... Ident. No.	17127... Ident. No.	17127... Ident. No.	17127... Ident. No.
3	39	10	0.2	1.3	0.7	0.3	3.1	100	120	140	160	180	200
4	51	15	0.2	1.7	0.8	0.4	4.1	104	124	144	164	184	204
5	51	15	0.2	2.1	1.2	0.7	5.1	108	128	148	168	188	208
6	51	15	0.2	2.8	1.4	0.7	6.1	112	132	152	172	192	212
7	62	20	0.2	3.3	1.5	0.8	7.1	116	136	156	176	196	216

Prod. Gr. 1FB

ATORN® Miniature cutting insert type AW For chamfering and profile turning

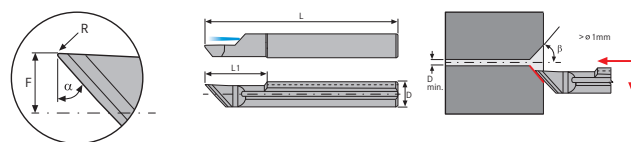
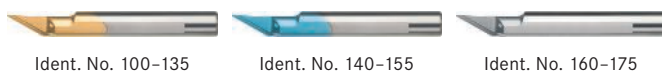
Application:

Ident. No. 100–135, 160–175: For chamfering and profile turning in the material groups of steel and (stainless steel) with low to high cutting speeds and medium cutting conditions.

Ident. No. 140–155: For chamfering and profile turning in the material groups of steel, stainless steel, special alloys, hard machining up to 65 HRC with high cutting speeds and medium cutting conditions.

Execution:

- solid carbide cutting insert, 45° chamfer angle with inner cooling



Machining direction										p. 624	
Carbide type											
Material to be processed											
D (mm)	L (mm)	L1 (mm)	R (mm)	β (Degree)	α (Degree)	F (mm)	D min. (mm)	Holder size	Right	Left	
6	51	15	0.2	45	45	2.3	1	6	17128... Ident. No.	17128... Ident. No.	
6	51	15	0.2	30	60	2.3	1	6	100 121	131 135	140 145

Prod. Gr. 1FB

ATORN® Miniature cutting insert type AG For internal recessing

Application:

Ident. No. 100–208: For inner grooves in the material groups of steel and (stainless steel) with low to high cutting speeds and medium cutting conditions.

Ident. No. 212–266, 494–714: For internal recessing in the material groups steel and (stainless steel) at low to high cutting speeds and under average cutting conditions.

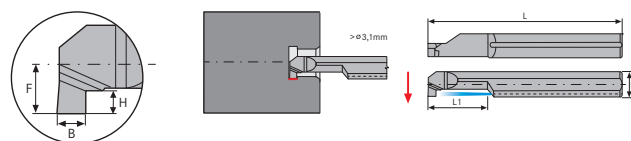
Ident. No. 270–490: For internal recessing in the material groups steel, stainless steel and special alloys, hard machining up to 65 HRC at high cutting speeds and under average cutting conditions.

Execution:

- Ident. No. 100–208:** solid carbide cutting insert with inner cooling
- Ident. No. 212–714:** Solid carbide cutting insert with internal cooling

Advantage:

- Ident. No. 100–208:**
 - tough cemented carbide type for broad application field
 - stable geometry for cutting insert
 - ideal for use with inefficient machines and unstable cutting conditions
- Ident. No. 212–266:**
 - Tough cemented carbide grade for a broad scope of application
 - ideal for use with low-performance machines and unstable cutting conditions
- Ident. No. 212–714:** Stable geometry for the cutting insert
- Ident. No. 270–490:** Innovative coating technology for universal use with very high service life requirements
- Ident. No. 270–714:** Very hard cemented carbide grade ensures low wear
- Ident. No. 494–714:** Extremely sharp blades ensure process reliability for cutting



Machining direction										p. 624	
Carbide type											
Material to be processed											
D (mm)	L (mm)	L1 (mm)	H (mm)	B (mm)	F (mm)	D min. (mm)	Right	Left	Right	Left	
3	39	10	0.6	0.7	1.3	3.1	100 104	212 214	17129... Ident. No.	17129... Ident. No.	
4	51	10	1	1	1.7	4.1	108 112	216 218	270 282	382 386	494 498
4	51	15	1	1	1.7	4.1	116 120	220 222	286 290	398 402	502 514
4	51	10	1	1.5	1.7	4.1	124 128	224 226	294 298	406 410	518 522
5	51	15	1.2	1	2.3	5.1	132 136	228 230	302 306	414 418	526 530
5	51	22	1.2	1	2.3	5.1	140 140	232 232	310 310	422 422	534 534

Machining direction								Right		Left		Right		Left		Right		Left	
Carbide type								HC5640		HC5640		HC5615		HC5615		HW5615		HW5615	
Material to be processed								Steel Stainless steel Non-ferrous metal Cast metal		Steel Stainless steel Non-ferrous metal Cast metal		Steel Stainless steel Special alloy Hardened material		Steel Stainless steel Special alloy Hardened material		Stainless steel Non-ferrous metal		Stainless steel Non-ferrous metal	
D (mm)	L (mm)	L1 (mm)	H (mm)	B (mm)	F (mm)	D min. (mm)	17129... Ident. No.			17129... Ident. No.		17129... Ident. No.		17129... Ident. No.		17129... Ident. No.		17129... Ident. No.	
6	51	22	1.4	1	2.8	6.1	144	○	234	○	314	○	426	○	538	○	650	○	
6	51	15	1.4	1.5	2.8	6.1	148	○	236	○	318	○	430	○	542	○	654	○	
6	51	22	1.4	1.5	2.8	6.1	152	○	238	○	322	○	434	○	546	○	658	○	
6	51	15	1.4	2	2.8	6.1	156	○	240	○	326	○	438	○	550	○	662	○	
6	51	22	1.4	2	2.8	6.1	160	○	242	○	330	○	442	○	554	○	666	○	
7	62	15	2.5	1	3.3	7.1	164	○	244	○	334	○	446	○	558	○	670	○	
7	62	22	2.5	1	3.3	7.1	168	○	246	○	338	○	450	○	562	○	674	○	
7	62	30	2.5	1	3.3	7.1	172	○	248	○	342	○	454	○	566	○	678	○	
7	62	15	2.5	1.5	3.3	7.1	176	○	250	○	346	○	458	○	570	○	682	○	
7	62	22	2.5	1.5	3.3	7.1	180	○	252	○	350	○	462	○	574	○	686	○	
7	62	30	2.5	1.5	3.3	7.1	184	○	254	○	354	○	466	○	578	○	690	○	
7	62	15	2.5	2	3.3	7.1	188	○	256	○	358	○	470	○	582	○	694	○	
7	62	22	2.5	2	3.3	7.1	192	○	258	○	362	○	474	○	586	○	698	○	
7	62	30	2.5	2	3.3	7.1	196	○	260	○	366	○	478	○	590	○	702	○	
8	64	22	1.7	1	3.8	8.1	200	○	262	○	370	○	482	○	594	○	706	○	
8	64	22	1.7	1.5	3.8	8.1	204	○	264	○	374	○	486	○	598	○	710	○	
8	64	22	2.6	2	3.8	8.1	208	○	266	○	378	○	490	○	602	○	714	○	

Prod. Gr. 1FB

ATORN® Miniature cutting insert type AK

For internal recessing with radius

Application:

Ident. No. 100–160, 228–288: For internal recessing with radius in the material groups of steel and (stainless steel) with low to high cutting speeds and medium cutting conditions.

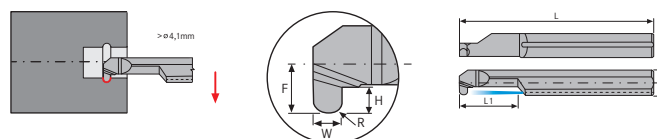
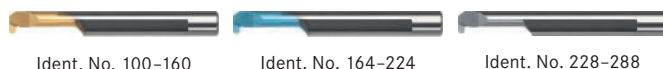
Ident. No. 164–224: For internal recessing with radius in the material groups of steel, stainless steel, special alloys, hard machining up to 65 HRC with high cutting speeds and medium cutting conditions.

Execution:

- solid carbide cutting insert with inner cooling

Advantage:

- stable geometry for cutting insert
- Ident. No. 100–160:**
 - tough cemented carbide type for broad application field
 - ideal for use with inefficient machines and unstable cutting conditions
- Ident. No. 164–224:** innovative coating technology for universal use with extremely demanding service life requirements
- Ident. No. 164–288:** very hard cemented carbide type ensures low wear
- Ident. No. 228–288:** extremely sharp cutting edges ensure cutting with process reliability



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Machining direction								Right		Left		Right		Left		Right		Left	
Carbide type								HC5640		HC5640		HC5615		HC5615		HW5615		HW5615	
Material to be processed								Steel Stainless steel Non-ferrous metal Cast metal		Steel Stainless steel Non-ferrous metal Cast metal		Steel Stainless steel Special alloy Hardened material		Steel Stainless steel Special alloy Hardened material		Stainless steel Non-ferrous metal		Stainless steel Non-ferrous metal	
D (mm)	L (mm)	L1 (mm)	R (mm)	W (mm)	H (mm)	F (mm)	D min. (mm)	17130... Ident. No.		17130... Ident. No.		17130... Ident. No.		17130... Ident. No.		17130... Ident. No.		17130... Ident. No.	
4	51	10	0.5	1.0	1	1.7	4.1	100	○	132	○	164	○	196	○	228	○	260	○
4	51	10	0.75	1.5	1	1.7	4.1	104	○	136	○	168	○	200	○	232	○	264	○
5	51	15	0.5	1.0	1.2	2.3	5.1	108	○	140	○	172	○	204	○	236	○	268	○
5	51	15	0.75	1.5	1.2	2.3	5.1	112	○	144	○	176	○	208	○	240	○	272	○
5	51	15	1	2	1.2	2.3	5.1	116	○	148	○	180	○	212	○	244	○	276	○
6	51	15	0.5	1.0	1.6	2.8	6.1	120	○	152	○	184	○	216	○	248	○	280	○
6	51	15	0.75	1.5	1.6	2.8	6.1	124	○	156	○	188	○	220	○	252	○	284	○
6	51	15	1	2	1.6	2.8	6.1	128	○	160	○	192	○	224	○	256	○	288	○

Prod. Gr. 1FB

ATORN® Miniature cutting insert type AF HC5640 For axial recessing

Application:

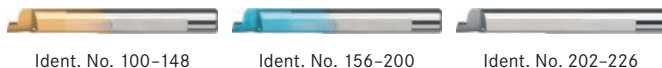
For axial recessing in the material groups of steel and (stainless steel) with low to high cutting speeds and medium cutting conditions.

Execution:

- solid carbide cutting insert with inner cooling

Advantage:

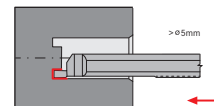
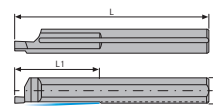
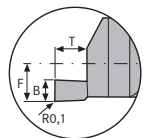
- sturdy geometry for axial cutter insert



Ident. No. 100-148

Ident. No. 156-200

Ident. No. 202-226



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Machining direction							Right	Right	Right
Carbide type							HC5640	HC5615	HW5615
Material to be processed							Steel Stainless steel Non-ferrous metal Cast metal	Steel Stainless steel Special alloy Hardened material	Stainless steel Non-ferrous metal
D (mm)	L (mm)	L1 (mm)	B (mm)	T (mm)	F (mm)	D min. (mm)	17131... Ident. No.	17131... Ident. No.	17131... Ident. No.
4	51	15	0.75	1.2	1.95	5	100	156	202
4	51	15	1	1.5	1.95	5	104	160	204
4	51	15	1.5	2.8	1.95	5	108	164	206
5	51	22	0.75	1.2	2.45	6	112	168	208
5	51	22	1	1.5	2.45	6	116	172	210
5	51	22	1.5	2.5	2.45	6	120	176	212
5	51	22	2	3.8	2.45	6	124	180	214
6	51	22	1	1.5	2.95	8	128	184	216
6	51	22	1.5	2.5	2.95	8	132	188	218
6	51	22	2	3	2.95	8	136	192	220
6	51	22	2.5	4.8	2.95	8	140	196	222
6	58	30	3	6	2.95	8	144	200	224
8	64	22	2.5	3.5	3.95	10	148	204	226

Prod. Gr. 1FB

ATORN® Miniature cutting insert type AF For axial recessing

Application:

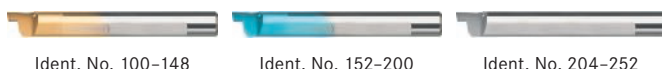
Ident. No. 100-148: For axial recessing in the material groups of steel and (stainless steel) with low to high cutting speeds and medium cutting conditions.

Ident. No. 152-200: Sturdy geometry for axial recessing in the material groups of steel, stainless steel, special alloys, hard machining up to 65 HRC with high cutting speeds and medium cutting conditions.

Ident. No. 204-252: Sturdy geometry for axial recessing in the material groups of steel and (stainless steel) with low to high cutting speeds and medium cutting conditions.

Execution:

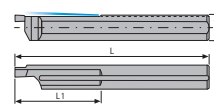
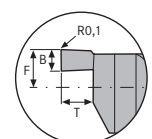
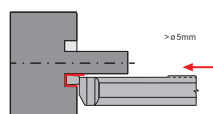
- solid carbide cutting insert with inner cooling



Ident. No. 100-148

Ident. No. 152-200

Ident. No. 204-252



p. 624

Machining direction							Left	Left	Left
Carbide type							HC5640	HC5615	HW5615
Material to be processed							Steel Stainless steel Non-ferrous metal Cast metal	Steel Stainless steel Special alloy Hardened material	Stainless steel Non-ferrous metal
D (mm)	L (mm)	L1 (mm)	B (mm)	T (mm)	F (mm)	D min. (mm)	17132... Ident. No.	17132... Ident. No.	17132... Ident. No.
4	51	15	0.75	1.2	1.75	5	100	152	204
4	51	15	1	1.5	1.75	5	104	156	208
4	51	15	1.5	2.8	1.75	5	108	160	212
5	51	22	0.75	1.2	2.25	6	112	164	216
5	51	22	1	1.5	2.25	6	116	168	220
5	51	22	1.5	2.5	2.25	6	120	172	224
5	51	22	2	3.8	2.25	6	124	176	228
6	51	22	1	1.5	2.75	8	128	180	232
6	51	22	1.5	2.5	2.75	8	132	184	236
6	51	22	2	3	2.75	8	136	188	240
6	51	22	2.5	4.8	2.75	8	140	192	244
6	58	30	3	6	2.75	8	144	196	248
8	64	22	2.5	3.5	3.75	10	148	200	252

Prod. Gr. 1FB

ATORN® Miniature cutting insert type AV For deep axial recessing

Application:

Ident. No. 100–120, 200–220: For deep axial grooving in steel and (stainless steel) material groups at low to high cutting speeds and mid-range cutting conditions.

Ident. No. 150–170: For deep axial grooving in steel, stainless steel, special alloys material groups, hard machining to 65HRC at high cutting speeds and mid-range cutting conditions.

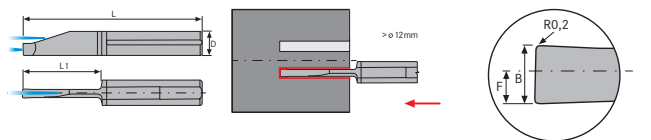
Execution:

- Solid carbide cutting insert with internal cooling



Advantage:

- Very narrow geometry optimised for deep groove depths
- **Ident. No. 100–120:**
 - Robust cemented carbide grade for a broad application range
 - Ideal for use with low-performance machines and unstable cutting conditions
- **Ident. No. 150–170:** Innovative coating technology for universal use with very high service life requirements
- **Ident. No. 150–220:** Very hard cemented carbide grade ensures low wear
- **Ident. No. 200–220:** Extremely sharp cutters ensure a process-reliable cut



p. 624

Machining direction						Right	Right	Right
Carbide type						HC5640	HC5615	HW5615
Material to be processed						Steel Stainless steel Non-ferrous metal Cast metal	Steel Stainless steel Special alloy Hardened material	Stainless steel Non-ferrous metal
D (mm)	L (mm)	L1 (mm)	B (mm)	F (mm)	D min. (mm)	17133... Ident. No.	17133... Ident. No.	17133... Ident. No.
6	64	15	2	1.1	12	100	150	200
6	64	22	2	1.1	12	104	154	204
6	64	22	2.5	1.4	12	108	158	208
8	64	27	3	1.6	15	112	162	212
8	80	43	3	1.6	15	116	166	216
8	80	43	4	2.1	20	120	170	220

Prod. Gr. 1FB

ATORN® Miniature cutting insert type AZ HC5640 For axial recessing with radius

Application:

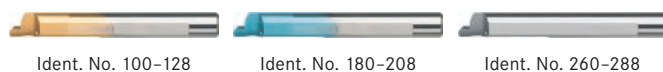
Ident. No. 100–128: For axial grooving with radius in steel, (stainless steel), cast iron and non-ferrous metals material groups at low cutting speeds or in unfavourable cutting conditions.

Ident. No. 180–208: For axial grooving with radius in steel, stainless steel, special alloys material groups, hard machining to 65HRC at high cutting speeds and mid-range cutting conditions.

Ident. No. 260–288: For axial grooving with radius in steel and (stainless steel) material groups at low to high cutting speeds and mid-range cutting conditions.

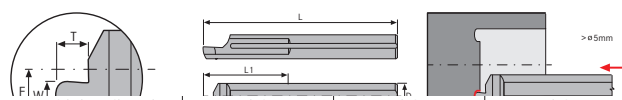
Execution:

- Solid carbide cutting insert with internal cooling



Advantage:

- Stable geometry for axial grooving
- **Ident. No. 100–128:**
 - Robust cemented carbide grade for a broad application range
 - Ideal for use with low-performance machines and unstable cutting conditions
- **Ident. No. 180–208:** Innovative coating technology for universal use with very high service life requirements
- **Ident. No. 180–288:** Very hard cemented carbide grade ensures low wear
- **Ident. No. 260–288:** Extremely sharp cutters ensure a process-reliable cut



Machining direction								Right	Right	Right
Carbide type								HC5640	HC5615	HW5615
Material to be processed								Steel Stainless steel Non-ferrous metal Cast metal	Steel Stainless steel Special alloy Hardened material	Stainless steel Non-ferrous metal
D (mm)	L (mm)	L1 (mm)	R (mm)	W (mm)	T (mm)	F (mm)	D min. (mm)	17134... Ident. No.	17134... Ident. No.	17134... Ident. No.
4	51	15	0.5	1	1.2	1.95	5	100	180	260
4	51	15	0.75	1.5	1.5	1.95	5	104	184	264
5	51	22	0.5	1	1.2	2.45	6	108	188	268
5	51	22	0.75	1.5	1.5	2.45	6	112	192	272
5	51	22	1	2	2.5	2.45	6	116	196	276
6	51	22	0.5	1	1.2	2.95	8	120	200	280
6	51	22	0.75	1.5	1.5	2.95	8	124	204	284
6	51	22	1	2	2.5	2.95	8	128	208	288

Prod. Gr. 1FB



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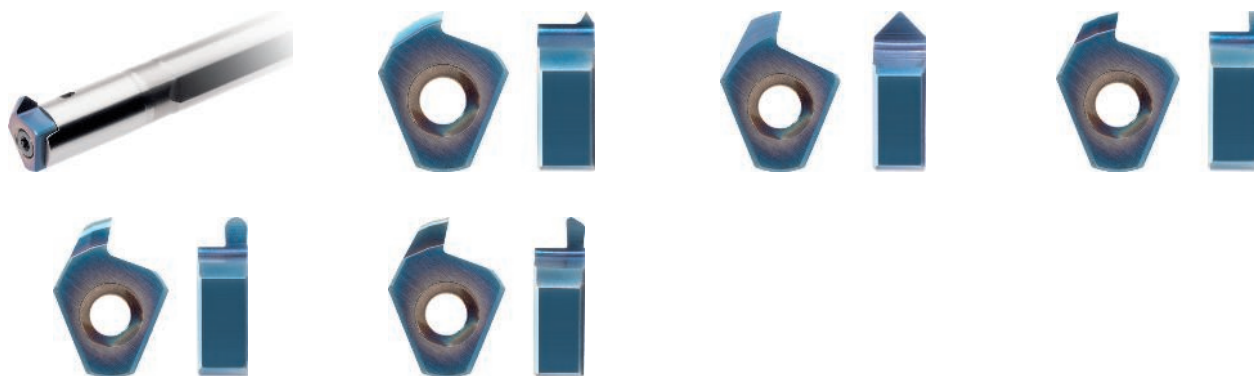
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Miniature lathe range with front cutting attachment

For demanding serial users



Application:

Miniature range for boring range of 8-13 mm in all material groups.

Advantages:

- Extremely wide range for internal boring, copy turning, recessing, thread cutting, chamfering and grooving applications
- Excellent service life in heavy-duty materials stainless steel and titanium, and hard machining up to 50HRC
- Special designs in all variants with short delivery times
- Precision-manufactured cutting inserts and holders for rapid replacement of cutting inserts on machine
- Cemented carbide carrier ensures low susceptibility to vibration
- Internal cooling ensures reliable machining in series production

ATORN® Holder for miniature cutting insert with front-face cutting attachment

Application:

For clamping miniature cutting inserts.

Execution:

- Solid carbide holder in steel design with clamping screw



Suitable for indexable inserts	Length (mm)	Shaft Ø (mm)	Clearance length (mm)	Clearance Ø (mm)	Material	17135... Ident. No.	
A8	80	8	20	7	VHM	010	●
A8	95	8	30	7	VHM	015	●
A8	105	8	40	7	VHM	020	●
A10	150	10	-	10	VHM	025	●
A10	110	12	40	10	VHM	030	●
A10	125	12	55	10	VHM	035	●
A10	70	12	25	10	Steel	040	●
A10	90	16	25	10	Steel	045	●
A10	100	16	35	10	Steel	050	●

Prod. Gr. 1FI

ATORN® Miniature cutting insert, front face

For thread cutting, 60° partial profile

Application:

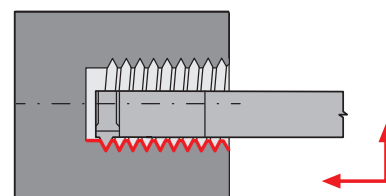
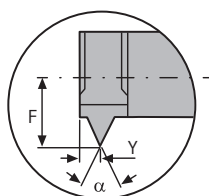
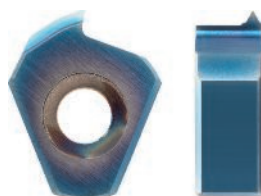
For variable 60° thread cutting.

Execution:

- Solid carbide cutting insert, 60°

Advantage:

- Very hard cemented carbide grade ensures low wear
- Stable geometry optimised for female thread cutting machining
- Innovative coating technology for universal use with very high service life requirements



							Vc in steel 	15-70 m/min
							Vc in cast iron 	15-30 m/min
							Vc in stainless steel 	15-70 m/min
							Vc in non-ferrous metals 	20-90 m/min
							Vc in special alloys 	20-50 m/min
							Min./max. Vc in hardened steel 50 HRC	10-40 m/min
Indexable insert type	Min./max. pitch external	Min./max. pitch internal	Min./max. number of thread starts per inch internal	Min./max. number of thread starts per inch external	F (mm)	Y (mm)	Min. bore Ø (mm)	17135... Ident. No.
A8	0.4-0.75 mm	0.5-0.75 mm	56-32	64-32	3.7	0.6	8	100 
A8	0.8-1.0 mm	1.0-1.25 mm	28-20	32-28	4.1	0.8	8.4	105 
A10	0.4-0.8 mm	0.5-0.8 mm	56-28	64-32	6.4	0.6	11.6	110 
A10	0.8-1.75 mm	1.0-2.0 mm	28-13	32-15	7.1	1.3	12.3	115 
A10	1.75-2.5 mm	2.0-3.0 mm	13-8	15-10	7.9	1.5	13.1	120 

Prod. Gr. 1FJ

Source: Hahn+Kolb Werkzeuge GmbH
Technical data subject to change.
Availability subject to country specific rules and regulations.

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ATORN® Miniature cutting insert, front face For thread cutting, 55° partial profile

Application:

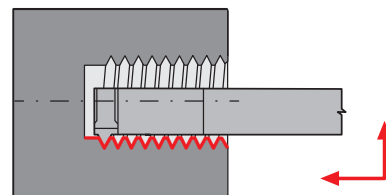
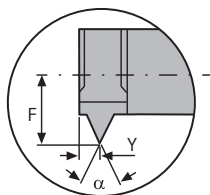
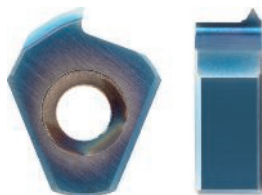
For variable 55° thread cutting.

Execution:

- Solid carbide cutting insert, 55°

Advantage:

- Very hard cemented carbide grade ensures low wear
- Stable geometry optimised for female thread cutting machining
- Innovative coating technology for universal use with very high service life requirements



						Vc in steel ●	15-70 m/min
						Vc in stainless steel ●	15-70 m/min
						Vc in non-ferrous metals ●	20-90 m/min
						Vc in cast iron ●	15-30 m/min
						Min./max. Vc in hardened steel 50 HRC	10-40 m/min
Indexable insert type	Min./max. pitch	Min./max. number of thread starts per inch	F (mm)	Y (mm)	Min. bore Ø (mm)	17135... Ident. No.	
A8	1.25-1.5 mm	19-18	4.8	1	9.1	125	●
A8	1.75-2.0 mm	16-14	4.4	1.2	8.7	130	●
A10	1.25-2.0 mm	19-14	7.2	1.2	12.4	135	●

Prod. Gr. 1FJ

ATORN® Miniature cutting insert, front face For thread cutting, 60° full profile

Application:

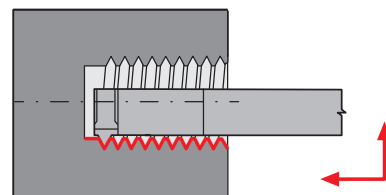
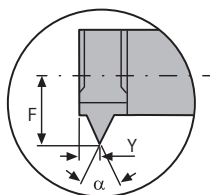
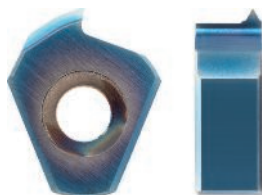
For 60° thread cutting.

Execution:

- Solid carbide cutting insert, 60°

Advantage:

- Very hard cemented carbide grade ensures low wear
- Stable geometry optimised for female thread cutting machining
- Innovative coating technology for universal use with very high service life requirements



						Vc in steel ●	15-70 m/min
						Vc in stainless steel ●	15-70 m/min
						Vc in non-ferrous metals ●	20-90 m/min
						Vc in cast iron ●	15-30 m/min
						Min./max. Vc in hardened steel 50 HRC	10-40 m/min
Indexable insert type	Pitch (mm)	Suitable for metric threads from	Suitable for metric fine threads from	F (mm)	Y (mm)	Min. bore Ø (mm)	17135... Ident. No.
A8	0.5	-	MF8,5	3.6	0.5	8	140 ●
A8	0.75	-	MF9	3.8	0.6	8.1	145 ●
A8	1	-	MF9	3.7	0.7	8	150 ●
A8	1.25	-	MF10	3.9	0.8	8.2	155 ●
A8	1.5	M10	MF12	4.1	1	8.4	160 ●
A8	1.75	M12	-	4.3	1.1	8.6	165 ●
A8	2	M14	MF17	4.5	1.3	8.8	170 ●
A10	0.5	-	MF12	6.1	0.5	11.3	175 ●
A10	0.75	-	MF12	6.1	0.6	11.3	180 ●
A10	1	-	MF13	6.5	0.7	11.7	185 ●
A10	1.5	-	MF14	6.5	1	11.7	190 ●
A10	2	M16	MF17	6.8	1.3	12	195 ●
A10	2.5	M18 M20	-	7.4	1.4	12.6	200 ●
A10	3	M24	MF28	7.4	1.6	12.6	205 ●

Prod. Gr. 1FJ

ATORN® Miniature cutting insert, front face For chamfering

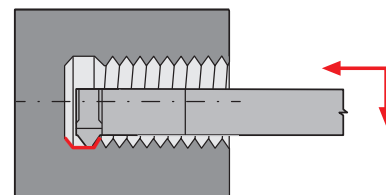
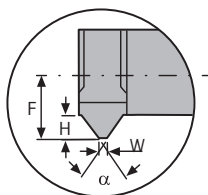
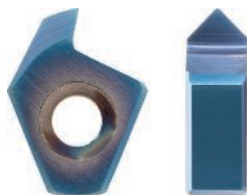
Application:
For chamfering.

Execution:

- Solid carbide cutting insert, 45° chamfering angle

Advantage:

- Very hard cemented carbide grade ensures low wear
- User-friendly chamfering with high surface quality
- Innovative coating technology for universal use with very high service life requirements



							Vc in steel ●	15-70 m/min
							Vc in stainless steel ●	15-70 m/min
							Vc in non-ferrous metals ●	20-90 m/min
							Vc in cast iron ●	15-30 m/min
							Min./max. Vc in hardened steel 50 HRC	10-40 m/min
							f min./max.	0.02-0.08 mm/U
Indexable insert type	Bevel angle (Degree)	Edge depth (mm)	W (mm)	F (mm)	f min./max.	Min. bore Ø (mm)	17135... Ident. No.	
A8	90	1.4	0.2	4.5	0.02-0.08 mm/U	8.8	210	●
A10	90	1.8	0.2	7.5	0.02-0.08 mm/U	12.7	215	●

Prod. Gr. 1FJ

ATORN® Miniature cutting insert, front face For internal recessing

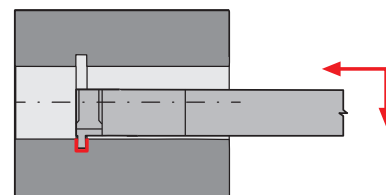
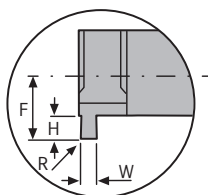
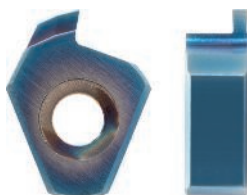
Application:
For internal recessing.

Execution:

- Solid carbide cutting insert

Advantage:

- Very hard cemented carbide grade ensures low wear
- Stable geometry for the cutting insert
- Innovative coating technology for universal use with very high service life requirements



						Vc in steel 	15-70 m/min
						Vc in stainless steel 	15-70 m/min
						Vc in non-ferrous metals 	20-90 m/min
						Vc in cast iron 	15-30 m/min
						Min./max. Vc in hardened steel 50 HRC	10-40 m/min
Indexable insert type	Recessing width (mm)	Tolerance of plunge depth	Plunge depth (mm)	F (mm)	Min. bore Ø (mm)	17135... Ident. No.	
A8	1	± 0.02 mm	2	5.1	9.4	220	
A8	1.5	± 0.02 mm	2	5.1	9.4	225	
A8	2	± 0.02 mm	2	5.1	9.4	230	
A8	2.5	± 0.02 mm	2	5.1	9.4	235	
A8	3	± 0.02 mm	2	5.1	9.4	240	
A10	1	± 0.02 mm	1.4	7.1	12.3	245	
A10	1.5	± 0.02 mm	1.4	7.1	12.3	250	
A10	2	± 0.02 mm	1.4	7.1	12.3	255	
A10	1	± 0.02 mm	2.3	7.9	13.1	260	
A10	1.5	± 0.02 mm	2.3	7.9	13.1	265	
A10	2	± 0.02 mm	2.3	7.9	13.1	270	
A10	2.5	± 0.02 mm	2.3	7.9	13.1	275	
A10	3	± 0.02 mm	2.3	7.9	13.1	280	

Prod. Gr. 1FJ

ATORN® Miniature cutting insert, front face For internal recessing with radius

Application:

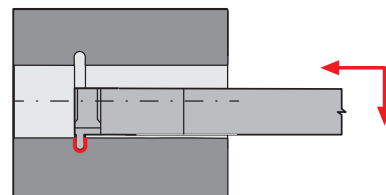
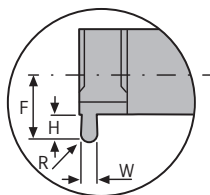
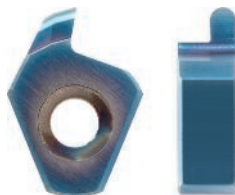
For internal recessing with radius.

Execution:

- Solid carbide cutting insert with radius

Advantage:

- Very hard cemented carbide grade ensures low wear
- Stable geometry for the cutting insert
- Innovative coating technology for universal use with very high service life requirements



								Vc in steel ●	15-70 m/min
								Vc in stainless steel ●	15-70 m/min
								Vc in non-ferrous metals ●	20-90 m/min
								Vc in cast iron ●	15-30 m/min
								Min./max. Vc in hardened steel 50 HRC	10-40 m/min
Indexable insert type	Recessing width (mm)	Tolerance of plunge depth	Radius (mm)	Plunge depth (mm)	F (mm)	Min. bore Ø (mm)	f min./max.	17135... Ident. No.	
A8	0.8	± 0.02 mm	0.4	1	4.1	8.4	0.01-0.03 mm/U	285	●
A8	1.2	± 0.02 mm	0.6	1	4.1	8.4	0.01-0.03 mm/U	290	●
A8	1.8	± 0.02 mm	0.9	1	4.1	8.4	0.01-0.03 mm/U	295	●
A10	0.8	± 0.02 mm	0.4	2.2	7.9	13.1	0.01-0.03 mm/U	300	●
A10	1.2	± 0.02 mm	0.6	2.2	7.9	13.1	0.01-0.03 mm/U	305	●
A10	1.8	± 0.02 mm	0.9	2.2	7.9	13.1	0.01-0.03 mm/U	310	●
A10	2	± 0.02 mm	1	2.2	7.9	13.1	0.01-0.03 mm/U	315	●

Prod. Gr. 1FJ

ATORN® Miniature cutting insert, front face For back turning

Application:

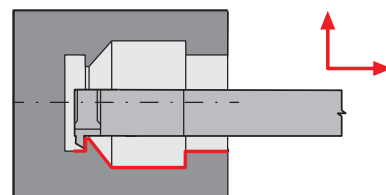
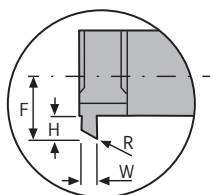
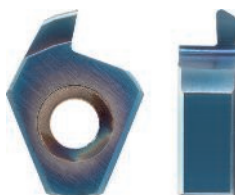
For recessing.

Execution:

- Solid carbide cutting insert

Advantage:

- Very hard cemented carbide grade ensures low wear
- Stable and optimised geometry for recessing
- Innovative coating technology for universal use with very high service life requirements



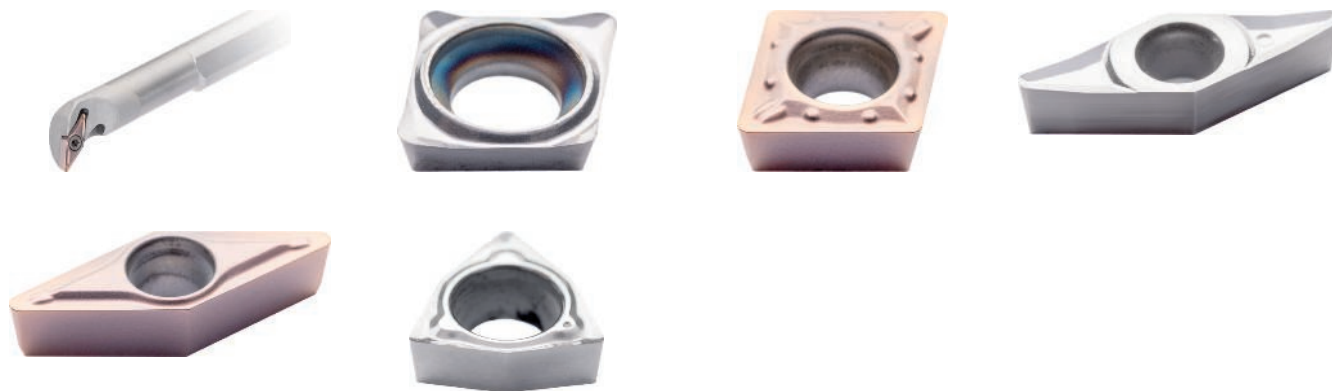
								Vc in steel ●	15-70 m/min
								Vc in stainless steel ●	15-70 m/min
								Vc in non-ferrous metals ●	20-90 m/min
								Vc in cast iron ●	15-30 m/min
								Min./max. Vc in hardened steel 50 HRC	10-40 m/min
								f min./max.	0.03-0.10 mm/U
Indexable insert type	Radius (mm)	Plunge depth (mm)	Recessing width (mm)	F (mm)	Min. bore Ø (mm)	17135... Ident. No.			
A8	0.2	2	1.5	5.1	9.4	320	●		
A10	0.2	2.3	1.5	7.9	13.1	325	●		
A10	0.4	2.3	1.5	7.9	13.1	330	●		

Prod. Gr. 1FJ



Miniature boring range using indexable inserts

For ambitious serial users



Application:

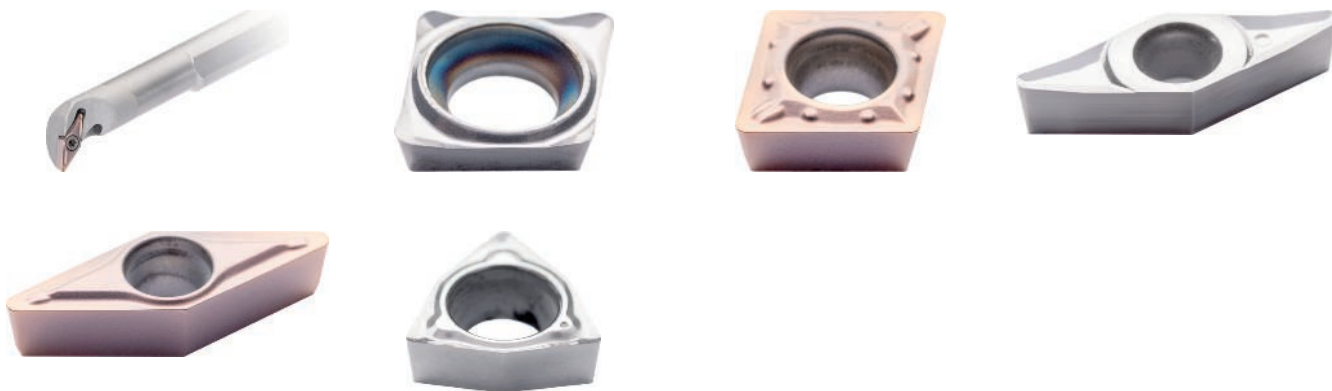
For miniature boring from a diameter of 4.8 mm with CD.., CP.., WC.., VC.. Indexable inserts

- Wide holder range in different materials (steel, solid carbide)
- Interchangeable system for universal use
- The latest generation of innovative indexable inserts



Miniature boring range using indexable inserts

For ambitious serial users



Application:

For miniature boring from a diameter of 4.8 mm with CD.., CP.., WC.., VC.. Indexable inserts

- Wide range of holders in various materials (steel, solid carbide)
- Innovative indexable inserts from the latest generation

			page
17827035-060	SCLD offset solid carbide boring bar, positive, left For face turning and longitudinal turning using CD indexable insert		645
17827105-140	SCUP offset solid carbide boring bar, positive, right For face and longitudinal turning using CP indexable insert		646
17827185-220	SCXP offset solid carbide boring bar, positive, left For face and longitudinal turning using CP indexable insert		647
17827295-320	SCLD solid carbide boring bar, positive left For face turning and longitudinal turning using CD indexable insert		648
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ATORN® SCLD offset steel boring bar, positive (DIN 8024)

For facing and longitudinal turning using CD indexable inserts

Application:

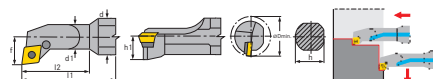
For face and longitudinal turning with CD indexable insert, 80°.

Advantage:

- Universal use for face and longitudinal turning
- Positive geometry for the body ensures low cutting forces

Execution:

- Precision-manufactured boring bar, **steel**, with internal cooling, offset, type C, attack angle 95°, tip angle 80°, clearance angle 7°



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									SCLD offset steel boring bar, positive				clamping screw for indexable insert	
Tool design									Right		Left			
ISO name	D min. (mm)	d1 (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	Suitable for indexable inserts	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
A 0408H SCLD R/L 04	4.8	4	8	16	100	7	2.4	CD.. 0401	005	●	010	●	900	●
A 0508H SCLD R/L 04	5.8	5	8	20	100	7	2.9	CD.. 0401	015	●	020	●	900	●
A 0608H SCLD R/L 04	6.8	6	8	24	100	7	3.4	CD.. 0401	025	●	030	●	900	●

Prod. Gr. 1FK

ATORN® SCLD offset solid carbide boring bar, positive (DIN 8024) For facing and longitudinal turning using CD indexable inserts

Application:

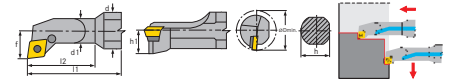
For face and longitudinal turning with CD indexable insert, 80°.

Advantage:

- Universal use for face and longitudinal turning
- Positive geometry for the body ensures low cutting forces

Execution:

- Precision-manufactured boring bar, **solid carbide**, with internal cooling, offset, type C, attack angle 95°, tip angle 80°, clearance angle 7°



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SCLD offset solid carbide boring bar, positive

clamping screw for indexable insert

ISO name	D min. (mm)	d1 (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	Tool design Suitable for indexable inserts	Right		Left		17827... Ident. No.	
									17827... Ident. No.		17827... Ident. No.			
E 0408H SCLD R/L 04	4.8	4	8	24	100	7	2.4	CD.. 0401	035	•	040	•	900	•
E 0508H SCLD R/L 04	5.8	5	8	30	100	7	2.9	CD.. 0401	045	•	050	•	900	•
E 0608H SCLD R/L 04	6.8	6	8	36	100	7	3.4	CD.. 0401	055	•	060	•	900	•

Prod. Gr. 1FK

ATORN® SCLC offset steel boring bar, positive (DIN 8024) For facing and longitudinal turning using CP indexable inserts

Application:

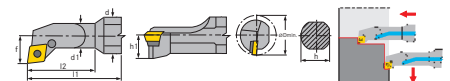
For face and longitudinal turning with CP indexable insert, 80°.

Advantage:

- Universal use for face and longitudinal turning
- Positive geometry for the body ensures low cutting forces

Execution:

- Precision-manufactured boring bar, **steel**, with internal cooling, offset, type C, attack angle 95°, tip angle 80°, clearance angle 7°



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SCLC offset steel boring bar, positive

clamping screw for indexable insert

ISO name	D min. (mm)	d1 (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	Tool design Suitable for indexable inserts	Right		Left		17827... Ident. No.	
									17827... Ident. No.		17827... Ident. No.			
A 0608H SCUP R/L 05	8	6	8	20	100	7	4.5	CP.. 05T1..	065	•	070	•	902	•
A 0810J SCUP R/L 05	11	8	10	26	110	9	6	CP.. 05T1..	075	•	080	•	902	•
A 1012K SCUP R/L 05	13	10	12	32	125	11	7	CP.. 05T1..	085	•	090	•	902	•
A 1216M SCUP R/L 05	16	12	16	40	150	15	9	CP.. 05T1..	095	•	100	•	902	•

Prod. Gr. 1FK

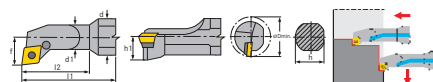
ATORN® SCUP offset solid carbide boring bar, positive (DIN 8024) For facing and longitudinal turning using CP indexable inserts

Application:

For face and longitudinal turning with CP indexable insert, 80°.

Advantage:

- Universal use for face and longitudinal turning
- Positive geometry for the body ensures low cutting forces



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									SCUP offset solid carbide boring bar, positive				clamping screw for indexable insert	
Tool design									Right		Left			
ISO name	D min. (mm)	d1 (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	Suitable for indexable inserts	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
E 0608H SCUP R/L 05	8	6	8	28	100	7	4.5	CP.. 05T1..	105	●	110	●	902	●
E 0810J SCUP R/L 05	11	8	10	36	110	9	6	CP.. 05T1..	115	●	120	●	902	●
E 1012K SCUP R/L 05	13	10	12	44	125	11	7	CP.. 05T1..	125	●	130	●	902	●
E 1216M SCUP R/L 05	16	12	16	55	150	15	9	CP.. 05T1..	135	●	140	●	902	●

Prod. Gr. 1FK

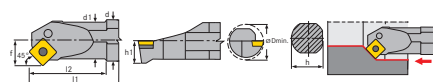
ATORN® SCXP steel offset boring bar, positive (DIN 8024) For facing and longitudinal turning using CP indexable inserts

Application:

For face and longitudinal turning with CP indexable insert, 80°.

Advantage:

- Universal use for face and longitudinal turning
- Positive geometry for the body ensures low cutting forces



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									SCXP steel offset boring bar, positive				clamping screw for indexable insert	
ISO name	D min. (mm)	d1 (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	Tool design Suitable for indexable inserts	Right		Left		17827... Ident. No.	
									17827... Ident. No.		17827... Ident. No.			
A 0608H SCXP R/L 05	8.5	6	8	20	100	7	4.5	CP.. 05T1..	145	●	150	●	902	●
A 0810J SCXP R/L 05	11	8	10	26	110	9	6	CP.. 05T1..	155	●	160	●	902	●
A 1012K SCXP R/L 05	13	10	12	32	125	11	7	CP.. 05T1..	165	●	170	●	902	●
A 1216M SCXP R/L 05	16	12	16	40	150	15	9	CP.. 05T1..	175	●	180	●	902	●

Prod. Gr. 1FK

ATORN® SCXP offset solid carbide boring bar, positive (DIN 8024) For longitudinal turning using CP indexable inserts

Application:

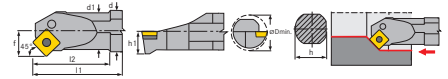
For face and longitudinal turning with CP indexable insert, 80°.

Advantage:

- Universal use for face and longitudinal turning
- Positive geometry for the body ensures low cutting forces

Execution:

- Precision-manufactured boring bar, **solid carbide**, with internal cooling, offset, type C, attack angle 95°, tip angle 80°, clearance angle 7°



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SCXP offset solid carbide boring bar, positive

clamping screw for indexable insert

ISO name	D min. (mm)	d1 (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	Tool design Suitable for indexable inserts	Right		Left		17827... Ident. No.	
									17827... Ident. No.		17827... Ident. No.			
E 0608H SCXP R/L 05	8.5	6	8	28	100	7	4.5	CP.. 05T1..	185	•	190	•	902	•
E 0810J SCXP R/L 05	11	8	10	36	110	9	6	CP.. 05T1..	195	•	200	•	902	•
E 1012K SCXP R/L 05	13	10	12	44	125	11	7	CP.. 05T1..	205	•	210	•	902	•
E 1216M SCXP R/L 05	16	12	16	55	150	15	9	CP.. 05T1..	215	•	220	•	902	•

Prod. Gr. 1FK

ATORN® SCLD steel boring bar, positive (DIN 8024) For facing and longitudinal turning using CD indexable inserts

Application:

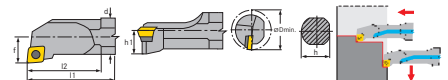
For face and longitudinal turning with CD indexable insert, 80°.

Advantage:

- Universal use for face and longitudinal turning
- Positive geometry for the body ensures low cutting forces

Execution:

- Precision-manufactured boring bar, **steel**, with internal cooling, type C, attack angle 95°, tip angle 80°, clearance angle 7°



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SCLD steel boring bar, positive

clamping screw for indexable insert

ISO name	D min. (mm)	d (mm)	h1 (mm)	l1 (mm)	h (mm)	f (mm)	Tool design Suitable for indexable inserts	Right		Left		17827... Ident. No.	
								17827... Ident. No.		17827... Ident. No.			
A 04E SCLD R/L 04	4.8	4	3.0	70	4	2.4	CD.. 0401	265	•	270	•	900	•
A 05E SCLD R/L 04	5.8	5	4.0	70	5	2.9	CD.. 0401	275	•	280	•	900	•
A 06F SCLD R/L 04	6.8	6	4.0	80	6	3.4	CD.. 0401	285	•	290	•	900	•

Prod. Gr. 1FK

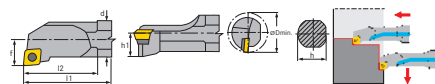
ATORN® SCLD solid carbide boring bar, positive (DIN 8024) For facing and longitudinal turning using CD indexable inserts

Application:

For face and longitudinal turning with CD indexable insert, 80°.

Advantage:

- Universal use for face and longitudinal turning
- Positive geometry for the body ensures low cutting forces



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								SCLD solid carbide boring bar, positive		clamping screw for indexable insert	
ISO name	D min. (mm)	d (mm)	h1 (mm)	l1 (mm)	h (mm)	f (mm)	Tool design Suitable for indexable inserts	Right		Left	
								17827... Ident. No.		17827... Ident. No.	
E 04F SCLD R/L 04	4.8	4	3.5	80	4	2.4	CD.. 0401	295	●	300	●
E 05F SCLD R/L 04	5.8	5	4.0	80	5	2.9	CD.. 0401	305	●	310	●
E 06G SCLD R/L 04	6.8	6	4.5	95	6	3.4	CD.. 0401	315	●	320	●

Prod. Gr. 1FK

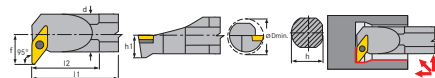
ATORN® SVLC steel boring bar, positive (DIN 8024) For longitudinal and copy turning using VC indexable inserts

Application:

For longitudinal and copy turning with VC indexable insert 55°

Advantage:

- Slender geometry for longitudinal and copy turning
- Positive geometry for the body ensures low cutting forces



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									SVLC steel boring bar, positive				clamping screw for indexable insert	
Tool design									Right		Left			
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	Suitable for indexable inserts	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
A 10H SVLC R/L 07	12.5	10	7.5	22	100	9	7	VC.. 0702..	325	●	330	●	904	●
A 12K SVLC R/L 07	15.5	12	8.0	28	125	11	9	VC.. 0702..	335	●	340	●	904	●
A 16M SVLC R/L 07	19.5	16	9.5	36	150	15	11	VC.. 0702..	345	●	350	●	904	●

Prod. Gr. 1FK

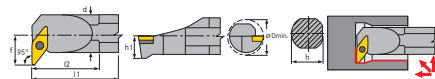
ATORN® SVLC solid carbide boring bar, positive (DIN 8024) For longitudinal and copy turning using VC indexable inserts

Application:

For longitudinal and copy turning with VC indexable insert 55°

Advantage:

- Slender geometry for longitudinal and copy turning
- Positive geometry for the body ensures low cutting forces



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									SVLC solid carbide boring bar, positive				clamping screw for indexable insert	
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	Tool design Suitable for indexable inserts	Right		Left			
									17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
E 10H SVLC R/L 07	12.5	10	7.5	32	100	9	7	VC.. 0702..	355	●	360	●	904	●
E 12K SVLC R/L 07	15.5	12	8.0	40	125	11	9	VC.. 0702..	365	●	370	●	904	●
E 16M SVLC R/L 07	19.5	16	9.0	55	150	15	11	VC.. 0702..	375	●	380	●	904	●

Prod. Gr. 1FK

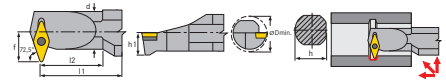
ATORN® SVVC steel boring bar, positive (DIN 8024) For longitudinal and copy turning using VC indexable inserts

Application:

For longitudinal and copy turning with VC indexable insert 55°

Advantage:

- Slender geometry for longitudinal and copy turning
- Positive geometry for the body ensures low cutting forces



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									SVVC steel boring bar, positive				clamping screw for indexable insert	
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	Tool design Suitable for indexable inserts	Right		Left		17827... Ident. No.	
A 10H SVVC R/L 07	13.5	10	7.5	22	100	9	8	VC.. 0702..	385	●	390	●	904	●
A 12K SVVC R/L 07	15.5	12	8.5	28	125	11	9	VC.. 0702..	395	●	400	●	904	●
A 16M SVVC R/L 07	17.5	16	9.5	36	150	15	11	VC.. 0702..	405	●	410	●	904	●

Prod. Gr. 1FK

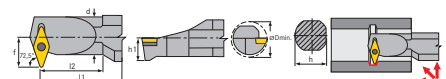
ATORN® SVVC solid carbide boring bar, positive (DIN 8024) For longitudinal and copy turning using VC indexable inserts

Application:

For longitudinal and copy turning with VC indexable insert 55°

Advantage:

- Slender geometry for longitudinal and copy turning
- Positive geometry for the body ensures low cutting forces



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									SVVC solid carbide boring bar, positive				clamping screw for indexable insert	
Tool design									Right		Left			
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	Suitable for indexable inserts	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
E 10H SVVC R/L 07	13.5	10	7.5	32	100	9	8	VC.. 0702..	415	●	420	●	904	●
E 12K SVVC R/L 07	15.5	12	7.5	40	125	11	9	VC.. 0702..	425	●	430	●	904	●
E 16M SVVC R/L 07	17.5	16	8.5	55	150	15	11	VC.. 0702..	435	●	440	●	904	●

Prod. Gr. 1FK

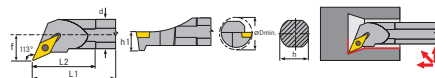
ATORN® SVXC steel boring bar, positive (DIN 8024) For longitudinal and copy turning using VC indexable inserts

Application:

For longitudinal and copy turning with VC indexable insert 55°

Advantage:

- Slender geometry for longitudinal and copy turning
- Positive geometry for the body ensures low cutting forces



Execution:

- Precision-made boring bar, **steel**, with internal cooling, type V, attack angle 113°, tip angle 35°, clearance angle 7°



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clamping screw
for indexable
insert

									SVXC steel boring bar, positive				clamping screw for indexable insert	
Tool design									Right		Left			
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	Suitable for indexable inserts	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
A 10H SVXC R/L 07	12.5	10	6.0	22	100	9	7	VC.. 0702..	445	●	450	●	904	●
A 12K SVXC R/L 07	15.5	12	8.0	28	125	11	9	VC.. 0702..	455	●	460	●	904	●
A 16M SVXC R/L 07	19.5	16	9.5	36	150	15	11	VC.. 0702..	465	●	470	●	904	●

Prod. Gr. 1FK

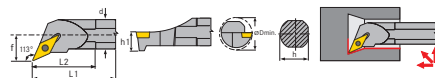
ATORN® SVXC solid carbide boring bar, positive (DIN 8024) For longitudinal and copy turning using VC indexable inserts

Application:

For longitudinal and copy turning with VC indexable insert 55°

Advantage:

- Slender geometry for longitudinal and copy turning
- Positive geometry for the body ensures low cutting forces



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clamping screw
for indexable
insert

									SVXC solid carbide boring bar, positive				clamping screw for indexable insert	
Tool design									Right		Left			
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	Suitable for indexable inserts	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
E 10H SVXC R/L 07	12.5	10	7.5	32	100	9	7	VC.. 0702..	475	●	480	●	904	●
E 12K SVXC R/L 07	15.5	12	8.0	40	125	11	9	VC.. 0702..	485	●	490	●	904	●
E 16M SVXC R/L 07	19.5	16	9.5	55	150	15	11	VC.. 0702..	495	●	500	●	904	●

Prod. Gr. 1FK

ATORN® SV95C steel boring bar, positive (DIN 8024) For longitudinal and copy turning using VC indexable inserts

Application:

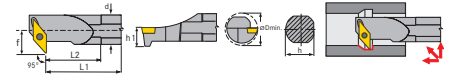
For longitudinal and copy turning with VC indexable insert 55°

Advantage:

- Slender geometry for longitudinal and copy turning
- Positive geometry for the body ensures low cutting forces

Execution:

- Precision-made boring bar, **steel**, with internal cooling, type V, attack angle 95°, tip angle 35°, clearance angle 7°



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clamping screw for indexable insert

SV95C steel boring bar, positive

ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	Tool design Suitable for indexable inserts	Right		Left		17827... Ident. No.	
									17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
A 10H SV95C R/L 07	12.5	10	6.5	22	100	9	7	VC.. 0702..	505	•	510	•	904	•
A 12K SV95C R/L 07	15.5	12	8.0	28	125	11	9	VC.. 0702..	515	•	520	•	904	•
A 16M SV95C R/L 07	17.5	16	10.0	36	150	15	11	VC.. 0702..	525	•	530	•	904	•

Prod. Gr. 1FK

ATORN® SV95C solid carbide boring bar, positive (DIN 8024) For longitudinal and copy turning using VC indexable inserts

Application:

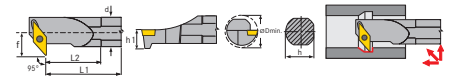
For longitudinal and copy turning with VC indexable insert 55°

Advantage:

- Slender geometry for longitudinal and copy turning
- Positive geometry for the body ensures low cutting forces

Execution:

- Precision-manufactured boring bar, **solid carbide**, with internal cooling, type V, attack angle 95°, tip angle 35°, clearance angle 7°



p. 653 p. 653

clamping screw for indexable insert

SV95C solid carbide boring bar, positive

ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	Tool design Suitable for indexable inserts	Right		Left		17827... Ident. No.	
									17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
E 10H SV95C R/L 07	12.5	10	6.5	32	100	9	7	VC.. 0702..	535	•	540	•	904	•
E 12K SV95C R/L 07	15.5	12	8.0	40	125	11	9	VC.. 0702..	545	•	550	•	904	•
E 16M SV95C R/L 07	17.5	16	9.5	55	150	15	11	VC.. 0702..	555	•	560	•	904	•

Prod. Gr. 1FK

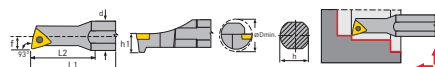
ATORN® SWUC steel offset boring bar, positive (DIN 8024) For facing and longitudinal turning using WC indexable inserts

Application:

For face and longitudinal turning with WC indexable insert, 80°.

Advantage:

- Universal use for face and longitudinal turning
- Positive geometry for the body ensures low cutting forces



Execution:

- Precision-manufactured boring bar, **steel**, with internal cooling, offset, type C, attack angle 93°, tip angle 80°, clearance angle 7°



p. 654

									SWUC steel offset boring bar, positive				clamping screw for indexable insert	
Tool design									Right		Left			
ISO name	D min. (mm)	d1 (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	Suitable for indexable inserts	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
A 0508H SWUC R/L 02	5.8	5	8	18	100	7	2.9	WC.. 0201..	225	●	230	●	906	●
A 0608H SWUC R/L 02	7.8	6	8	24	100	7	3.9	WC.. 0201..	235	●	240	●	906	●
E 0508H SWUC R/L 02	5.8	5	8	18	100	7	2.9	WC.. 0201..	245	●	250	●	906	●
E 0608H SWUC R/L 02	7.8	6	8	24	100	7	3.9	WC.. 0201..	255	●	260	●	906	●

Prod. Gr. 1FK

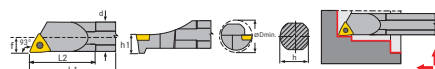
ATORN® SWUC solid carbide boring bar, positive (DIN 8024) For facing and longitudinal turning using WC indexable inserts

Application:

For face and longitudinal turning with WC indexable insert, 80°.

Advantage:

- Universal use for face and longitudinal turning
- Positive geometry for the body ensures low cutting forces



Execution:

- Precision-manufactured boring bar, **steel**, with internal cooling, type W, attack angle 93°, tip angle 80°, clearance angle 7°



p. 654

								SWUC solid carbide boring bar, positive		clamping screw for indexable insert	
ISO name	D min. (mm)	d (mm)	h1 (mm)	l1 (mm)	h (mm)	f (mm)	Tool design Suitable for indexable inserts	Left		Right	
								17827... Ident. No.		17827... Ident. No.	
E 05F SWUC R/L 02	5.8	5	4.0	85	5	2.9	WC.. 0201..	565	●	570	●
E 06G SWUC R/L 02	7.8	6	5.0	95	6	3.9	WC.. 0201..	-	-	580	●
										904	●

Prod. Gr. 1FK

ATORN® CDGT indexable insert, positive ISO N

Application:

For longitudinal turning and face turning under good operating conditions at small to medium feed depths in the non-ferrous metals material group.

Execution:

- Ground cemented carbide indexable insert

Advantage:

- Very high hardness and wear resistance, for high service life requirements
- Very positive chip breaker for ideal chip breaking at low cutting depths



Carbide type			HW6315	
Machining conditions for indexable insert			Good	
Vc in non-ferrous metals ●			160-280 m/min	
ISO name	min./max. ap	f min./max.	17827...	Ident. No.
CDGT 040101-MN	0.1-1 mm	0.04-0.12 mm/U	700	●
CDGT 040102-MN	0.1-1 mm	0.04-0.12 mm/U	705	●
CDGT 040104-MN	0.1-1 mm	0.04-0.12 mm/U	710	●

Prod. Gr. 1FL

ATORN® CPMT indexable insert, positive ISO P

Application:

For longitudinal turning and face turning under average operating conditions at low to medium feed depths in the steel, stainless steel and cast iron material groups.

Execution:

- Sintered cemented carbide indexable insert

Advantage:

- Perfect combination of wear resistance and toughness, for high process stability and a wide range of applications
- Very positive chip breaker for ideal chip breaking at low cutting depths



Carbide type			HC7625	
Machining conditions for indexable insert			Medium	
Vc in steel ●			110-220 m/min	
Vc in stainless steel ●			60-120 m/min	
Vc in cast iron ●			120-190 m/min	
ISO name	min./max. ap	f min./max.	17827...	Ident. No.
CPMT 05T102-FP1	0.1-1.5 mm	0.05-0.15 mm/U	745	●
CPMT 05T104-FP1	0.1-1.5 mm	0.05-0.15 mm/U	750	●

Prod. Gr. 1FL

ATORN® VCGT indexable insert, positive ISO N

Application:

For longitudinal turning, face turning and copy turning under good operating conditions at small to medium feed depths in the non-ferrous metals material group.

Execution:

- Ground cemented carbide indexable insert

Advantage:

- Very high hardness and wear resistance, for high service life requirements
- Very positive chip breaker for ideal chip breaking at low cutting depths



Carbide type			HW6315	
Machining conditions for indexable insert			Good	
Vc in non-ferrous metals ●			160-280 m/min	
ISO name	min./max. ap	f min./max.	17827...	Ident. No.
VCGT 070201-MN	0.1-1.5 mm	0.04-0.12 mm/U	755	●
VCGT 070202-MN	0.1-1.5 mm	0.04-0.12 mm/U	760	●
VCGT 070204-MN	0.1-1.5 mm	0.04-0.12 mm/U	765	●

Prod. Gr. 1FL

ATORN® VCMT indexable insert, positive ISO P

Application:

For longitudinal turning, face turning and copy turning under good operating conditions at low to medium feed depths in the steel, stainless steel and cast iron material groups.

Execution:

- Ground cemented carbide indexable insert

Advantage:

- Perfect combination of wear resistance and toughness, for high process stability and a wide range of applications
- Very positive chip breaker for ideal chip breaking at low cutting depths



Carbide type			HC7625	
Machining conditions for indexable insert			Medium	
Vc in steel ●			110-220 m/min	
Vc in stainless steel ●			60-120 m/min	
Vc in cast iron ●			120-190 m/min	
ISO name	min./max. ap	f min./max.	17827...	Ident. No.
VCMT 070202-FP1	0.1-1.5 mm	0.05-0.15 mm/U	770	●
VCMT 070204-FP1	0.1-1.5 mm	0.05-0.15 mm/U	775	●

Prod. Gr. 1FL

Source: Hahn+Kolb Werkzeuge GmbH
Technical data subject to change.
Availability subject to country specific rules and regulations.

ATORN® WCGT indexable insert, positive ISO N

Application:

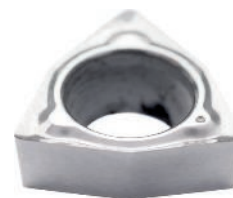
For longitudinal turning and face turning under good operating conditions at small to medium feed depths in the non-ferrous metals material group.

Execution:

- Ground cemented carbide indexable insert

Advantage:

- Very high hardness and wear resistance, for high service life requirements
- Very positive chip breaker for ideal chip breaking at low cutting depths



		Carbide type	HW6315	
		Machining conditions for indexable insert	Good	
		Vc in steel	140-200 m/min	
		Vc in non-ferrous metals	160-280 m/min	
ISO name	min./max. ap	f min./max.	17827... Ident. No.	
WCGT 020101-MN	0.1-0.8 mm	0.04-0.12 mm/U	790	●
WCGT 020102-MN	0.1-0.8 mm	0.04-0.12 mm/U	795	●
WCGT 020104-MN	0.1-0.8 mm	0.04-0.12 mm/U	800	●

Prod. Gr. 1FL

WBGT indexable insert, positive

For internal longitudinal and copy lathing

Application:

For longitudinal and copy turning, internal, with shallow feed depths for steel, stainless steel, aluminium and cast iron material groups in series production.

Execution:

- Three-tip indexable insert, ground all round with chip breaker

Advantage:

- Ground chip breaker ensures good chip removal



		Machining direction	Left	
		Material to be processed	Steel Stainless steel Non-ferrous metal Cast metal	
		Vc in steel	300-350 m/min	
		Vc in stainless steel	40-50 m/min	
		Vc in non-ferrous metals	500-600 m/min	
		Vc in cast iron	250-280 m/min	
ISO name	Cutting material	Radius (mm)	17213... Ident. No.	
WBG-080204-L	Cermet	0.4	820	●

Prod. Gr. 192

THE HIGHEST QUALITY PRODUCTS
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Thread-cutting range

For demanding serial users



Right, HC5615

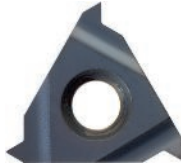


Right, HC5630

ATORN®



Right, HW5615



Application:

For male and female thread cutting in all material groups in sub- and full-profile.

- **HC5630** optimised cemented carbide and coating for low cutting speeds and universal use
- **HC5615** optimised cemented carbide and coating for high cutting speeds and long service life and universal use
- **HW5615** optimised cemented carbide without any coating for sharp cutting edges

Advantages:

- Ground quality for challenging requirements in terms of accuracy, chips, surface quality
- Wide assortment of cemented carbide grades and coatings
- Wide range also outside of the catalogue range
- Chip breaker geometries ensure optimal chip breaking
- Compatibility with plunge inserts
- Cutting edge treatment ensures a long service life and good surfaces

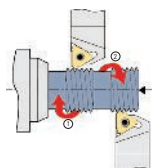


Shim for clamp holders

The correct selection of the shim is extremely important as the shim defines the angle to the workpiece. The gradient must be set correctly to ensure that the cutting edge does not rub on the workpiece. To do this, shims with different gradient angles are available for the required application. The most accurate method of determining the correct shim is to use the formula shown below.

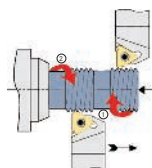
Formula for calculating the pitch angle (s)	
For 60° and 55° threads (metric, UN, WHIT, NPT, BSPT)	For trapezoidal, round, ACME, STUB threads
$s = ((20 \cdot p / d) \cdot r)$	$s = (((30 \cdot p / 2) / d) \cdot r)$
The following parameters are required for calculating the pitch angle: d = nominal diameter of the thread p = thread pitch r = cutting direction	
The cutting direction determines whether positive or negative shims are used. r = 1 Cutting direction towards the chuck, see graphic Fig. 1 and 4 r = -1 Cutting direction away from the chuck, see graphic Fig. 2 and 3	

External machining:



Right-hand thread:

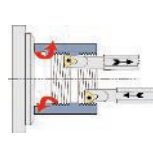
1st right holder with right indexable insert
2nd left holder with left indexable insert



Left-hand thread:

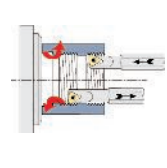
3rd right holder with right indexable insert
4th left holder with left indexable insert

Internal machining:



Right-hand thread:

1st right holder with right indexable insert
2nd left holder with left indexable insert



Left-hand thread:

3rd right holder with right indexable insert
4th left holder with left indexable insert

Examples for calculating the pitch angle (s):

Male thread, right, in front of turning centre
Towards the chuck r = 1
M30 x 2

$$s = (20p/d) \cdot r$$

$$s = (20 \cdot 2 / 30) \cdot 1$$

$$s = 1.33^\circ$$

The calculated pitch angle is now rounded up/down to the next size.
s = 1.50

Male thread, right, behind turning centre
Away from the chuck r = -1
Tr16 x 3

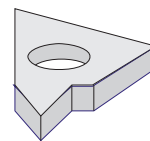
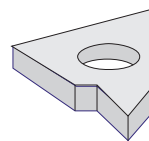
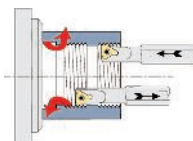
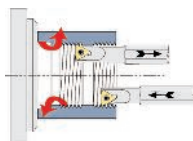
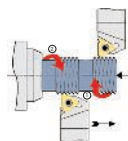
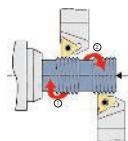
$$s = (((30 \cdot p / 2) / d) \cdot r)$$

$$s = ((30 \cdot 3 / 2) / 16) \cdot -1$$

$$s = -0.93$$

$$s = -0.5$$

ATORN® Shims for thread cutting holder For use in thread cutting holder no. 17745-17747



Ident. No. 316–322

- Right-hand thread:
1. Right holder with right indexable insert
2. Left holder with left indexable insert
- Left-hand thread:
3. Right holder with right indexable insert
4. Left holder with left indexable insert

Base plate code	Resulting pitch angle	Suitable for indexable insert size Suitable for holder		16 ER/IL		16 EL/IR		22 ER/IL		22 EL/IR	
				17749... Ident. No.		17749... Ident. No.		17749... Ident. No.		17749... Ident. No.	
AE 16 +4.5	+4.5°			700	●	-	-	-	-	-	-
AI 16 +4.5	+4.5°			-	-	702	●	-	-	-	-
AE 22 +4.5	+4.5°			-	-	-	-	704	●	-	-
AI 22 +4.5	+4.5°			-	-	-	-	-	-	706	●
AE 16 +3.5	+3.5°			710	●	-	-	-	-	-	-
AI 16 +3.5	+3.5°			-	-	712	●	-	-	-	-
AE 22 +3.5	+3.5°			-	-	-	-	714	●	-	-
AI 22 +3.5	+3.5°			-	-	-	-	-	-	716	●
AE 16 +2.5	+2.5°			720	●	-	-	-	-	-	-
AI 16 +2.5	+2.5°			-	-	722	●	-	-	-	-
AE 22 +2.5	+2.5°			-	-	-	-	724	●	-	-
AI 22 +2.5	+2.5°			-	-	-	-	-	-	726	●
AE 16 +1.5	+1.5°			216	●	-	-	-	-	-	-
AI 16 +1.5	+1.5°			-	-	316	●	-	-	-	-
AE 22 +1.5	+1.5°			-	-	-	-	222	●	-	-
AI 22 +1.5	+1.5°			-	-	-	-	-	-	322	●
AE 16 +0.5	+0.5°			730	●	-	-	-	-	-	-
AI 16 +0.5	+0.5°			-	-	732	●	-	-	-	-
AE 22 +0.5	+0.5°			-	-	-	-	734	●	-	-
AI 22 +0.5	+0.5°			-	-	-	-	-	-	736	●
AE 16 0°	0°			760	○	762	○	-	-	-	-
AE 16 -0.5	-0.5°			740	●	-	-	-	-	-	-
AI 16 -0.5	-0.5°			-	-	742	●	-	-	-	-
AE 22 -0.5	-0.5°			-	-	-	-	746	●	-	-
AI 22 -0.5	-0.5°			-	-	-	-	-	-	748	●
AE 16 -1.5	-1.5°			750	●	-	-	-	-	-	-
AI 16 -1.5	-1.5°			-	-	752	●	-	-	-	-
AE 22 -1.5	-1.5°			-	-	-	-	756	●	-	-
AI 22 -1.5	-1.5°			-	-	-	-	-	-	758	●

Prod. Gr. 158

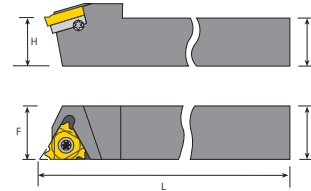
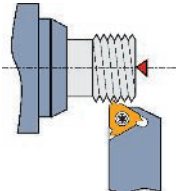
ATORN® Clamp holders for male threads

Application:

For male thread machining for thread turning inserts.

Execution:

- precision-engineered steel support, burnished and hardened, with 1.5° pitch angle



Advantage:

- top-quality and wear-resistant steel support with high-strength clamping screw
- precision-engineered insert seat provides extremely precise threads and excellent finish quality

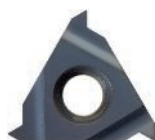
Notes:

No. 17745011-020 and 311-320 without interchangeable shim. Pitch angle cannot be corrected.

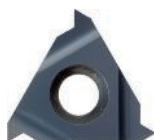
ISO name	Suitable for indexable insert size	B (mm)	H (mm)	L (mm)	Tool design		Right		Left	
							17745... Ident. No.		17745... Ident. No.	
SE (R/L) 1010 H11	11	10	11	100			011	●	311	○
SE (R/L) 1212 F16	16	12	16	80			013	●	312	●
SE (R/L) 1616 H16	16	16	16	100			016	●	316	●
SE (R/L) 2020 K16	16	20	20	125			020	●	320	●
SE (R/L) 2525 M16	16	25	25	150			025	●	325	●
SE (R/L) 2525 M22	22	25	25	150			050	●	350	●
SE (R/L) 3232 P22	22	32	32	170			055	●	355	○

Prod. Gr. 158

ATORN® Thread cutting inserts partial profile 60° For external thread cutting



Ident. No. 005, 025, 040, 050, 060
Right, HC5630



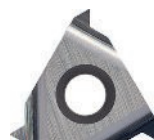
Ident. No. 007, 012, 022, 027, 032
Left, HC5630



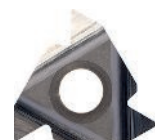
Ident. No. 010, 020, 030, 035, 055
Right, HC5615



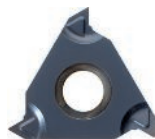
Ident. No. 037, 042, 052, 057, 062
Left, HC5615



Ident. No. 246, 248, 252, 256, 266
Right, HW5615



Ident. No. 247, 249, 253, 257, 267
Left, HW5615



Ident. No. 070-075
Right, HC5630 with chip breaker

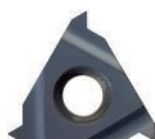


p. 656

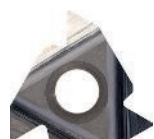
Machining direction		Right		Left		Right		Left		Right		Left		Right	
Carbide type		HC5630		HC5630		HC5615		HC5615		HW5615		HW5615		HC5630 with chip breaker	
Vc in steel ●		90-120 m/min		90-120 m/min		75-110 m/min		75-110 m/min		60-70 m/min		60-70 m/min		75-110 m/min	
Vc in stainless steel ●		80-100 m/min		80-100 m/min		70-75 m/min		70-75 m/min		200-600 m/min		200-600 m/min		80-100 m/min	
Vc in non-ferrous metals ●						200-600 m/min		200-600 m/min		200-600 m/min		200-600 m/min			
Vc in cast iron ●		100-110 m/min		100-110 m/min		70-80 m/min		70-80 m/min						100-110 m/min	
Vc in special alloys ●										30-40 m/min		30-40 m/min			
ISO name	Min./max. pitch	17735... Ident. No.		17735... Ident. No.		17735... Ident. No.		17735... Ident. No.		17735... Ident. No.		17735... Ident. No.		17735... Ident. No.	
11 (ER/EL) A60	0.5-1.5 mm	005	○	007	○	035	○	037	○	246	○	247	○	-	-
16 (ER/EL) A60	0.5-1.5 mm	040	●	012	○	010	●	042	○	248	●	249	○	070	○
16 (ER/EL) G60	1.75-3.0 mm	050	●	022	○	020	●	052	○	252	○	253	○	075	●
16 (ER/EL) AG60	0.5-3.0 mm	025	●	027	●	055	●	057	●	256	●	257	○	-	-
22 (ER/EL) N60	3.5-5.0 mm	060	●	032	○	030	●	062	●	266	○	267	○	-	-

Prod. Gr. 158

ATORN® Thread cutting inserts partial profile 55° For external thread cutting



Ident. No. 100, 125, 140, 145, 155
Right, HC5630



Ident. No. 293, 297, 299
Left, HW5615



Ident. No. 102, 112, 122, 127, 132
Left, HC5630



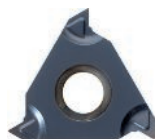
Ident. No. 110, 120, 130, 135, 150
Right, HC5615



Ident. No. 137, 142, 147, 152, 157
Left, HC5615



Ident. No. 288-292, 296, 298
Right, HW5615



Ident. No. 160-162
Right, HC5630 with chip breaker



p. 656

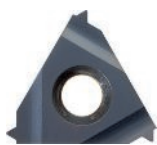


Turning tools \ Thread-cutting range

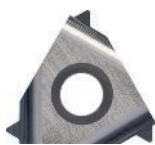
Machining direction		Right		Left		Right		Left		Right		Left		Right	
Carbide type		HC5630		HC5630		HC5615		HC5615		HW5615		HW5615		HC5630 with chip breaker	
Vc in steel ●		90-120 m/min		90-120 m/min		75-110 m/min		75-110 m/min						75-110 m/min	
Vc in stainless steel ●		80-100 m/min		80-100 m/min		70-75 m/min		70-75 m/min		60-70 m/min		60-70 m/min		80-100 m/min	
Vc in non-ferrous metals ●						200-600 m/min		200-600 m/min		200-600 m/min		200-600 m/min			
Vc in cast iron ●		100-110 m/min		100-110 m/min		70-80 m/min		70-80 m/min						100-110 m/min	
Vc in special alloys ●										30-40 m/min		30-40 m/min			
ISO name	Min./max. number of thread starts per inch	17735... Ident. No.		17735... Ident. No.		17735... Ident. No.		17735... Ident. No.		17735... Ident. No.		17735... Ident. No.		17735... Ident. No.	
11 (ER/EL) A55	48-16	100	○	102	○	135	○	137	○	288	○	-	-	-	-
16 (ER/EL) A55	48-16	140	○	112	○	110	●	142	○	292	○	293	○	-	-
16 (ER/EL) G55	14-8	145	○	122	○	120	●	147	○	296	○	297	○	160	○
16 (ER/EL) AG55	48-8	125	●	127	●	150	●	152	●	298	●	299	○	162	●
22 (ER/EL) N55	7-5	155	●	132	○	130	●	157	○	-	-	-	-	-	-

Prod. Gr. 158

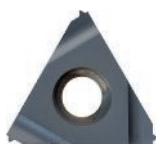
ATORN® Thread cutting inserts full profile 60° For external thread cutting



Ident. No. 015, 025, 035, 045, 055, 065, 075, 085, 095-096, 099, 116, 126, 136, 146-202, 206, 218-222, 226, 238, 242, 246, 531-532, 535-536
Right, HC5630



Ident. No. 700, 702, 704, 706, 708-712, 714-716, 718, 720, 722, 724, 726, 728, 730, 732, 734, 736, 738, 740, 742, 744, 748, 750-752
Right, HW5615



Ident. No. 011, 021, 031, 041, 051, 061, 071, 081, 091, 097, 101, 113, 123, 133, 143, 203, 215, 223, 227, 235, 239, 243, 247, 372
Left, HC5630



Ident. No. 010, 020, 030, 040, 050, 060, 070, 080, 090, 098, 102-112, 122, 132, 142, 208-212, 216, 228-232, 236, 240, 244, 248, 530, 533-534
Right, HC5615



Ident. No. 599-652
Left, HC5615



Ident. No. 701, 703, 705, 707, 713, 717, 719, 721, 723, 725, 727, 729, 731, 733, 735, 737, 739, 741, 743, 746, 749
Left, HW5615



Ident. No. 262-272, 537-539
Right, HC5630 with chip breaker

p. 656

Machining direction		Right		Left		Right		Left		Right		Left		Right	
Carbide type		HC5630		HC5630		HC5615		HC5615		HW5615		HW5615		HC5630 with chip breaker	
Vc in steel ●		90-120 m/min		90-120 m/min		75-110 m/min		75-110 m/min						75-110 m/min	
Vc in stainless steel ●		80-100 m/min		80-100 m/min		70-75 m/min		70-75 m/min		60-70 m/min		60-70 m/min		80-100 m/min	
Vc in non-ferrous metals ●						200-600 m/min		200-600 m/min		200-600 m/min		200-600 m/min			
Vc in cast iron ●		100-110 m/min		100-110 m/min		70-80 m/min		70-80 m/min						100-110 m/min	
Vc in special alloys ●										30-40 m/min		30-40 m/min			
ISO name	Pitch (mm)	17741... Ident. No.		17741... Ident. No.		17741... Ident. No.		17741... Ident. No.		17741... Ident. No.		17741... Ident. No.		17741... Ident. No.	
11 (ER/EL) 0.35 ISO	0.35	202	●	203	○	530	○	599	○	700	○	701	○	-	-
11 (ER/EL) 0.4 ISO	0.4	206	○	-	-	208	○	-	-	702	○	703	○	-	-
11 (ER/EL) 0.45 ISO	0.45	531	○	372	○	212	○	-	-	704	○	705	○	-	-
11 (ER/EL) 0.5 ISO	0.5	532	○	215	○	216	●	606	○	706	○	707	○	-	-
11 (ER/EL) 0.6 ISO	0.6	218	○	-	-	533	○	608	○	708	○	-	-	-	-
11 (ER/EL) 0.7 ISO	0.7	222	○	223	○	534	●	610	○	710	○	-	-	-	-
11 (ER/EL) 0.75 ISO	0.75	226	○	227	○	228	●	612	○	712	○	713	○	-	-
11 (ER/EL) 0.8 ISO	0.8	535	○	-	-	232	●	-	-	714	○	-	-	-	-
11 (ER/EL) 1.0 ISO	1	536	○	235	○	236	●	616	○	716	○	717	○	-	-
11 (ER/EL) 1.25 ISO	1.25	238	○	239	○	240	●	618	○	718	○	719	○	-	-
11 (ER/EL) 1.5 ISO	1.5	242	○	243	○	244	●	620	○	720	○	721	○	-	-
11 (ER/EL) 1.75 ISO	1.75	246	○	247	○	248	●	622	○	722	○	723	○	-	-

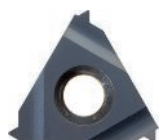


Machining direction	Right	Left		Right	Left		Right	Left		Right	Left		Right
Carbide type	HC5630	HC5630		HC5615	HC5615		HW5615	HW5615		HC5630 with chip breaker			
Vc in steel ●	90-120 m/min	90-120 m/min		75-110 m/min	75-110 m/min					75-110 m/min			
Vc in stainless steel ●	80-100 m/min	80-100 m/min		70-75 m/min	70-75 m/min		60-70 m/min	60-70 m/min		80-100 m/min			
Vc in non-ferrous metals ●				200-600 m/min	200-600 m/min		200-600 m/min	200-600 m/min					
Vc in cast iron ●	100-110 m/min	100-110 m/min		70-80 m/min	70-80 m/min					100-110 m/min			
Vc in special alloys ●							30-40 m/min	30-40 m/min					
ISO name	Pitch (mm)	17741... Ident. No.	17741... Ident. No.	17741... Ident. No.	17741... Ident. No.	17741... Ident. No.	17741... Ident. No.	17741... Ident. No.	17741... Ident. No.	17741... Ident. No.	17741... Ident. No.	17741... Ident. No.	17741... Ident. No.
16 (ER/EL) 0.5 ISO	0.5	015 ●	011 ○	010 ●	624 ○	724 ○	725 ○	-	-	-	-	-	-
16 (ER/EL) 0.75 ISO	0.75	025 ●	021 ○	020 ●	626 ○	726 ○	727 ○	-	-	-	-	-	-
16 (ER/EL) 1.0 ISO	1	035 ●	031 ●	030 ●	628 ●	728 ●	729 ○	537 ●					
16 (ER/EL) 1.25 ISO	1.25	045 ●	041 ○	040 ●	-	730 ●	731 ○	262 ●					
16 (ER/EL) 1.5 ISO	1.5	055 ●	051 ●	050 ●	632 ●	732 ●	733 ○	538 ●					
16 (ER/EL) 1.75 ISO	1.75	065 ●	061 ○	060 ●	634 ○	734 ○	735 ○	266 ●					
16 (ER/EL) 2.0 ISO	2	075 ●	071 ●	070 ●	636 ●	736 ○	737 ○	268 ●					
16 (ER/EL) 2.5 ISO	2.5	085 ●	081 ○	080 ●	638 ○	738 ○	739 ○	539 ●					
16 (ER/EL) 3.0 ISO	3	095 ●	091 ○	090 ●	640 ○	740 ○	741 ○	272 ●					
22 (ER/EL) 3.5 ISO	3.5	116 ●	113 ○	112 ●	642 ○	742 ○	743 ○	-	-	-	-	-	-
22 (ER/EL) 4.0 ISO	4	126 ●	123 ○	122 ●	644 ○	744 ○	-	-	-	-	-	-	-
22 (ER/EL) 4.5 ISO	4.5	136 ●	133 ○	132 ○	646 ○	746 ○	-	-	-	-	-	-	-
22 (ER/EL) 5.0 ISO	5	146 ●	143 ○	142 ○	648 ○	748 ○	749 ○	-	-	-	-	-	-
22 (ER/EL) 5.5 ISO	5.5	096 ○	097 ○	098 ○	650 ○	750 ○	-	-	-	-	-	-	-
22 (ER/EL) 6.0 ISO	6	099 ○	101 ○	102 ○	652 ○	752 ○	-	-	-	-	-	-	-

Prod. Gr. 158

ATORN® Thread cutting inserts full profile 55°

For external thread cutting



Ident. No. 166, 176, 186,
196, 474, 478, 482, 486,
490, 494, 496, 500
Right, HC5630



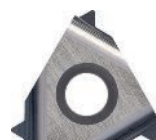
Ident. No. 163, 173, 183,
193, 479, 483, 487, 491,
495, 497, 501
Left, HC5630



Ident. No. 162, 172, 182,
192, 476, 480, 484, 488,
492, 498, 502, 528
Right, HC5615



Ident. No. 167, 177, 187,
197, 477, 481, 485, 489,
493, 499, 503, 529
Left, HC5615



Ident. No. 754, 756,
758-760, 762, 764, 766,
768, 770-776
Right, HW5615



Ident. No. 755, 757, 761,
763, 765, 767, 769
Left, HW5615



Ident. No. 472-473
Right, HC5630 with chip
breaker

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Machining direction	Right	Left		Right	Left		Right	Left		Right	Left		Right
Carbide type	HC5630	HC5630		HC5615	HC5615		HW5615	HW5615		HC5630 with chip breaker			
Vc in steel ●	90-120 m/min	90-120 m/min		75-110 m/min	75-110 m/min					75-110 m/min			
Vc in stainless steel ●	80-100 m/min	80-100 m/min		70-75 m/min	70-75 m/min		60-70 m/min	60-70 m/min		80-100 m/min			
Vc in non-ferrous metals ●				200-600 m/min	200-600 m/min		200-600 m/min	200-600 m/min					
Vc in special alloys ●							30-40 m/min	30-40 m/min					
ISO name	Number of thread starts per inch	17741... Ident. No.	17741... Ident. No.	17741... Ident. No.	17741... Ident. No.	17741... Ident. No.	17741... Ident. No.	17741... Ident. No.	17741... Ident. No.	17741... Ident. No.	17741... Ident. No.	17741... Ident. No.	17741... Ident. No.
16 (ER/EL) 10W	10	500 ○	501 ○	502 ○	503 ○	754 ○	755 ○	-	-	-	-	-	-
16 (ER/EL) 11W	11	196 ●	193 ●	192 ●	197 ●	756 ●	757 ○	473 ○					
16 (ER/EL) 12W	12	496 ○	497 ○	498 ○	499 ○	758 ○	-	-	-	-	-	-	-
16 (ER/EL) 14W	14	186 ●	183 ●	182 ●	187 ●	760 ●	761 ○	-	-	-	-	-	-
16 (ER/EL) 16W	16	494 ○	495 ○	528 ○	529 ○	762 ○	763 ○	-	-	-	-	-	-



Turning tools \ Thread-cutting range

Machining direction		Right		Left		Right		Left		Right		Left		Right	
Carbide type		HC5630		HC5630		HC5615		HC5615		HW5615		HW5615		HC5630 with chip breaker	
Vc in steel ●		90-120 m/min		90-120 m/min		75-110 m/min		75-110 m/min						75-110 m/min	
Vc in stainless steel ●		80-100 m/min		80-100 m/min		70-75 m/min		70-75 m/min		60-70 m/min		60-70 m/min		80-100 m/min	
Vc in non-ferrous metals ●						200-600 m/min		200-600 m/min		200-600 m/min		200-600 m/min			
Vc in special alloys ●										30-40 m/min		30-40 m/min			
ISO name	Number of thread starts per inch	17741... Ident. No.		17741... Ident. No.		17741... Ident. No.		17741... Ident. No.		17741... Ident. No.		17741... Ident. No.		17741... Ident. No.	
16 (ER/EL) 18W	18	490	○	491	○	492	○	493	○	764	○	765	○	-	-
16 (ER/EL) 19W	19	176	●	173	●	172	●	177	○	766	●	767	○	472	○
16 (ER/EL) 20W	20	486	○	487	○	488	●	489	○	768	○	769	○	-	-
16 (ER/EL) 24W	20	482	○	483	○	484	○	485	○	770	○	-	-	-	-
16 (ER/EL) 28W	28	166	●	163	○	162	●	167	○	772	○	-	-	-	-
16 (ER/EL) 32W	32	478	○	479	○	480	○	481	○	774	○	-	-	-	-
16 (ER/EL) 36W	36	474	○	-	-	476	○	477	○	776	○	-	-	-	-

Prod. Gr. 158

ATORN® Clamp holders for female threads

Application:

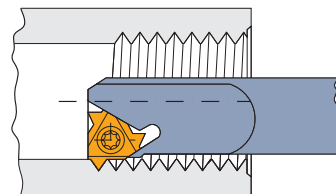
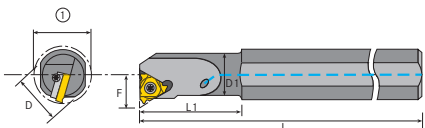
For female thread machining for thread turning inserts.

Execution:

- precision-engineered steel support, burnished and hardened, with 1.5° pitch angle

Advantage:

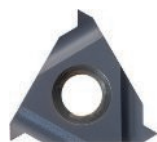
- top-quality and wear-resistant steel support with high-strength clamping screw
- precision-engineered insert seat provides extremely precise threads and excellent finish quality
- Ident. No. 020-075, 320-375:** internal cooling for excellent process reliability and good chip removal



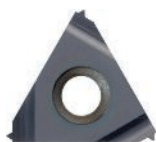
ISO name	Suitable for indexable insert size	D min. (mm)	D (mm)	D1 (mm)	L (mm)	F (mm)	L1 (mm)	Tool design Coolant supply	Right		Left	
									17747... Ident. No.		17747... Ident. No.	
SIR/L 0010 H11	11	12	10	10	100	7.4	-	External	130	●	160	●
SIR/L 0010 K11	11	12	10	16	125	7.4	25	External	132	●	162	●
SIR/L 0013 L11	11	15	13	16	140	8.9	32	External	134	●	164	●
SIR/L 0013 M16	16	16	13	16	150	10.2	32	External	136	●	166	●
SIR/L 0016 P16	16	19	16	20	170	11.7	40	External	138	●	168	●
SIR/L 0020 P16	16	24	20	20	170	13.7	-	External	140	●	170	●
SIR/L 0025 R16	16	29	25	25	200	16.2	-	External	142	●	172	●
SIR/L 0032 S16	16	36	32	32	250	19.7	-	External	144	○	174	○
SIR/L 0040 T16	16	44	40	40	300	23.7	-	External	146	○	176	○
SIR/L 0020 P22	22	24	20	20	170	15.6	-	External	148	●	178	●
SIR/L 0025 R22	22	29	25	25	200	18.1	-	External	150	●	180	●
SIR/L 0032 S22	22	38	32	32	250	21.6	-	External	152	●	182	○
SIR/L 0040 T22	22	46	40	40	300	25.6	-	External	154	●	184	○
SIR/L 0010 K11B	11	12	10	16	125	7.4	25	Internal	020	●	320	○
SIR/L 0013 M16B	16	16	13	16	150	10.2	32	Internal	030	●	330	○
SIR/L 0016 P16B	16	19	16	20	170	11.7	40	Internal	050	●	340	○
SIR/L 0020 P16B	16	24	20	20	170	13.7	-	Internal	060	●	350	○
SIR/L 0025 R16B	16	29	25	25	200	16.2	-	Internal	070	●	370	○
SIR/L 0025 R22B	22	29	25	25	200	18.1	-	Internal	075	●	375	○

Prod. Gr. 158

ATORN® Thread cutting inserts partial profile 60° For internal thread cutting



Ident. No. 022, 042, 052, 054, 056
Right, HC5630



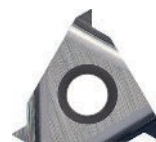
Ident. No. 021, 041, 051, 053, 055
Left, HC5630



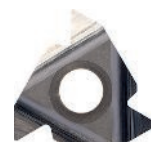
Ident. No. 020, 040, 050, 058, 064
Right, HC5615



Ident. No. 023, 043, 057, 059-061
Left, HC5615



Ident. No. 001, 003, 005, 007, 009
Right, HW5615



Ident. No. 000, 002, 004, 006, 008
Left, HW5615



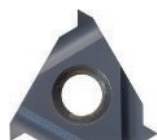
Ident. No. 130-132
Right, HC5630 with chip breaker

p. 660

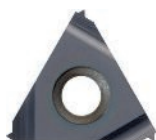
Machining direction		Right		Left		Right		Left		Right		Left		Right
Carbide type		HC5615		HC5630		HC5630		HC5615		HW5615		HW5615		HC5630 with chip breaker
Vc in steel	●	75-110 m/min		90-120 m/min		90-120 m/min		75-110 m/min						75-110 m/min
Vc in stainless steel	●	70-75 m/min		80-100 m/min		80-100 m/min		70-75 m/min		60-70 m/min		60-70 m/min		80-100 m/min
Vc in non-ferrous metals	●	200-600 m/min						200-600 m/min		200-600 m/min		200-600 m/min		
Vc in cast iron	●	70-80 m/min		100-110 m/min		100-110 m/min		70-80 m/min						100-110 m/min
Vc in special alloys	●									30-40 m/min		30-40 m/min		
ISO name	Min./max. pitch	17737... Ident. No.		17737... Ident. No.		17737... Ident. No.		17737... Ident. No.		17737... Ident. No.		17737... Ident. No.		17737... Ident. No.
11 (IR/IL) A60	0.5-1.5 mm	020 ●		021 ●		022 ●		023 ●		000 ○		001 ○		- -
16 (IR/IL) A60	0.5-1.5 mm	040 ●		041 ○		042 ○		043 ○		002 ●		003 ○		130 ○
16 (IR/IL) G60	1.75-3.0 mm	050 ●		051 ○		056 ●		057 ●		004 ○		005 ○		132 ●
16 (IR/IL) AG60	0.5-3.5 mm	058 ●		053 ●		052 ●		059 ●		006 ●		007 ○		- -
22 (IR/IL) N60	3.5-5.0 mm	064 ●		055 ○		054 ●		061 ●		008 ○		009 ○		- -

Prod. Gr. 158

ATORN® Thread cutting inserts partial profile 55° For internal thread cutting



Ident. No. 030-032, 092, 094
Right, HC5630



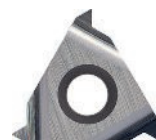
Ident. No. 062, 082, 093, 095-096
Left, HC5630



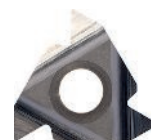
Ident. No. 033-034, 060, 080, 090
Right, HC5615



Ident. No. 035-039
Left, HC5615



Ident. No. 011, 013, 015, 017
Right, HW5615



Ident. No. 010, 012, 014, 016
Left, HW5615



Ident. No. 152-154
Right, HC5630 with chip breaker

p. 660

Machining direction		Right		Left		Right		Left		Right		Left		Right
Carbide type		HC5630		HC5630		HC5615		HC5615		HW5615		HW5615		HC5630 with chip breaker
Vc in steel	●	90-120 m/min		90-120 m/min		75-110 m/min		75-110 m/min						75-110 m/min
Vc in stainless steel	●	80-100 m/min		80-100 m/min						60-70 m/min		60-70 m/min		80-100 m/min
Vc in non-ferrous metals	●					200-600 m/min		200-600 m/min		200-600 m/min		200-600 m/min		
Vc in cast iron	●	100-110 m/min		100-110 m/min		70-80 m/min		70-80 m/min						100-110 m/min
Vc in special alloys	●									30-40 m/min		30-40 m/min		
ISO name	Min./max. number of thread starts per inch	17737... Ident. No.		17737... Ident. No.		17737... Ident. No.		17737... Ident. No.		17737... Ident. No.		17737... Ident. No.		17737... Ident. No.
11 (IR/IL) A55	48-16	030 ●		062 ○		060 ●		035 ●		010 ○		011 ○		- -
16 (IR/IL) A55	48-16	031 ○		082 ○		080 ●		036 ○		012 ○		013 ○		152 ○

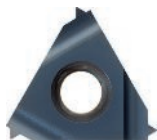


Turning tools \ Thread-cutting range

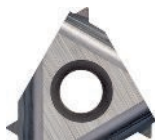
Machining direction		Right		Left		Right		Left		Right		Left		Right	
Carbide type		HC5630		HC5630		HC5615		HC5615		HW5615		HW5615		HC5630 with chip breaker	
Vc in steel ●		90-120 m/min		90-120 m/min		75-110 m/min		75-110 m/min						75-110 m/min	
Vc in stainless steel ●		80-100 m/min		80-100 m/min		70-75 m/min		70-75 m/min		60-70 m/min		60-70 m/min		80-100 m/min	
Vc in non-ferrous metals ●						200-600 m/min		200-600 m/min		200-600 m/min		200-600 m/min			
Vc in cast iron ●		100-110 m/min		100-110 m/min		70-80 m/min		70-80 m/min						100-110 m/min	
Vc in special alloys ●										30-40 m/min		30-40 m/min			
ISO name	Min./max. number of thread starts per inch	17737... Ident. No.		17737... Ident. No.		17737... Ident. No.		17737... Ident. No.		17737... Ident. No.		17737... Ident. No.		17737... Ident. No.	
16 (IR/IL) AG55	48-8	092	●	093	○	033	●	038	●	014	○	015	○	-	-
16 (IR/IL) G55	14-8	032	○	096	○	090	●	037	○	016	●	017	○	154	●
22 (IR/IL) N55	7-5	094	○	095	○	034	●	039	○	-	-	-	-	-	-

Prod. Gr. 158

ATORN® Thread cutting inserts full profile 60° For internal thread cutting



Ident. No. 017, 027, 037, 047, 117, 127, 137, 147, 157, 167, 177, 187, 197-316, 376-379
Right, HC5630



Ident. No. 800, 806, 812, 816, 818, 820, 822, 824, 826, 828, 832, 834, 836, 838, 840, 842, 844, 848, 919, 921, 923-927
Left, HW5615



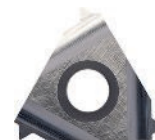
Ident. No. 317-345, 380-389
Left, HC5630



Ident. No. 012, 022, 032, 042, 112, 122, 132, 142, 152, 162, 172, 182, 192, 346-362, 390-394
Right, HC5615



Ident. No. 850-908
Left, HC5615



Ident. No. 799, 801-805, 807-811, 813-815, 817, 819, 821, 823, 825, 827, 829-831, 833, 835, 837, 839, 841, 843, 845-847, 918, 920, 922
Right, HW5615



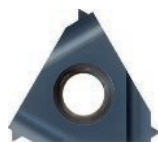
Ident. No. 560-572
Right, HC5630 with chip breaker

p. 660

Machining direction		Right		Left		Right		Left		Right		Left		Right	
Carbide type		HC5630		HC5630		HC5615		HC5615		HW5615		HW5615		HC5630 with chip breaker	
Vc in steel ●		90-120 m/min		90-120 m/min		75-110 m/min		75-110 m/min						75-110 m/min	
Vc in stainless steel ●		80-100 m/min		80-100 m/min		70-75 m/min		70-75 m/min		60-70 m/min		60-70 m/min		80-100 m/min	
Vc in non-ferrous metals ●						200-600 m/min		200-600 m/min		200-600 m/min		200-600 m/min			
Vc in cast iron ●		100-110 m/min		100-110 m/min		70-80 m/min		70-80 m/min						100-110 m/min	
Vc in special alloys ●										30-40 m/min		30-40 m/min			
ISO name	Pitch (mm)	17743... Ident. No.		17743... Ident. No.		17743... Ident. No.		17743... Ident. No.		17743... Ident. No.		17743... Ident. No.		17743... Ident. No.	
11 (IR/IL) 0.35 ISO	0.35	298	○	317	○	346	○	850	○	799	○	800	○	-	-
11 (IR/IL) 0.40 ISO	0.40	299	○	318	○	347	○	852	○	801	○	-	-	-	-
11 (IR/IL) 0.45 ISO	0.45	302	○	-	-	348	○	-	-	803	○	-	-	-	-
11 (IR/IL) 0.5 ISO	0.5	017	●	380	○	012	●	856	○	805	○	806	○	-	-
11 (IR/IL) 0.6 ISO	0.6	303	○	-	-	349	○	-	-	807	○	-	-	-	-
11 (IR/IL) 0.7 ISO	0.7	376	○	322	○	390	○	860	○	809	○	-	-	-	-
11 (IR/IL) 0.75 ISO	0.75	027	●	323	○	022	●	862	○	811	○	812	○	-	-
11 (IR/IL) 0.8 ISO	0.8	305	○	382	○	391	○	864	○	813	○	-	-	-	-
11 (IR/IL) 1.0 ISO	1	037	●	325	●	032	●	866	●	815	●	816	○	-	-
11 (IR/IL) 1.25 ISO	1.25	306	○	326	○	352	●	868	○	817	○	818	○	-	-
11 (IR/IL) 1.5 ISO	1.5	047	●	327	●	042	●	870	●	819	○	820	○	-	-
11 (IR/IL) 1.75 ISO	1.75	307	○	328	○	353	○	872	○	821	○	822	○	-	-
11 (IR/IL) 2.0 ISO	2	308	●	329	○	392	●	874	●	823	○	824	○	-	-
16 (IR/IL) 0.5 ISO	0.5	117	●	383	○	112	●	876	○	825	○	826	○	-	-
16 (IR/IL) 0.75 ISO	0.75	127	●	384	○	122	●	878	○	827	○	828	○	-	-
16 (IR/IL) 0.80 ISO	0.8	309	○	332	○	355	○	880	○	829	○	-	-	-	-
16 (IR/IL) 1.0 ISO	1	137	●	333	○	132	●	882	●	831	○	832	○	560	○
16 (IR/IL) 1.25 ISO	1.25	147	●	385	○	142	●	884	○	833	○	834	○	562	●
16 (IR/IL) 1.5 ISO	1.5	157	●	335	●	152	●	886	●	835	○	836	○	564	●
16 (IR/IL) 1.75 ISO	1.75	167	●	336	○	162	●	888	○	837	○	838	○	566	●
16 (IR/IL) 2.0 ISO	2	177	●	337	●	172	●	890	●	839	○	840	○	568	●
16 (IR/IL) 2.5 ISO	2.5	187	●	338	○	182	●	892	○	841	○	842	○	570	○
16 (IR/IL) 3.0 ISO	3	197	●	339	○	192	●	894	○	843	○	844	○	572	●
16 (IR/IL) 3.5 ISO	3.5	377	●	386	○	356	●	896	○	845	○	-	-	-	-
22 (IR/IL) 3.5 ISO	3.5	378	●	387	○	357	○	898	○	847	○	848	○	-	-
22 (IR/IL) 4.0 ISO	4	312	●	342	○	358	●	900	○	918	○	919	○	-	-
22 (IR/IL) 4.5 ISO	4.5	313	○	343	○	359	○	902	○	920	○	921	○	-	-
22 (IR/IL) 5.0 ISO	5	379	●	388	○	393	○	904	○	922	○	923	○	-	-
22 (IR/IL) 5.5 ISO	5.5	315	○	345	○	394	○	906	○	-	-	925	○	-	-
22 (IR/IL) 6.0 ISO	6	316	●	389	○	362	●	908	○	-	-	927	○	-	-

Prod. Gr. 158

ATORN® Thread cutting inserts full profile 55° For internal thread cutting



Ident. No. 217, 227, 267,
277, 297-685
Right, HC5630



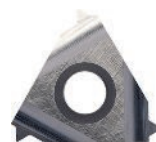
Ident. No. 687-695
Left, HC5630



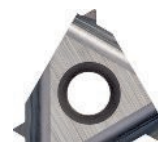
Ident. No. 212, 222, 262,
272, 292, 697-702
Right, HC5615



Ident. No. 703-713
Left, HC5615



Ident. No. 948-952, 954,
956-958, 990, 992, 994,
996-998
Right, HW5615



Ident. No. 953, 955, 959,
991, 993, 995
Left, HW5615



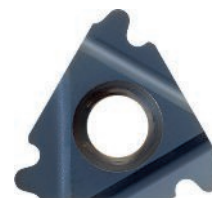
Ident. No. 720-726
Right, HC5630 with chip
breaker

p. 660

Machining direction		Right	Left	Right	Left	Right	Left	Right
Carbide type		HC5630	HC5630	HC5615	HC5615	HW5615	HW5615	HC5630 with chip breaker
Vc in steel ●		90-120 m/min	90-120 m/min	75-110 m/min	75-110 m/min			75-110 m/min
Vc in stainless steel ●		80-100 m/min	80-100 m/min	70-75 m/min	70-75 m/min	60-70 m/min	60-70 m/min	80-100 m/min
Vc in non-ferrous metals ●				200-600 m/min	200-600 m/min	200-600 m/min	200-600 m/min	
Vc in cast iron ●		100-110 m/min	100-110 m/min	70-80 m/min	70-80 m/min			100-110 m/min
Vc in special alloys ●						30-40 m/min	30-40 m/min	
ISO name	Number of thread starts per inch	17743... Ident. No.	17743... Ident. No.	17743... Ident. No.	17743... Ident. No.	17743... Ident. No.	17743... Ident. No.	17743... Ident. No.
11 (IR/IL) 11W	11	680 ○	- -	697 ○	- -	948 ○	- -	- -
11 (IR/IL) 12W	12	681 ○	687 ○	698 ○	704 ○	950 ○	- -	- -
11 (IR/IL) 14W	14	227 ●	688 ○	222 ●	705 ○	952 ○	953 ○	- -
11 (IR/IL) 19W	19	217 ●	689 ○	212 ●	706 ○	954 ○	955 ○	- -
11 (IR/IL) 28W	28	682 ○	690 ○	699 ○	- -	956 ○	- -	- -
16 (IR/IL) 11W	11	297 ●	691 ○	292 ●	708 ○	958 ○	959 ○	720 ●
16 (IR/IL) 12W	12	683 ○	692 ○	700 ○	709 ○	990 ○	991 ○	- -
16 (IR/IL) 14W	14	277 ●	693 ○	272 ●	710 ○	992 ○	993 ○	724 ○
16 (IR/IL) 16W	16	684 ○	694 ○	701 ○	711 ○	994 ○	995 ○	- -
16 (IR/IL) 19W	19	267 ●	695 ○	262 ●	712 ○	996 ○	- -	726 ○
16 (IR/IL) 28W	28	685 ○	- -	702 ○	713 ○	998 ○	- -	- -
11 (IR/IL) 11W	-	- -	- -	- -	703 ○	- -	- -	- -

Prod. Gr. 158

ATORN® Thread cutting inserts, full-profile, round thread For right-hand external thread cutting

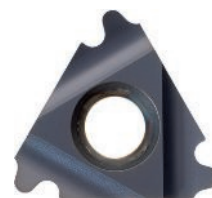


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ISO name						16 ER 6RND	16 ER 8RND
Pitch (mm)						6	8
	Machining direction	Carbide type	Vc in steel ●	Vc in stainless steel ●	Vc in cast iron ●		
17741...	Right	HC5630	90-120 m/min	80-100 m/min	100-110 m/min	Ident. No.	855 ● 850 ●

Prod. Gr. 158

ATORN® Thread cutting inserts, full-profile, round thread For right-hand internal thread cutting

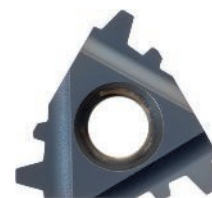


 p. 660

		Machining direction	Right
		Carbide type	HC5630
		Vc in steel ●	90-120 m/min
		Vc in stainless steel ●	80-100 m/min
		Vc in cast iron ●	100-110 m/min
ISO name	Pitch (mm)		17743... Ident. No.
16 IR 6RND	6		432 ●
16 IR 8RND	8		430 ●
22 IR 4RND	4		436 ●
22 IR 6RND	6		434 ○

Prod. Gr. 158

ATORN® Thread cutting inserts, full-profile, trapezoidal thread For right-hand external thread cutting



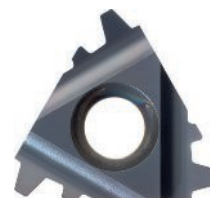
 p. 656

		Machining direction	Right
		Carbide type	HC5630
		Vc in steel ●	90-120 m/min
		Vc in stainless steel ●	80-100 m/min
		Vc in cast iron ● (m/min)	100
ISO name	Pitch (mm)		17741... Ident. No.
16 ER 3TR	3		805 ●
22 ER 4TR	4		810 ●
22 ER 5TR	5		815 ●
22 ER 6TR	6		825 ●

Prod. Gr. 158

ATORN® Thread cutting inserts, full-profile, trapezoidal thread For right-hand internal thread cutting

		Machining direction	Right
		Carbide type	HC5630
		Vc in steel ●	90-120 m/min
		Vc in stainless steel ●	80-100 m/min
		Vc in cast iron ● (m/min)	100
ISO name	Pitch (mm)	17743... Ident. No.	
16 IR 2TR	2	420	●
16 IR 3TR	3	422	●
22 IR 4TR	4	424	●
22 IR 5TR	5	426	●
22 IR 6TR	6	428	●



p. 660

Prod. Gr. 158

ATORN® Plunge inserts and plunge insert set For thread holders

Application:

For producing outer and inner grooves on CNC or conventional machines in steel, stainless steel, cast iron and non-ferrous metals material groups at mid-range cutting speed.

Execution:

- Plunge insert ground on three sides

Advantage:

- Thread-turning inserts and plunge inserts require only one holder
- Three-cutter geometry ensures high profitability
- Innovative cutting geometry and TiN coating ensure a long service life

Technical data:

- Tolerance of plunge depth: ± 0.02 mm



Ident. No. 010-020,
040-050

Ident. No. 022-032,
052-062

p. 660 p. 656

					Machining direction	Right Left	Left Right
					Machining type	Outside Inside	Outside Inside
					Carbide type	HC5615	HC5615
ISO name	Radius (mm)	Recessing width (mm)	Plunge depth (mm)	Radius tolerance	17750... Ident. No.	17750... Ident. No.	17750... Ident. No.
16ER/IL 1.0	-	1.0	1.4	-	010	●	-
16ER/IL 1.2	-	1.2	1.6	-	012	●	-
16ER/IL 1.4	-	1.4	1.8	-	014	●	-
16ER/IL 1.7	-	1.7	2.0	-	016	●	-
16ER/IL 1.95	-	1.95	2.0	-	018	●	-
16ER/IL 2.25	-	2.25	2.25	-	020	●	-
16IR/EL 1.0	-	1.0	1.4	-	-	-	022
16IR/EL 1.2	-	1.2	1.6	-	-	-	024
16IR/EL 1.4	-	1.4	1.8	-	-	-	026
16IR/EL 1.7	-	1.7	2.0	-	-	-	028
16IR/EL 1.95	-	1.95	2.0	-	-	-	030
16IR/EL 2.25	-	2.25	2.25	-	-	-	032
16ER/IL R 0.5	0.5	-	1.4	± 0.04	040	○	-
16ER/IL R 0.6	0.6	-	1.6	± 0.04	042	○	-
16ER/IL R 0.9	0.9	-	1.8	± 0.04	044	○	-
16ER/IL R 1.0	1.0	-	2.0	± 0.04	046	○	-
16ER/IL R 1.1	1.1	-	2.0	± 0.04	048	○	-
16ER/IL R 1.2	1.2	-	2.25	± 0.04	050	○	-
16IR/EL R 0.5	0.5	-	1.4	± 0.04	-	-	052
16IR/EL R 0.6	0.6	-	1.6	± 0.04	-	-	054
16IR/EL R 0.9	0.9	-	1.8	± 0.04	-	-	056
16IR/EL R 1.0	1.0	-	2.0	± 0.04	-	-	058
16IR/EL R 1.1	1.1	-	2.0	± 0.04	-	-	060
16IR/EL R 1.2	1.2	-	2.25	± 0.04	-	-	062

Prod. Gr. 158

ATORN® Plunge insert set For creating external and internal recesses on CNC or conventional machines.

Application:

For producing outer and inner grooves on CNC or conventional machines in steel, stainless steel, cast iron and non-ferrous metals material groups at mid-range cutting speed.

Execution:

- Set of plunge inserts ground on three sides, comprising 1 each of plunge width 1/1.2/1.4/1.7/1.95/2.25

Advantage:

- Tool-cost optimisation: Thread-turning inserts and plunge inserts require only one holder
- Three-cutter geometry ensures high profitability
- Innovative cutting geometry and TiN coating ensure a long service life





Turning tools \ Thread-cutting range

ISO name			16 (ER/IL) 1.00-2.25 SET	16 (IR/EL) 1.00-2.25 SET
Carbide type			HC5640	HC5640
Machining type			Outside Inside	Outside Inside
Machining direction				
17750...	Right Left	Ident. No.	021	033

Prod. Gr. 158

ATORN® Thread indexable insert set For right-hand external and internal threads

Application:

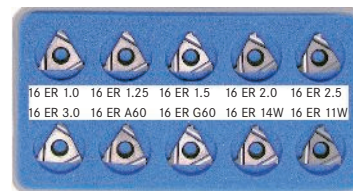
For manufacturing threads in the steel, stainless steel and cast iron material group on CNC machines at medium to high speed.

Execution:

- **Ident. No. 001:** Ground thread-turning insert for male threads, TiALN coated
- **Ident. No. 002:** Thread-turning insert set for female threads, TiALN coated

Advantage:

- Ground thread-turning insert ensures good surface qualities and cutting precision
- High cutting speed and long service life through innovative TiALN coating technology
- Set covers a broad range of uses in the most common pitches



Composition of set			16 ER 1.0 ISO, 16 ER 1.25 ISO, 16 ER 1.5 ISO, 16 ER 2.0 ISO, 16 ER 2.5 ISO, 16 ER 3.0 ISO, 16 ER A60, 16 ER G60, 16 ER 14W, 16 ER 11W	16 IR 1.0 ISO, 16 IR 1.25 ISO, 16 IR 1.5 ISO, 16 IR 2.0 ISO, 16 IR 2.5 ISO, 16 IR 3.2 ISO, 16 IR A60, 16 IR G60, 16 IR 14W, 16 IR 11W
Cutting direction				
17748...	Right-hand cutting	Ident. No.	001	002

Prod. Gr. 158



**ARE YOU LOOKING FOR PRODUCTS
THAT MEET THE TOUGHEST DEMANDS?**

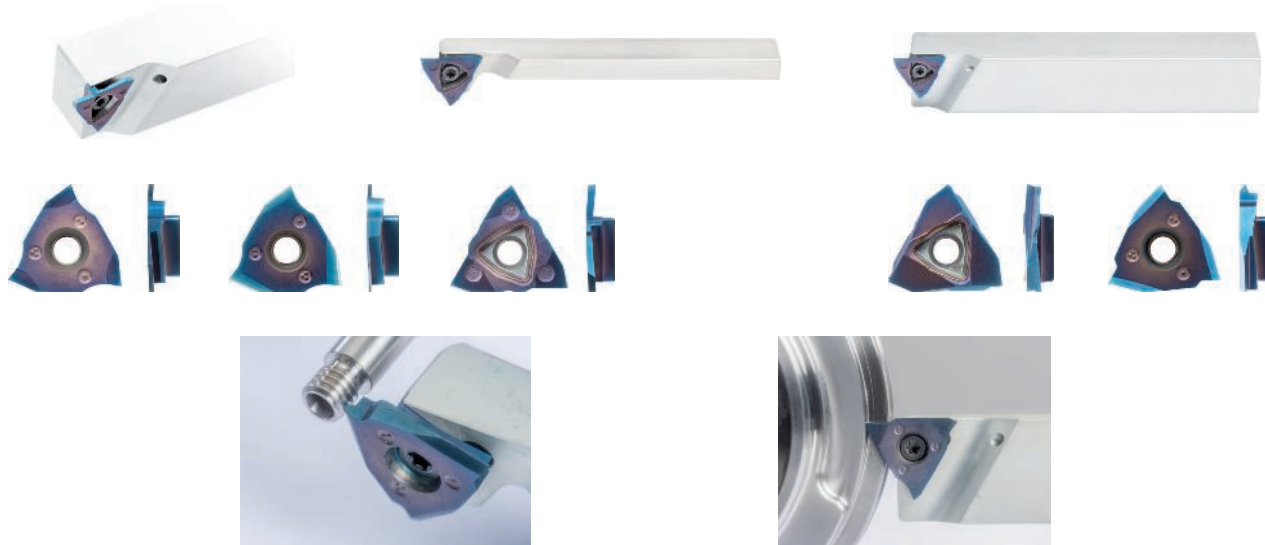
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Grooving and lathe system

For professional serial users



application:

the newly developed Atorn grooving and lathe system has been engineered for ambitious serial machinists. it covers the machining tasks grooving, tapping, thread cutting, lathing and recessing.

advantages:

- wide machining range with only one holder.
- high-performance cutting material and coating ensure a long service life and a wide machining range even in difficult materials such as stainless steel or titanium.
- 3 cutting edges make for a high level of profitability.
- high switching accuracy - can be changed directly on the machine.
- internal coolant supply ensures a long service life and high degree of process reliability.

ATORN® Holder for 3-blade cutting and turning system

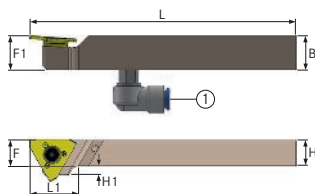
For cutting insert no. 17759

Application:

For carrying grooving inserts, 3 cutting edges

Advantage:

- Catch system ensures high force transmission of the cutting insert
- High-strength carrier



Ident. No. 003-008



Ident. No. 009-014

B=F1 (mm)	H (mm)	L1 (mm)	L (mm)	F (mm)	H (mm)	H1 (mm)	Coolant supply	Tool design Ø of the cooling duct connection	Left		Right	
									17759... Ident. No.		17759... Ident. No.	
16	8	17	125	8	8	8	External	4/6 mm	003	●	004	●
16	10	17	125	10	10	6	Internal	4/6 mm	005	●	006	●
16	12	17	125	12	12	4	Internal	4/6 mm	007	●	008	●
16	16	-	125	16	16	-	Internal	4/6 mm	009	●	010	●
20	20	-	125	20	20	-	Internal	4/6 mm	011	●	012	●
25	25	-	150	25	25	-	Internal	4/6 mm	013	●	014	●

Prod. Gr. 1FF

ATORN® 3-blade cutting insert

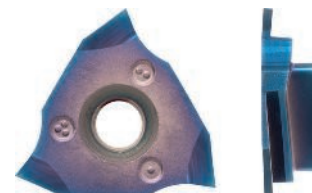
For cutting

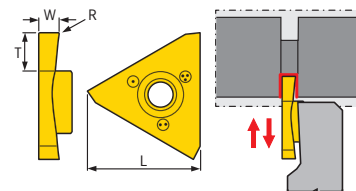
Application:

For grooving.

Advantage:

- High-quality cutting material and innovative coating technology for high requirements around service life





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Machining direction						Right	Left
Vc in steel ●						40-150 m/min	40-150 m/min
Vc in stainless steel ●						30-120 m/min	30-120 m/min
Vc in special alloys ●						30-70 m/min	30-70 m/min
Min./max. Vc in hardened steel 50 HRC						20-50 m/min	20-50 m/min
L (mm)	W (mm)	T (mm)	Radius (mm)	Min./max. f radial	Min./max. f axial	17759... Ident. No.	17759... Ident. No.
19	0.5	1.5	-	0.01-0.06 mm/U	0.02-0.10 mm/U	050 ●	051 ●
19	0.6	1.6	-	0.01-0.06 mm/U	0.02-0.10 mm/U	052 ●	053 ●
19	0.7	1.7	-	0.01-0.06 mm/U	0.02-0.10 mm/U	054 ●	055 ●
19	0.8	2.0	0.05	0.01-0.06 mm/U	0.02-0.10 mm/U	056 ●	057 ●
19	1	2.5	0.05	0.02-0.07 mm/U	0.02-0.10 mm/U	058 ●	059 ●
19	1.2	3	0.05	0.02-0.07 mm/U	0.02-0.10 mm/U	060 ●	061 ●
19	1.4	3	0.05	0.03-0.08 mm/U	0.02-0.10 mm/U	062 ●	063 ●
19	1.5	3	0.05	0.03-0.08 mm/U	0.02-0.10 mm/U	064 ●	065 ●
19	1.7	4	0.05	0.04-0.09 mm/U	0.02-0.20 mm/U	066 ●	067 ●
20	2	4	0.1	0.05-0.10 mm/U	0.02-0.20 mm/U	068 ●	069 ●
20	2.25	5	0.1	0.05-0.10 mm/U	0.02-0.20 mm/U	070 ●	071 ●
20	2.5	6	0.1	0.05-0.10 mm/U	0.02-0.20 mm/U	072 ●	073 ●
20	3	6	0.1	0.05-0.10 mm/U	0.02-0.20 mm/U	074 ●	075 ●

Prod. Gr. 1FG

ATORN® 3-blade cutting insert

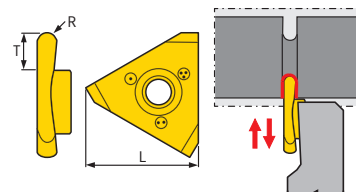
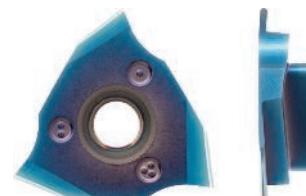
For cutting with radius

Application:

For grooving with radius.

Advantage:

- High-quality cutting material and innovative coating technology for high requirements around service life



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Machining direction					Right	Left
Vc in steel 🟦					40-150 m/min	40-150 m/min
Vc in stainless steel 🟡					30-120 m/min	30-120 m/min
Vc in special alloys 🔴					30-70 m/min	30-70 m/min
Min./max. Vc in hardened steel 50 HRC					20-50 m/min	20-50 m/min
L (mm)	T (mm)	Radius (mm)	Min./max. f radial	Min./max. f axial	17759... Ident. No.	17759... Ident. No.
19	1.5	0.25	0.01-0.06 mm/U	0.02-0.10 mm/U	080	081
19	2.0	0.40	0.01-0.06 mm/U	0.02-0.10 mm/U	082	083
19	2.5	0.50	0.02-0.07 mm/U	0.02-0.10 mm/U	084	085
19	3.0	0.60	0.02-0.07 mm/U	0.02-0.10 mm/U	086	087
19	3.5	0.80	0.04-0.09 mm/U	0.02-0.20 mm/U	088	089
19	4.0	1.00	0.05-0.10 mm/U	0.02-0.20 mm/U	290	091
20	6.0	1.25	0.05-0.10 mm/U	0.02-0.20 mm/U	292	093
20	6.0	1.50	0.05-0.10 mm/U	0.02-0.20 mm/U	294	095

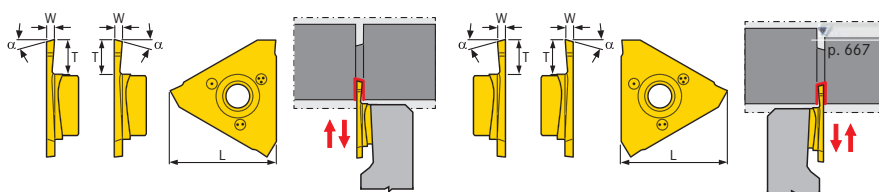
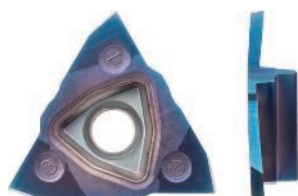
Prod. Gr. 1FG

ATORN® 3-blade cutting insert For parting

Application:
For tapping.

Advantage:

- High-quality cutting material and innovative coating technology for high requirements around service life



Machining direction right

Machining direction left

Cut-off direction
Right Left

Cut-off direction
Right Left

Machining direction					Right		Right		Left		Left	
Parting direction					Right		Left		Right		Left	
Vc in steel ●					40-150 m/min		40-150 m/min		40-150 m/min		40-150 m/min	
Vc in stainless steel ●					30-120 m/min		30-120 m/min		30-120 m/min		30-120 m/min	
Vc in special alloys ●					30-70 m/min		30-70 m/min		30-70 m/min		30-70 m/min	
Min./max. Vc in hardened steel 50 HRC					20-50 m/min		20-50 m/min		20-50 m/min		20-50 m/min	
L (mm)	W (mm)	α (Degree)	T (mm)	Min./max. f radial	17759... Ident. No.		17759... Ident. No.		17759... Ident. No.		17759... Ident. No.	
19	1.0	15	5.4	0.02-0.09 mm/U	090	●	092	●	121	●	122	●
19	1.2	15	5.4	0.02-0.09 mm/U	094	●	096	●	124	●	126	●
20	1.5	15	6.4	0.04-0.10 mm/U	098	●	100	●	128	●	130	●
20	1.8	15	6.4	0.04-0.10 mm/U	102	●	104	●	132	●	134	●
20	2.0	15	6.4	0.05-0.12 mm/U	106	●	108	●	136	●	138	●
20	2.5	15	6.4	0.05-0.12 mm/U	110	●	112	●	140	●	142	●
20	3.0	15	6.4	0.05-0.12 mm/U	114	●	120	●	144	●	146	●

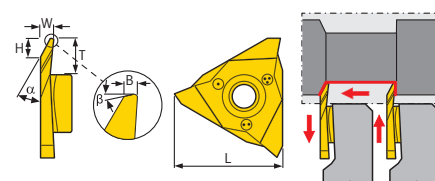
Prod. Gr. 1FG

ATORN® 3-blade cutting insert For back turning

Application:
For recessing.

Advantage:

- High-quality cutting material and innovative coating technology for high requirements around service life



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Machining direction									Right		Left	
Parting direction									Right		Left	
Vc in steel ●									40-150 m/min		40-150 m/min	
Vc in stainless steel ●									30-120 m/min		30-120 m/min	
Vc in special alloys ●									30-70 m/min		30-70 m/min	
Min./max. Vc in hardened steel 50 HRC									20-50 m/min		20-50 m/min	
L (mm)	W (mm)	T (mm)	Radius (mm)	α (Degree)	β (Degree)	B (mm)	H (mm)	f min./max.	17759... Ident. No.		17759... Ident. No.	
19	3.4	5.4	0.1	30	12	0.5	4.3	0.05-0.15 mm/U	150	●	152	●
20	3.4	6.4	0.1	30	12	0.5	4.3	0.05-0.15 mm/U	154	●	156	●

Prod. Gr. 1FG

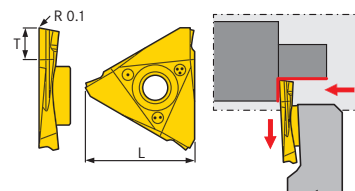
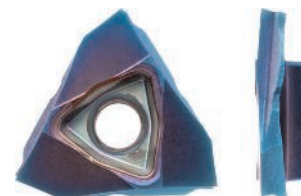
ATORN® 3-blade cutting insert For longitudinal turning and facing

Application:

For longitudinal and face turning

Advantage:

- High-quality cutting material and innovative coating technology for high requirements around service life



p. 667

				Machining direction	Right	Left
				Vc in steel	40-150 m/min	40-150 m/min
				Vc in stainless steel	30-120 m/min	30-120 m/min
				Vc in special alloys	30-70 m/min	30-70 m/min
				Min./max. Vc in hardened steel 50 HRC	20-50 m/min	20-50 m/min
L	T (mm)	Radius (mm)	f min./max.	17759... Ident. No.	17759... Ident. No.	
19	5.4	0.1	0.05-0.15 mm/U	170	172	
20	6.4	0.1	0.05-0.15 mm/U	174	176	

Prod. Gr. 1FG

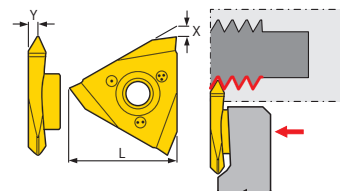
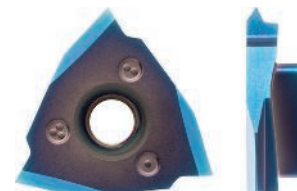
ATORN® 3-blade cutting insert for variable thread cutting 60° partial profile

Application:

For variable thread cutting, 60° sub-profile

Advantage:

- High-quality cutting material and innovative coating technology for high requirements around service life



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					Machining direction	Right	Left
					Vc in steel	40-150 m/min	40-150 m/min
					Vc in stainless steel	30-120 m/min	30-120 m/min
					Vc in special alloys	30-70 m/min	30-70 m/min
					Min./max. Vc in hardened steel 50 HRC	20-50 m/min	20-50 m/min
L (mm)	Min./max. pitch	Min./max. number of thread starts per inch	X (mm)	Y (mm)	17759... Ident. No.	17759... Ident. No.	
19	0.5-1.5 mm	48-16	2.8	1.1	180	182	
19	1.75-3.0 mm	14-8	2.8	1.7	184	186	
19	0.5-3.0 mm	48-16	2.8	1.7	188	190	

Prod. Gr. 1FG

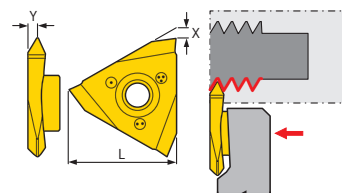
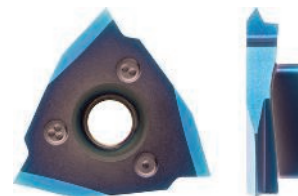
ATORN® 3-blade cutting insert for variable thread cutting 55° partial profile

Application:

For variable thread cutting, 55° sub-profile

Advantage:

- High-quality cutting material and innovative coating technology for high requirements around service life



p. 667

Machining direction					Right	Left
Vc in steel ●					40-150 m/min	40-150 m/min
Vc in stainless steel ●					30-120 m/min	30-120 m/min
Vc in special alloys ●					30-70 m/min	30-70 m/min
Min./max. Vc in hardened steel 50 HRC					20-50 m/min	20-50 m/min
L (mm)	Min./max. pitch	Min./max. number of thread starts per inch	X (mm)	Y (mm)	17759... Ident. No.	17759... Ident. No.
19	0.5-1.5 mm	48-16	2.8	1	200 ●	202 ●
19	1.75-3.0 mm	14-8	2.8	1.7	204 ●	206 ●
19	0.5-3.0 mm	48-8	2.8	1.7	208 ●	210 ●

Prod. Gr. 1FG

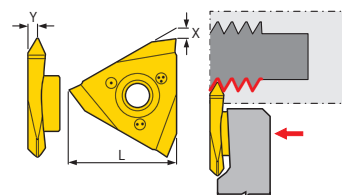
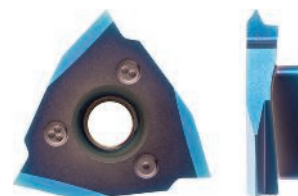
ATORN® 3-blade cutting insert For thread cutting, 60° full profile

Application:

For variable thread cutting, 60° full-profile

Advantage:

- High-quality cutting material and innovative coating technology for high requirements around service life



p. 667

Machining direction					Right	Left
Vc in steel ●					40-150 m/min	40-150 m/min
Vc in stainless steel ●					30-120 m/min	30-120 m/min
Vc in special alloys ●					30-70 m/min	30-70 m/min
Min./max. Vc in hardened steel 50 HRC					20-50 m/min	20-50 m/min
L (mm)	Pitch (mm)	X (mm)	Y (mm)		17759... Ident. No.	17759... Ident. No.
19	0.5	2.8	0.6		220 ●	222 ●
19	0.7	2.8	0.7		224 ●	226 ●
19	0.75	2.8	0.7		228 ●	230 ●
19	0.8	2.8	0.7		232 ●	234 ●
19	1.0	2.8	0.8		236 ●	238 ●
19	1.25	2.8	1.0		240 ●	242 ●
19	1.5	2.8	1.1		244 ●	246 ●
19	1.75	2.8	1.3		248 ●	250 ●

Prod. Gr. 1FG



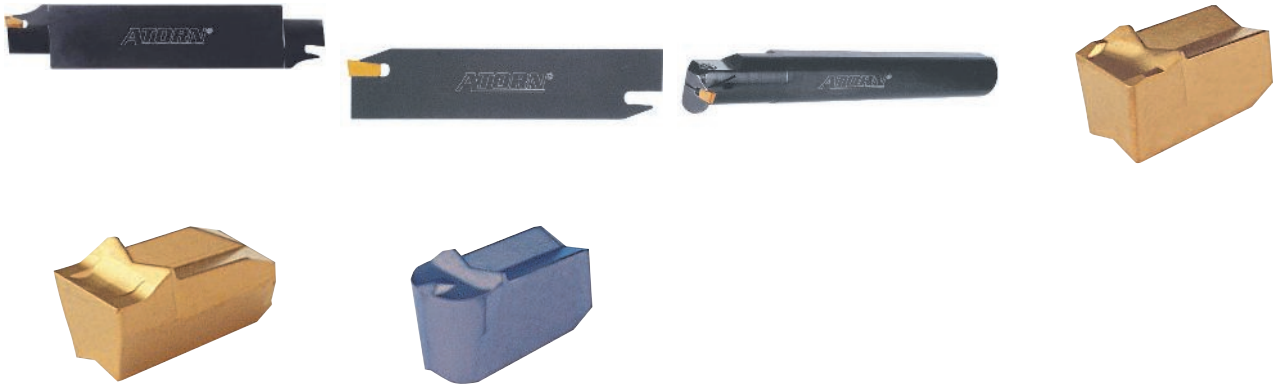
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Cutting system with single-cutter cutting insert

For demanding serial users



Application:

For grooving, tapping, copy turning and axial grooving.

- Wide range of holders and cutting inserts for numerous applications
- Wide range of chipping geometries ensure reliable working
- Precise insert seating for high-precision lathe operations
- High-strength carrier material ensures long service life of carriers

ATORN® Recessing system AH101 neutral cutter holder

For external deep recessing and parting using AIMC, AIMJ and AIPV cutting inserts

Application:

For deep recessing and parting off, external.

Execution:

- Precision-manufactured steel support, burnished and hardened

Advantage:

- High-quality and wear-resistant steel support

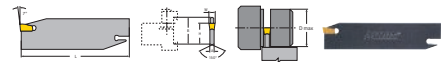
- Precisely manufactured insert setting

Delivery:

With ejector, no cutting insert

Notes:

Blade holder is not suitable for turning and copy turning operations!



W (mm)	A (mm)	H (mm)	B (mm)	L (mm)	D max (mm)	Suitable for clamping shanks	17665... Ident. No.
1.6	1.2	15.7	19	86	32	ATBR 19-2 ATBN 16-2	010 ●
2.2	1.6	15.7	19	86	38	ATBR 19-2 ATBN 16-2	015 ●
1.6	1.2	21.4	26	110	35	ATBR 25-6 ATBN 16-5 ATBN 19-5 ATBN 20-5	020 ●
2.2	1.6	21.4	26	110	50	ATBR 25-6 ATBN 16-5 ATBN 19-5 ATBN 20-5	025 ●
3.1	2.4	21.4	26	110	75	ATBR 25-6 ATBN 16-5 ATBN 19-5 ATBN 20-5	030 ●
4.1	3.2	21.4	26	110	80	ATBR 25-6 ATBN 16-5 ATBN 19-5 ATBN 20-5	035 ●
2.2	1.6	24.8	32	150	50	ATBN 20-6 ATBN 25-6 ATBN 32-6	040 ●
3.1	2.4	24.8	32	150	100	ATBN 20-6 ATBN 25-6 ATBN 32-6	045 ●
4.1	3.2	24.8	32	150	100	ATBN 20-6 ATBN 25-6 ATBN 32-6	050 ●
5.1	4	24.8	32	150	125	ATBN 20-6 ATBN 25-6 ATBN 32-6	055 ●
6.4	5.2	24.8	32	150	125	ATBN 20-6 ATBN 25-6 ATBN 32-6	060 ●

Prod. Gr. 181

ATORN® Recessing system AH201 clamp holder For external recessing and parting using AIMC, AIMJ and AIPV cutting inserts

Application:

For parting off and external grooving.

- precision-manufactured insert seat

Delivery:

with ejector, without cutting insert

Execution:

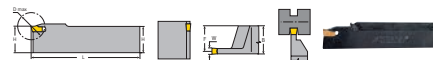
- precision-manufactured steel holder, burnished and hardened

Notes:

The cutter holder is not suitable for lathe and copy turning tasks!

Advantage:

- high-quality and wear-resistant steel holder



W (mm)	B (mm)	H (mm)	F (mm)	L (mm)	Tool design D max (mm)	Right		Left	
						17665... Ident. No.		17665... Ident. No.	
2.2	12	12	11.2	110	32	110	●	111	●
3.1	12	12	10.8	110	32	115	●	116	●
2.2	16	16	15.2	110	32	120	●	121	○
3.1	16	16	14.8	110	35	125	●	126	●
2.2	20	20	19.2	110	35	130	●	131	●
3.1	20	20	18.8	120	52	135	●	136	●
4.1	20	20	18.4	120	57	140	●	141	●
3.1	25	25	23.8	150	56	145	●	146	●
4.1	25	25	23.4	150	65	150	●	151	●

Prod. Gr. 181

ATORN® Recessing system AH211 clamp holder For external recessing, parting and copying using AIMC, AIMJ and AIPV cutting inserts

Application:

For parting off, grooving and copy turning externally.

- precision-manufactured insert seat

Delivery:

with clamping screw, without cutting insert

Execution:

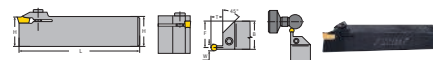
- precision-manufactured steel holder, burnished and hardened with clamping element

Notes:

AIMC, AIMJ cutting inserts are only suitable for recessing work.

Advantage:

- high-quality and wear-resistant steel holder with high tensile clamping element



						Recessing system AH211 clamp holder		A-Cut replacement clamping screw	
W (mm)	B (mm)	H (mm)	L (mm)	F (mm)	Tool design T (mm)	Right		Left	
						17665... Ident. No.		17665... Ident. No.	17668... Ident. No.
3.1	16	16	100	14.7	9.9	210	●	211	500
4.1	16	16	100	14.2	13	215	●	216	500
3.1	20	20	125	18.7	9.9	220	●	221	505
4.1	20	20	125	18.2	13	225	●	226	505
3.1	25	25	150	23.7	9.9	230	●	231	505
4.1	25	25	150	23.2	13	235	●	236	510
5.1	25	25	150	22.7	13	240	●	241	510
6.4	25	25	150	22.2	16	245	●	246	510

Prod. Gr. 181

ATORN® Recessing system AH619619 boring bar

For internal recessing and copying using AIMC, AIMJ and AIPV cutting inserts

Application:

For recessing and copy turning, internal.

Execution:

- Precision-manufactured boring bar with internal cooling, burnished and hardened with clamping element, sealing thread: R1/8"

Advantage:

- High-quality and wear-resistant steel support with high-strength clamping element

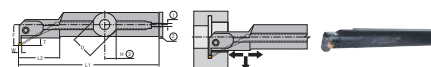
- Precisely manufactured insert setting

Delivery:

With clamping screw, Torx wrench T20, seal, no cutting insert

Notes:

AIMC, AIMJ cutting inserts only suitable for recessing work. When using the seal, the boring bar can be shortened by up to 100 mm.



									Recessing system AH619619 boring bar			A-Cut replacement clamping screw		
Tool design									Right		Left			
W (mm)	D (mm)	F (mm)	T (mm)	L1 (mm)	L2 (mm)	H (mm)	C (mm)	Min. bore Ø (mm)	17665... Ident. No.		17665... Ident. No.		17668... Ident. No.	
2.2	25	20	6.5	200	51	11.5	0.3	35	310	●	311	●	520	●
3.1	25	20.8	8	200	51	11.5	0.5	47	315	●	316	●	525	●
4.1	25	20.8	8	200	51	11.5	0.5	47	320	●	321	●	525	●
2.2	32	25	7.5	250	63.5	14.5	0.3	43	325	●	326	○	525	●
3.1	32	26.6	10	250	57	14.5	0.5	52	330	○	331	●	525	●
4.1	32	26.6	10	250	51	14	0.5	52	335	●	336	○	525	●
4.1	40	33	12	300	51	18	0.5	47	340	●	341	○	525	●

Prod. Gr. 181

ATORN® Recessing system AH106 right-hand cutter holder

For external axial recessing using AIMF cutting insert and ATBN.-6 clamping shank

Application:

For deep grooving and parting off externally.

Execution:

- precision-manufactured steel holder, burnished and hardened

Advantage:

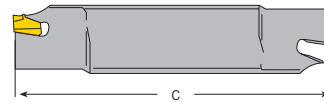
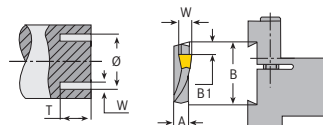
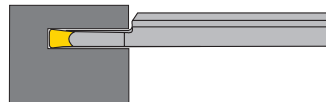
- high-quality and wear-resistant steel holder
- precision-manufactured insert seat

Delivery:

with ejector, without cutting insert



Right-hand version



W (mm)	A (mm)	B (mm)	C (mm)	B1 (mm)	T1 (mm)	D min./max.	17665... Ident. No.
2.1	5.2	32	150	0.8	20	35-46 mm	500
2.1	5.2	32	150	0.8	20	45-61 mm	505
2.1	5.2	32	150	0.8	20	60-80 mm	510
2.1	4	32	150	0.8	20	79-102 mm	515
2.1	4	32	150	0	20	101-132 mm	520
3	5.2	32	150	1	20	65-92 mm	525
3	5.2	32	150	0.2	20	90-122 mm	530
3	5.2	32	150	0	25	120-160 mm	535
4	5.2	32	150	2.5	30	80-155 mm	540
4	5.2	32	150	2.5	30	150-500 mm	545
5	5.2	32	150	2.5	32	80-162 mm	550
5	5.2	32	150	2.5	35	150-600 mm	555
6	5.2	32	150	2.5	32	90-150 mm	560
6	5.2	32	150	2.5	35	148-700 mm	565

Prod. Gr. 181

ATORN® Recessing and parting system ATBR clamping shank For mounting cutter holder AH101

Application:

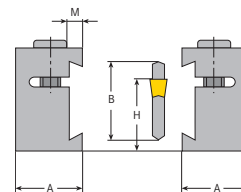
For clamping cutter holder AH101 for grooving and parting off.

Execution:

- precision-manufactured steel holder, burnished and hardened

Advantage:

- high-quality and wear-resistant steel holder with high tensile clamping element
- precision-manufactured cutter holder mount



ISO name	A (mm)	B (mm)	M (mm)	H (mm)	H1 (mm)	L (mm)	Suitable for clamping screw size	Suitable for knife carrier	Recessing and parting system ATBR clamping shank		A-Cut replacement clamping screw	
									17668... Ident. No.		17668... Ident. No.	
MAN 19-2	19	19	2	19	25	100	M6 x 25 mm	AH 101 19	010	●	515	●
ATBR 25-6	20	26	5	25	32	120	M6 x 30 mm	AH 101 26	015	●	515	●

Prod. Gr. 181

ATORN® Recessing and parting system ATBN clamping shank For mounting cutter holders AH101 and AH106

Application:

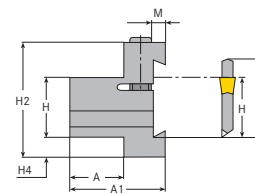
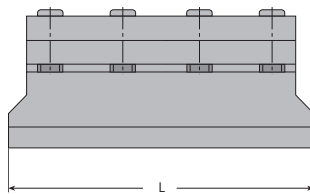
For clamping cutter holders AH101 and AH106 for grooving and parting off.

Execution:

- precision-manufactured steel holder, burnished, hardened with clamping element

Advantage:

- high-quality and wear-resistant steel holder with high tensile clamping element
- precision-manufactured cutter holder mount



ISO name	H (mm)	A (mm)	B (mm)	M (mm)	L (mm)	A1 (mm)	H4 (mm)	H2 (mm)	Suitable for knife carrier	Suitable for clamping screw size	Recessing and parting system ATBN clamping shank		A-Cut replacement clamping screw	
											17668... Ident. No.		17668... Ident. No.	
MAN 16-2	16	16	19	2	76	26	4	30	AH 101 19	M5 x 25 mm	100	●	510	●
MAN 16-5	16	16	26	4	76	30	12	38	AH 101 26	M6 x 30 mm	105	●	515	●
MAN 19-5	19	19	26	5	87	33	9	38	AH 101 26	M6 x 30 mm	110	●	515	●
MAN 20-5	20	19	26	4	87	33	8	38	AH 101 26	M6 x 30 mm	115	●	515	●
MAN 20-6	20	19	32	5.5	100	35	13	48	AH 101 32 AH 106	M6 x 40 mm	120	●	515	●
ATBN 25-6	25	20	32	5.5	110	36	8	48	AH 101 32 AH 106	M6 x 40 mm	125	●	515	●
MAN 32-6	32	28	32	5.5	120	44	3	48	AH 101 32 AH 106	M6 x 40 mm	130	●	515	●

Prod. Gr. 181

ATORN® Spare clamping screws For cutting system

Application:

For use in clamp holder AHR/L 211 and boring bar
AHR/L 619



ISO name		M5 x 16/hex- agon socket	M5 x 20/hex- agon socket	M5 x 25/hex- agon socket	M6 x 25/hex- agon socket	SR 76-1021/ TX	SR 76-1022/ TX
17668...	Ident. No.	500	505	510	515	520	525

Prod. Gr. 181

ATORN® Recessing and parting system AIMC cutting inserts For AH 101, AHR/L 201 and AHR/L 619

Application:

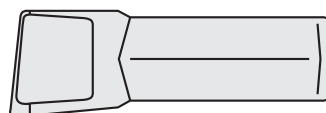
For parting off and grooving in difficult operating conditions and medium to high feed rates in individual part and series production.

Advantage:

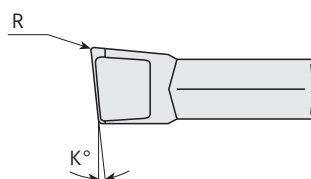
- extremely sturdy cutting edge, enables long service life even in difficult operating conditions

Execution:

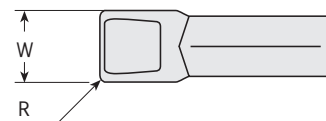
- precision-sintered cutting insert, C geometry with sturdy cutting edge



Left



Right



Neutral

					Surface	Uncoated	Coated	Coated
					Carbide type	HW34 10	HC3630	HC3635
					Material to be processed	Non-ferrous metal Cast metal	Steel	Steel Stainless steel Cast metal
Vc in steel					●		40-150 m/min	45-180 m/min
f in steel					●		0.05-0.40 mm/U	0.05-0.40 mm/U
Vc in stainless steel					●			60-160 m/min
f in stainless steel					●			0.05-0.20 mm/U
Vc in non-ferrous metals					●	100-600 m/min		
f in non-ferrous metals					●	0.05-0.20 mm/U		
Vc in cast iron					●	80-120 m/min		40-140 m/min
f in cast iron					●	0.05-0.15 mm/U		0.02-0.15 mm/U
ISO name	W (mm)	Radius (mm)	K° (Degree)	Tool design	17666... Ident. No.	17666... Ident. No.	17666... Ident. No.	17666... Ident. No.
AIMC 1,6	1.6	0.16	0	Neutral	001	002	-	-
AIMC 2	2.2	0.2	0	Neutral	006	007	008	009
AIMC 2 6L	2.2	0.2	6	Left	011	012	-	-
AIMC 2 6R	2.2	0.2	6	Right	016	017	-	-
AIMC 3	3.1	0.2	0	Neutral	021	022	023	024
AIMC 3 6L	3.1	0.2	6	Left	026	027	028	029
AIMC 3 6R	3.1	0.2	6	Right	031	032	033	034
AIMC 4	4.1	0.25	0	Neutral	036	037	038	039
AIMC 4 6L	4.1	0.25	6	Left	041	042	-	-
AIMC 4 6R	4.1	0.25	6	Right	046	047	-	-
AIMC 5	5.1	0.3	0	Neutral	051	052	053	054
AIMC 5 6L	5.1	0.3	6	Left	056	057	-	-
AIMC 5 6R	5.1	0.3	6	Right	061	-	-	-
AIMC 6	6.4	0.35	0	Neutral	066	067	068	069
AIMC 6 6L	6.4	0.35	6	Left	071	072	-	-
AIMC 6 6R	6.4	0.35	6	Right	076	077	-	-

Prod. Gr. 181

ATORN® Recessing and parting system AIMJ cutting inserts For AH 101, AHR/L 201, AHR/L 211 and AHR/L 619

Application:

Ident. No. 101, 106, 111, 116, 121, 126, 131, 136, 141, 146: For parting off and grooving under medium operating conditions in soft materials, small diameters and pipes with low feed rates in the material group of cast iron and non-ferrous metals in individual parts and series production.

Ident. No. 102-103, 107-108, 112-113, 117-118, 122-123, 127-128, 132-133, 138, 142-143, 147: For cutting off and plunging under average machining conditions in soft materials, small diameters and pipes with low feed rates in the cast and NF metal material groups in single part and series production.

Execution:

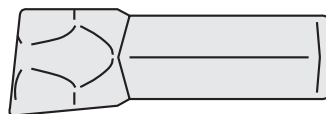
▪ **Ident. No. 101, 106, 111, 116, 121, 126, 131, 136, 141, 146:** precision-sintered cutter insert, J geometry with positive cutting edge

▪ **Ident. No. 102-103, 107-108, 112-113, 117-118, 122-123, 127-128, 132-133, 138, 142-143, 147:** Precision-sintered insert with J geometry and a positive cutting edge

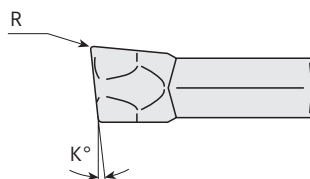
Advantage:

▪ **Ident. No. 101, 106, 111, 116, 121, 126, 131, 136, 141, 146:** extremely positive cutter provides a soft cut and reduces cutting forces

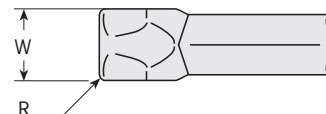
▪ **Ident. No. 102-103, 107-108, 112-113, 117-118, 122-123, 127-128, 132-133, 138, 142-143, 147:** Extremely positive cutter for a soft cut and reduced cutting forces



Left



Right



Neutral

	Surface Carbide type			
	Uncoated HW3410	Coated HC3630	Coated HC3635	
Material to be processed	Non-ferrous metal Cast metal	Steel	Steel Cast metal	
Vc in steel ●		40-150 m/min	45-180 m/min	
f in steel ●		0.05-0.40 mm/U	0.05-0.40 mm/U	
Vc in stainless steel ●			60-160 m/min	
f in stainless steel ●			0.05-0.20 mm/U	
Vc in non-ferrous metals ●	100-600 m/min			
f in non-ferrous metals ●	0.05-0.20 mm/U			
Vc in cast iron ●	80-120 m/min		80-140 m/min	
f in cast iron ●	0.05-0.15 mm/U		0.02-0.15 mm/U	
ISO name	W (mm)	Radius (mm)	K° (Degree)	Tool design
AIMJ 2	2.2	0.2	0	Neutral
AIMJ 2 6L	2.2	0.2	6	Left
AIMJ 2 6R	2.2	0.2	6	Right
AIMJ 3	3.1	0.2	0	Neutral
AIMJ 3 6L	3.1	0.2	6	Left
AIMJ 3 6R	3.1	0.2	6	Right
AIMJ 4	4.1	0.25	0	Neutral
AIMJ 4 6L	4.1	0.25	6	Left
AIMJ 4 6R	4.1	0.25	6	Right
AIMJ 5	5.1	0.3	0	Neutral

Prod. Gr. 181

ATORN® Recessing system AIPV HC3635 cutting inserts For profile lathing, precision recessing and fine lathing for AH101, AHR/L211, AHR/L 619

Application:

For profile machining and fine lathe work as well as precision recessing in the material groups of steel, stainless steel and cast material for individual part and series production.

Execution:

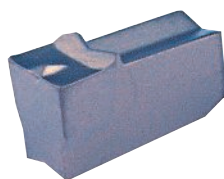
▪ precision-sintered cutting insert with V geometry, with multi-directional chip breaker, ± 0.02 width tolerance, cutting inserts with E=rounded version, cutting inserts without version E=circlip

Advantage:

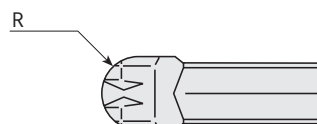
▪ innovative cutting geometry ensures optimum chip breaking during profile machining



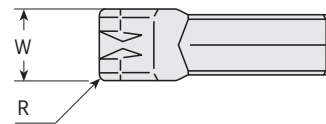
Ident. No. 202-237



Ident. No. 302-332



Ident. No. 202-237
 $R = 0.5 \times W$ for cutting inserts with full radius



Ident. No. 302-332



				Surface Carbide type	Coated HC3635
				Material to be processed	Steel Stainless steel Cast metal
				Vc in steel ●	30-160 m/min
				f in steel ●	0.05-0.25 mm/U
				Vc in stainless steel ●	40-140 m/min
				f in stainless steel ●	0.05-0.20 mm/U
				Vc in cast iron ●	60-120 m/min
				f in cast iron ●	0.02-0.10 mm/U
ISO name	W (mm)	Radius (mm)	Tolerance of plunge depth	17666... Ident. No.	
AIPV 3.00E 0.40	3	0.40	± 0.02 mm	202	●
AIPV 4.00E 0.40	4	0.4	± 0.02 mm	207	●
AIPV 6.00E 0.40	6	0.40	± 0.02 mm	217	●
AIPV 3.00E 1.50	3	1.5	± 0.02 mm	222	●
AIPV 4.00E 2.00	4	2	± 0.02 mm	227	●
AIPV 6.00E 3.00	6	3	± 0.02 mm	237	●
AIPV 1,85 0,10	1.85	0.1	± 0.02 mm	302	●
AIPV 2,0 0,20	2	0.2	± 0.02 mm	307	●
AIPV 2,15 0,15	2.15	0.15	± 0.02 mm	312	●
AIPV 2,65 0,15	2.65	0.15	± 0.02 mm	317	●
AIPV 3,0 0,20	3	0.2	± 0.02 mm	322	●
AIPV 4,0 0,20	4	0.2	± 0.02 mm	327	●
AIPV 4,15 0,15	4.15	0.15	± 0.02 mm	332	●

Prod. Gr. 181

ATORN® Recessing system AIMF HC3630 cutting inserts

For axial and end recessing for AH106

Application:

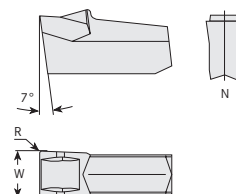
For axial and face recessing in the material group of steel, stainless steel and cast iron for individual part and series production.

Execution:

- precision-sintered cutting insert, F geometry with positive cutting edge

Advantage:

- innovative cutting geometry and chip breaker for optimum chip breaking when recessing axially



						Surface Carbide type	Coated HC3630
						Material to be processed	Steel
						Vc in steel ●	30-145 m/min
						f in steel ●	0.05-0.15 mm/U
ISO name	W (mm)	Radius (mm)	Tolerance of plunge depth	Tool design	Min. Ø (mm)	17666... Ident. No.	
AIMF 2N	2.1	0.2	± 0.1 mm	Neutral	35	410	●
AIMF 3N	3	0.3	± 0.1 mm	Neutral	54	420	●
AIMF 4N	4	0.25	± 0.1 mm	Neutral	35	430	●
AIMF 5N	5	0.25	± 0.1 mm	Neutral	40	440	●
AIMF 6N	6	0.25	± 0.1 mm	Neutral	44	450	●

Prod. Gr. 181



Cutting system with two-flute cutting insert

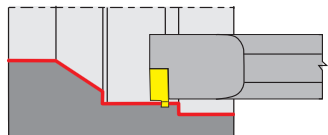
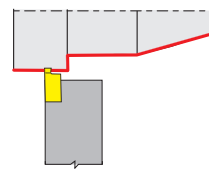
For demanding serial users



Holder



Boring bar



Application:

For grooving (circlips) and copy turning.

- Cutting insert precision-ground for maximum requirements around precision
- High-performance substrate for universal application in a wide range of materials
- Precise insert seating for high-precision lathe operations
- High-strength carrier material ensures long service life of carriers
- Just one cutting insert for internal and external machining

ORION® External holder for plunge inserts

For external recessing, for universal use up to 1300 N/mm²

Application:

For external plunging with plunge insert no. 17670.

Advantage:

- High-quality and hard-wearing steel holder
- Precision-machined plate seat

Execution:

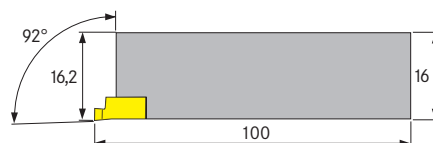
- Steel tool holder with high-strength clamping screw

Shank width (mm)			16
Shaft height (mm)			16
Tool design			Right
Length (mm)			100
Min. bore Ø (mm)			17.8
External holder for plunge inserts	17670...	Ident. No.	013
Clamping screw for 2-cutter indexable insert	17670...	Ident. No.	008

Prod. Gr. 159



Holder



ORION® Internal holder for plunge inserts

For internal recessing, for universal use up to 1300 N/mm²

Application:

For internal plunging with plunge insert no. 17670

Advantage:

- High-quality and hard-wearing steel holder
- Precision-machined plate seat

Execution:

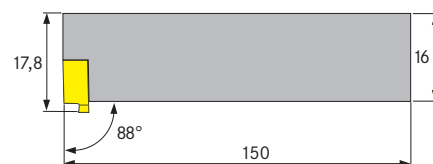
- Steel tool holder with high-strength clamping screw

Shaft Ø (mm)			16
Tool design			Right
Length (mm)			150
Min. bore Ø (mm)			17.8
Internal holder for plunge inserts	17670...	Ident. No.	018
Clamping screw for 2-cutter indexable insert	17670...	Ident. No.	008

Prod. Gr. 159



Boring bar



ORION® Recessing set circlips

For internal and external recessing, for universal use up to 1300 N/mm²

Application:

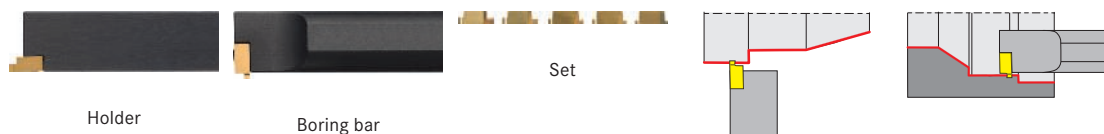
For internal and external plunging in steel (stainless steel), NF metal, cast and (special alloy) material groups in single part and series production.

Advantage:

- Universal use; for internal and external plunging
- Precision-ground plunge insert for long service life and precise plunging

Execution:

- External blade holder with right-hand shank 16 x 16, right boring bar with diameter of 16 (for min. bores of > 17.8 mm) and 5 x 2 plunge inserts no. 17670002-006



17670...

Ident. No.

001

Prod. Gr. 159

ORION® Cutting insert, 2-way cutter

For internal and external recessing, for universal use up to 1300 N/mm²

Application:

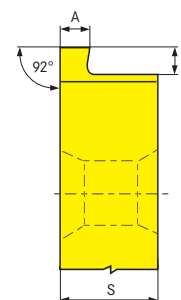
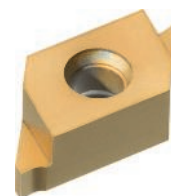
For internal and external plunging in steel (stainless steel), NF metal, cast and (special alloy) material groups in single part and series production.

Advantage:

- Universal use; for internal and external plunging
- Precision-ground plunge insert for long service life and precise plunging

Execution:

- Precision-ground plunge insert with two cutters, TiN coating



				Carbide type	OHC7620
Material to be processed					Steel Stainless steel Non-ferrous metal Special alloy
Vc in steel				●	80-200 m/min
Vc in stainless steel				●	80-120 m/min
Vc in non-ferrous metals				●	150-250 m/min
Vc in cast iron				●	80-150 m/min
Vc in special alloys				●	60-80 m/min
Nominal dimension of slot width (mm)	A (mm)	T (mm)	S (mm)	17670... Ident. No.	
1.1	1.2	1.2	4	002	●
1.3	1.4	1.2	4	003	●
1.6	1.7	1.5	4	004	●
1.85	1.95	1.8	4	005	●
2.15	2.25	2.0	4	006	●

Prod. Gr. 159

ORION® Cutting insert set, 2-way cutter

For internal and external recessing, for universal use up to 1300 N/mm²

Application:

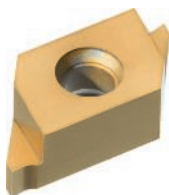
For internal and external plunging in steel (stainless steel), NF metal, cast and (special alloy) material groups in single part and series production.

Advantage:

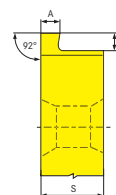
- Universal use; for internal and external plunging
- Precision-ground plunge insert for long service life and precise plunging

Execution:

- Precision-ground plunge insert with 2 cutters, TiN-coated, two in each plunge width of 1.1/1.3/1.6/1.85/2.15



Set



17670...

Ident. No.

007

Prod. Gr. 159



cutting system with triple-cutter cutting insert

For demanding serial users

**Application:**

For grooving (circlips and grooves).

- Cutting insert precision-ground for maximum requirements around precision
- Wide assortment of cutting widths
- High-performance substrate for universal application in a wide range of materials
- Precise insert seating for high-precision lathe operations
- High-strength carrier material ensures long service life of carriers

ORION® Blade holders for plunge inserts

For cutting circlip grooves

Application:

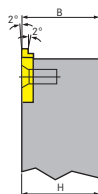
For external plunging for grooves and locking rings.

Advantage:

- High-quality, hard-wearing steel holder
- Precision-machined plate seat

Execution:

- Precision-machined steel holder, burnished and hardened



		!!Accessoires!! (cutter indexable insert)	Blade holders for plunge inserts		Clamping screw for 3-
		Tool design	Right	Left	
B (mm)	H (mm)	B (mm)	17670... Ident. No.	17670... Ident. No.	17670... Ident. No.
10	10	10.2	010 ●	110 ○	126 ●
12	12	12.2	012 ●	112 ●	126 ●
16	16	16.2	016 ●	116 ●	126 ●
20	20	20.2	020 ●	120 ●	126 ●
25	25	25.2	025 ●	125 ●	126 ●

Prod. Gr. 159

ORION® Plunge insert, 3-way cutter

For external recessing of grooves and circlips, for universal use up to 1300 N/mm²

Application:

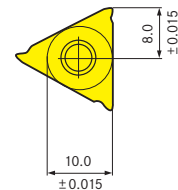
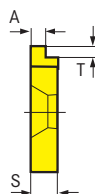
For external plunging for grooves and locking rings in steel, (stainless steel), cast, NF metal and (special alloy) material groups up to a strength of 1300 N/mm² in single part and series production.

Execution:

- Precision-ground plunge insert with three cutters, TiN coating

Advantage:

- Precision-ground cutting geometry with high-quality surface finish for universal use and long service life



Machining direction					Right	Left
Surface					TiN	TiN
Vc in steel ●					70-200 m/min	70-200 m/min
Vc in stainless steel ●					30-100 m/min	30-100 m/min
Vc in non-ferrous metals ●					200-800 m/min	200-800 m/min
Vc in cast iron ●					70-140 m/min	70-140 m/min
Vc in special alloys ●					20-70 m/min	20-70 m/min
Nominal dimension of slot width (mm)	A (mm)	T (mm)	S (mm)	f min./max.	17670... Ident. No.	17670... Ident. No.
0.5	0.58	0.8	3	0-0.08 mm/U	130 ●	150 ●
0.7	0.78	0.8	3	0-0.08 mm/U	131 ●	151 ●
0.8	0.88	1	3	0-0.08 mm/U	132 ●	152 ●
0.9	0.98	1	3	0-0.08 mm/U	133 ●	153 ●
1.1	1.2	1.2	3	0-0.08 mm/U	134 ●	154 ●
1.3	1.4	1.4	3	0-0.08 mm/U	135 ●	155 ●
1.6	1.7	1.7	3	0-0.08 mm/U	136 ●	156 ●
1.85	1.95	1.95	3	0-0.08 mm/U	137 ●	157 ●
2.15	2.25	2.25	3	0-0.08 mm/U	138 ●	158 ●
2.65	2.75	2.75	3	0-0.08 mm/U	139 ●	159 ●
3.15	3.25	3.25	4	0-0.08 mm/U	140 ●	160 ●

Prod. Gr. 159

ORION® Plunge insert set, 3-way cutter

For external recessing of grooves and circlips, for universal use up to 1300 N/mm²

Application:

For external plunging for grooves and locking rings in steel, (stainless steel), cast, NF metal and (special alloy) material groups up to a strength of 1300 N/mm² in single part and series production.

Advantage:

- Precision-ground cutting geometry with high-quality surface finish, for universal use and long service life
- TiN coating for longer service life

Execution:

- Precision-ground plunge insert with three cutters and TiN coating



Composition of set		1 plunge insert of each of the following sizes: A 0.58; 0.78; 0.88; 0.98; 1.20; 1.40; 1.70; 1.95; 2.25; 2.75	
	Machining direction		
17670...	Right	Ident. No.	030 ●
17670...	Left	Ident. No.	031 ●

Prod. Gr. 159



Cutting system with single-cutter cutting insert

For demanding serial users



LM35



LR127



LH15C

Application:

For grooving, tapping and copy turning.

- Wide range of holders and cutting inserts for numerous applications
- Wide range of chipping geometries ensure reliable working
- Precise insert seating for high-precision lathe operations
- High-strength carrier material ensures long service life of carriers



Holder for cutting blades

For holding recessing blade no. 17702

Application:

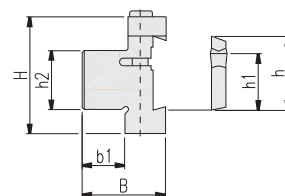
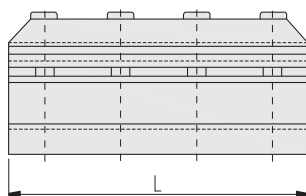
For holding plunge blade no. 17702.

Advantage:

- High-quality, hard-wearing steel holder with high-strength clamping screws

Execution:

- Precision-machined steel holder, burnished and hardened



Suitable for grooving tool insert size	ISO name	L (mm)	H (mm)	b1 (mm)	h2=h1 (mm)	B (mm)	17701... Ident. No.
311 411	16:26	75	40	16	16	33	016 ●
311 411	20:26	90	40	20	20	36	020 ●
315 415 515	20:32	110	50	20	20	36	120 ●
315 415 515	25:32	110	50	25	25	36	125 ●
315 415 515 615	32:32	120	64	32	32	49	132 ○
319	20:42	120	62	20	20	36	220 ○

Prod. Gr. 181



KLK cutting blade holder

For holding cutting inserts no. 17710-17717

Application:

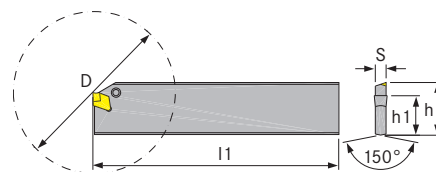
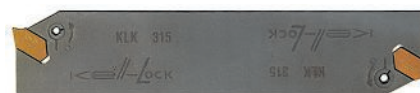
For cutting off and plunging with cutting inserts with no. 17710-17717.

Advantage:

- High-quality, hard-wearing steel holder with high-strength clamping element
- Precision-machined plate seat

Execution:

- Precision-machined steel holder, burnished and hardened



S (mm)	Grooving insert size	h1 (mm)	h (mm)	l1 (mm)	Max. Ø (mm)	17702... Ident. No.	
3.1	311	21.4	26	110	80	311	●
3.1	315	25	32	150	100	315	●
3.1	319	37	42	190	130	319	●
4.1	411	21.4	26	110	80	411	●
4.1	415	25	32	150	100	415	●
5.1	515	25	32	150	120	515	●
6.5	615	25	32	150	120	620	○

Prod. Gr. 181

KELL-LOCK KLH cutting tool holder with clamping element

For holding cutting inserts no. 17710-17717

Application:

For cutting off and plunging with cutting inserts with no. 17710-17717.

Execution:

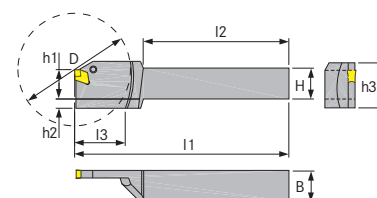
- Precision-machined steel holder, burnished and hardened

Advantage:

- High-quality, hard-wearing steel holder with high-strength clamping element
- Precision-machined plate seat



Right-hand version



Left-hand version

S (mm)	H=h1 (mm)	B (mm)	h2 (mm)	h3 (mm)	l1 (mm)	l2 (mm)	Tool design D max. (mm)	Right		Left	
								17703... Ident. No.		17704... Ident. No.	
3.1	20	20	12	36	130	90	55	313	●	313	●
3.1	25	25	7	36	170	120	72	317	●	317	○
4.1	20	20	12	36	130	90	55	413	●	413	○
4.1	25	25	7	36	170	120	72	417	●	-	-
5.1	25	25	7	36	170	120	72	517	○	-	-

Prod. Gr. 181

KELL-LOCK KLSH cutting tool holder with clamping element

for holding cutting inserts no. 17710-17717

Application:

For cutting off and plunging with cutting inserts with no. 17710-17717.

Execution:

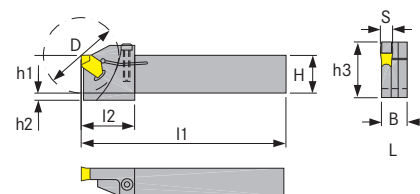
- Precision-machined steel holder, burnished and hardened

Advantage:

- High-quality, hard-wearing steel holder with high-strength clamping element
- Precision-machined plate seat



Left-hand version



Left-hand version

S (mm)	H=h1 (mm)	B (mm)	h2 (mm)	h3 (mm)	l1 (mm)	l2 (mm)	Tool design D max. (mm)	Right		Left	
								17706... Ident. No.		17707... Ident. No.	
2.2	10	10	10	24	110	26	30	210	●	210	○
2.2	12	10	8	24	110	33	44	212	●	212	●
2.2	16	10	4	24	110	33	44	216	●	216	●
2.2	20	10	0	24	110	33	44	220	●	220	○
3.1	12	10	12	28	110	33	44	312	●	312	○
3.1	16	10	8	28	110	33	44	316	●	316	○

Prod. Gr. 181



KL-N neutral cutting inserts

For recessing and cutting off, for cutting tool holder 17702-17707

Application:

No. 17710: For plunging with a neutral geometry in single part and series production.

No. 17713-17715: For parting off with neutral geometry in individual part and series production.

Execution:

- **No. 17710:** Precision-sintered cutting insert with neutral geometry
- **No. 17713-17715:** precision-sintered cutting insert, neutral geometry



No. 17713



No. 17715



No. 17710 022, 17710 032, 17710 042, 17710 052, 17710 072
LM35



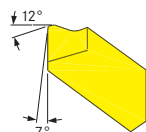
No. 17710 030, 17710 050, 17710 063-17710 066, 17710 074
LP36/LM45C



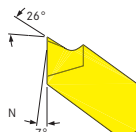
No. 17710 034, 17710 044
LR127



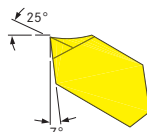
No. 17710 068
LH15C



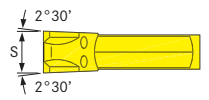
No. 17710



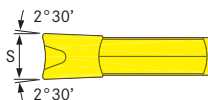
No. 17713



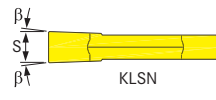
No. 17715



No. 17710
Carbide cutting inserts,
version KLN (N = neutral)



No. 17713
Carbide cutting inserts,
version KLAN (N = neutral)



No. 17715
HSS-TiN cutting inserts
KLSN (N = neutral)

Carbide type						LM35		LP36		LR127		LM 45C		LH15C		LH 10		HSS	
Material to be processed						Steel Stain- less steel		Brass Bronze		Stainless steel Cast metal		Steel Stain- less steel Cast metal		Cast metal		Aluminium		Copper Plastic	
Surface						TiCN/TiN		Uncoated		Ceramic coating		TiAlN		TiAlN		Special coating for aluminium		TiN	
Vc in steel ●						50-180 m/ min						40-200 m/ min							
Vc in stainless steel ●						60-100 m/ min				60-100 m/ min		40-80 m/min							
Vc in non-ferrous metals ●								100-200 m/ min								200-600 m/ min		50-300 m/ min	
Vc in cast iron ●										100-200 m/ min		80-130 m/ min		100-200 m/ min					
ISO name	S (mm)	K° (Degree)	β° (Degree)	Tol. S	f min./ max.	17710... Ident. No.		17710... Ident. No.		17710... Ident. No.		17710... Ident. No.		17710... Ident. No.		17713... Ident. No.		17715... Ident. No.	
KL N-2	2.2	0	-	-0.1 mm	0.05- 0.40 mm/U	022	●	-	-	-	-	063	●	-	-	-	-	-	-
KL N-3	3.1	0	-	-0.1 mm	0.05- 0.40 mm/U	032	●	030	●	034	●	064	●	068	○	-	-	-	-
KL N-4	4.1	0	-	-0.1 mm	0.05- 0.40 mm/U	042	●	-	-	044	●	065	●	-	-	-	-	-	-
KL N-5	5.1	0	-	-0.1 mm	0.05- 0.40 mm/U	052	●	050	○	-	-	066	○	-	-	-	-	-	-
KL N-6	6.5	0	-	-0.1 mm	0.05- 0.40 mm/U	072	●	074	○	-	-	-	-	-	-	-	-	-	-
KLAN 3	3.1	0	-	-0.1 mm	0.05- 0.40 mm/U	-	-	-	-	-	-	-	-	-	-	036	●	-	-
KLSN 2	2.2	0	2	-0.1 mm	0.05- 0.40 mm/U	-	-	-	-	-	-	-	-	-	-	-	-	020	●
KLSN 3	3.1	0	2.3	-0.1 mm	0.05- 0.40 mm/U	-	-	-	-	-	-	-	-	-	-	-	-	030	○

Prod. Gr. 181



KL-R right-hand cutting inserts

For cutting off, for cutting tool holder no. 17702-17707

Application:

For parting off with right-hand geometry in individual part and series production.

Execution:

- precision-sintered cutting insert, right-hand geometry



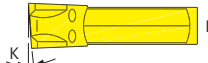
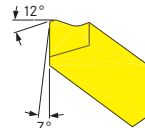
Ident. No. 020, 030, 040, 073-074
LP36/LM45C



Ident. No. 022, 032, 042
LM35



Ident. No. 034, 044
LR127



Carbide cutting inserts,
version KLR (R = right)

Carbide type					LP36		LM35		LR127		LM 45C	
Material to be processed					Brass Bronze		Steel Stainless steel		Stainless steel Cast metal		Steel Stainless steel Cast metal	
Surface					Uncoated		TiCN/TiN		Ceramic coating		TiAlN	
Vc in steel					50-180 m/min		60-100 m/min		60-100 m/min		40-200 m/min	
Vc in stainless steel					100-200 m/min						40-80 m/min	
Vc in non-ferrous metals												
Vc in cast iron									100-200 m/min		80-130 m/min	
ISO name	S (mm)	K° (Degree)	Tol. S	f min./max.	17711... Ident. No.		17711... Ident. No.		17711... Ident. No.		17711... Ident. No.	
KL R-2	2.2	4	-0.1 mm	0.05-0.40 mm/U	020	●	022	●	-	-	073	●
KL R-3	3.1	6	-0.1 mm	0.05-0.40 mm/U	030	●	032	●	034	●	074	●
KL R-4	4.1	6	-0.1 mm	0.05-0.40 mm/U	040	●	042	●	044	○	-	-

Prod. Gr. 181

KEL-LOCK KL-L left cutting inserts

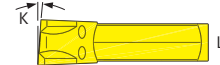
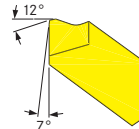
For parting, for cutter holder no. 17702-17707

Application:

For parting off with left-hand geometry in individual part and series production.

Execution:

■ precision-sintered cutting insert, left-hand geometry

Ident. No. 022-032, 042
LM35Ident. No. 034
LR127Ident. No. 040, 074-076
LP36/LM45CCarbide cutting inserts,
version KLL (L = left)

Carbide type					LM35		LR127		LP36		LM 45C	
Material to be processed					Steel Stainless steel		Stainless steel Cast metal		Brass Bronze		Steel Stainless steel Cast metal	
Surface					TiCN/TiN		Ceramic coating		Uncoated		TiAlN	
Vc in steel					50-180 m/min						40-200 m/min	
Vc in stainless steel					60-100 m/min		60-100 m/min				40-80 m/min	
Vc in non-ferrous metals									100-200 m/min			
Vc in cast iron							100-200 m/min				80-130 m/min	
ISO name	S (mm)	K° (Degree)	Tol. S	f min./max.	17712... Ident. No.		17712... Ident. No.		17712... Ident. No.		17712... Ident. No.	
KL L-2	2.2	4	-0.1 mm	0.05-0.40 mm/U	022	●	-	-	-	-	074	○
KL L-3	3.1	6	-0.1 mm	0.05-0.40 mm/U	032	●	034	○	-	-	076	●
KL L-4	4.1	6	-0.1 mm	0.05-0.40 mm/U	042	○	-	-	040	○	-	-

Prod. Gr. 181

KEL-LOCK KLS-R right-hand cutting inserts

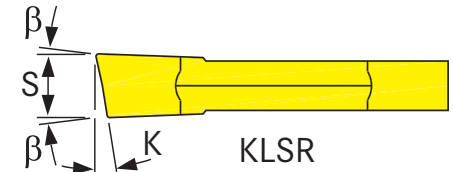
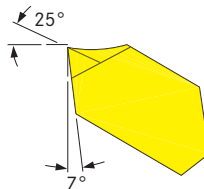
For cutting off, for cutting tool holder no. 17702-17707

Application:

For parting off with right-hand geometry in individual part and series production.

Execution:

■ precision-sintered cutting insert, right-hand geometry



HSS-TiN cutting inserts KLSR (R = right)

Carbide type					HSS	
Material to be processed					Copper Plastic	
Surface					TiN	
Vc in non-ferrous metals					50-300 m/min	
ISO name	S (mm)	K° (Degree)	β° (Degree)	Tol. S	f min./max.	17716... Ident. No.
KLSR 2	2.2	8	2	-0.1 mm	0.05-0.40 mm/U	020 ○
KLSR 3	3.1	8	2.3	-0.1 mm	0.05-0.40 mm/U	030 ○

Prod. Gr. 181

KLS-L left cutting inserts

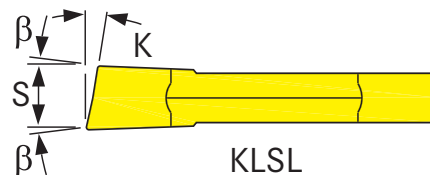
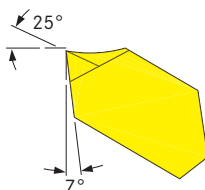
For cutting off, for cutting tool holder no. 17702-17707

Application:

For parting off with left-hand geometry in individual part and series production.

Execution:

- precision-sintered cutting insert, left-hand geometry



HSS-TiN cutting inserts KLSL (L = left)

						Carbide type	HSS
						Material to be processed	Copper Plastic
						Surface	TiN
						Vc in non-ferrous metals	50-300 m/min
ISO name	S (mm)	K° (Degree)	β° (Degree)	Tol. S	f min./max.		
KLSL 2	2.2	8	2	-0.1 mm	0.05-0.40 mm/U	17717... Ident. No.	020 ○
KLSL 3	3.1	8	2.3	-0.1 mm	0.05-0.40 mm/U	030 ○	030 ○

Prod. Gr. 181

Lathe tool holders

Application:

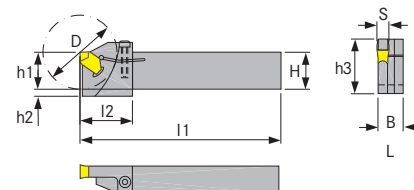
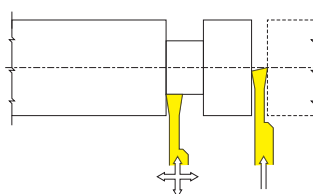
For cutting off, plunging and plain turning with no. 17719.

Execution:

- Precision-machined steel holder, burnished and hardened

Advantage:

- High-quality, hard-wearing steel holder with high-strength clamping element
- Precision-machined plate seat
- Broad plunging spectrum: suitable for both roughing and finishing



Cutting and turning (recessing and turning longitudinally)

								Tool design	Right	Left
S (mm)	Grooving insert size	H=h1 (mm)	B (mm)	h2 (mm)	h3 (mm)	I1 (mm)	I2 (mm)	D max. (mm)	17718... Ident. No.	17718... Ident. No.
3.1	316	16	16	8	28	110	26	32	316 ●	317 ○
3.1	320	20	20	12	36	130	33	40	320 ●	321 ●

Prod. Gr. 181

KLD-N neutral cutting inserts

For recessing and cutting off for cutter holder no. 17718

Application:

For parting off with neutral geometry in individual part and series production.

Execution:

- precision-sintered cutting insert, neutral geometry

					Carbide type	LM35
					Material to be processed	Steel Stainless steel
					Surface	TiCN/TiN
					Vc in steel	50-180 m/min
					Vc in stainless steel	60-100 m/min
ISO name	S (mm)	K° (Degree)	Tol. S	f min./max.		
KLDN 3	3.1	0	-0.1 mm	0.05-0.40 mm/U	17719... Ident. No.	032 ●



LP32

Prod. Gr. 181

ORION HSSE lathe chisel, similar to DIN 4952, square (DIN Similar to 4952)

For longitudinal and face planing, external, for universal use up to 1300 N/mm²

Application:

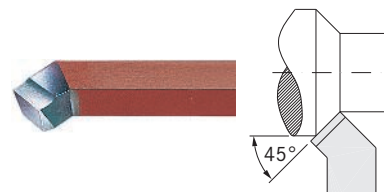
For external longitudinal turning and face turning for the material groups of steel, (stainless steel), cast iron, non-ferrous metals and (special alloys) up to a strength of 1300 N/mm².

Execution:

- HSSE butt-welded design, with varnished and square shank

Advantage:

- wear-resistant cutting material and high-quality grinding ensure a long service life



Shank width (mm)	10	12	16	20
Shaft height (mm)	10	12	16	20
Length (mm)	100	110	140	160
17068...	Ident. No.	130	160	190
		●	●	●

Prod. Gr. 159

ORION® HSSE corner lathe chisel, curved, similar to DIN 4965, square (DIN 4965)

For corner lathing, external, for universal use up to 1300 N/mm²

Application:

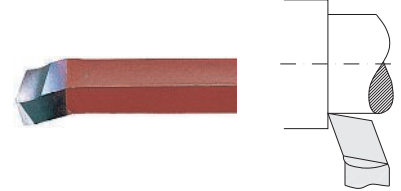
For external longitudinal turning and facing (cutting corners) in the material groups steel, (stainless steel), cast materials, non-ferrous metals and special alloys up to a strength of 1300 N/mm².

Execution:

- Butt-welded version in HSSE with painted, square shaft

Advantage:

- Wear-resistant cutting material and high-quality ground finish for a long service life



Shank width (mm)	10	12	16	20
Shaft height (mm)	10	12	16	20
Length (mm)	100	110	140	160
17075...	Ident. No.	110	121	130
		●	●	●

Prod. Gr. 159

ORION® HSSE side lathe chisel, offset, similar to DIN 4960, square (DIN Similar to 4960)

For longitudinal lathing, external, for universal use up to 1300 N/mm²

Application:

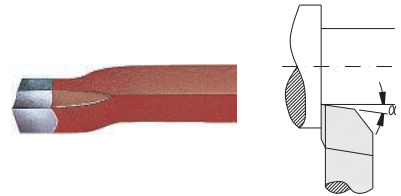
For external longitudinal turning in the material groups steel, stainless steel, cast materials, non-ferrous metals and special alloys up to a strength of 1300 N/mm².

Execution:

- Butt-welded version in HSSE with painted and square shaft

Advantage:

- Wear-resistant cutting material and high-quality ground finish for a long service life



Shank width (mm)	10	12	16	20
Shaft height (mm)	10	12	16	20
Length (mm)	100	110	140	160
17081...	Ident. No.	130	160	190
		●	●	●

Prod. Gr. 159

ORION® HSSE thread cutting chisel 60°, rectangular

For turning metric male threads, for universal application up to 1300 N/mm²

Application:

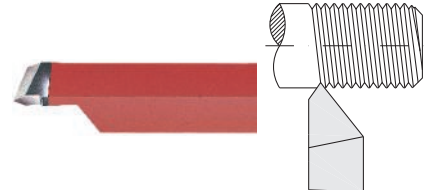
For cutting external, 60° threads in the material groups steel, stainless steel, cast materials, non-ferrous metals and special alloys up to a strength of 1300 N/mm².

Execution:

- Butt-welded version in HSSE with painted shaft

Advantage:

- Wear-resistant cutting material and high-quality ground finish for a long service life



Shank width (mm)	16	20	12	16	20
Shaft height (mm)	10	12	12	16	20
Length (mm)	125	140	110	140	160
Width of cutting edge (mm)	4	4	4	5	6
Shank type	Rectangular	Rectangular	Square	Square	Square
17093...	Ident. No.	210	220	270	280
		●	●	●	●

Prod. Gr. 159

ORION® HSSE cutting-off lathe tool, similar to DIN 4961, rectangular (DIN Similar to 4961)

For external cutting off, for universal use up to 1300 N/mm²

Application:

For external parting off in steel, (stainless steel), cast iron, non-ferrous metals and (special alloys) material groups up to a strength of 1300 N/mm².

Execution:

- butt-welded design with varnished and rectangular shank

Advantage:

- wear-resistant cutting material and high-quality grinding ensure a long service life



Shank width (mm)	16	20
Shaft height (mm)	10	12
Length (mm)	125	140
Recessing width (mm)	3	4
Plunge depth (mm)	12	16
17084...	Ident. No.	160
		●

Prod. Gr. 159

ORION® HSSE lathe chisel, similar to DIN 4953, square

For internal longitudinal lathing, for universal use up to 1300 N/mm²

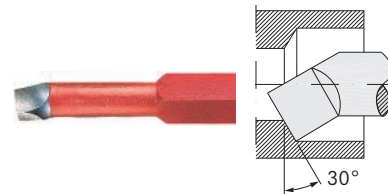
Application:

For internal longitudinal turning in steel, (stainless steel), cast iron, non-ferrous metals and (special alloys) material groups up to a strength of 1300 N/mm².

- **Ident. No. 340–430:** butt-welded design with varnished and round shank

Advantage:

- wear-resistant cutting material and high-quality grinding ensure a long service life



Execution:

- **Ident. No. 130–250:** butt-welded design with varnished and square shank

Shaft Ø (mm)		-	-	-	-	8	10	12	16	
Shank width (mm)		8	10	12	16	20	-	-	-	
Shank height (mm)		8	10	12	16	20	-	-	-	
Length (mm)		140	160	180	180	220	140	160	180	210
Min. bore Ø (mm)		14	18	21	27	34	14	18	21	27
17087...	Ident. No.	130	160	190	220	250	340	370	400	430
		●	●	●	●	●	●	●	●	●

Prod. Gr. 159

ORION® HSSE internal lathe chisel, similar to DIN 4954

For longitudinal turning, for universal use up to 1300 N/mm²

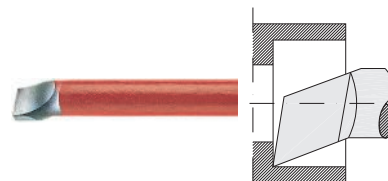
Application:

For internal longitudinal turning in steel, (stainless steel), cast iron, non-ferrous metals and (special alloys) material groups up to a strength of 1300 N/mm².

- **Ident. No. 340–460:** butt-welded design with varnished and round shank

Advantage:

- wear-resistant cutting material and high-quality grinding ensure a long service life



Execution:

- **Ident. No. 130–250:** precision-ground, butt-welded design with varnished and square shank

Shaft Ø (mm)		-	-	-	-	-	8	10	12	16	20
Shank width (mm)		8	10	12	16	20	-	-	-	-	-
Shank height (mm)		8	10	12	16	20	-	-	-	-	-
Length (mm)		140	160	180	180	220	140	160	180	210	250
Min. bore Ø (mm)		14	18	21	27	34	14	18	21	27	34
17089...	Ident. No.	130	160	190	220	250	340	370	400	430	460

Prod. Gr. 159

ORION® HSSE recessing lathe chisel, square (DIN Similar to 4963)

For internal recessing, for universal use up to 1300 N/mm²

Application:

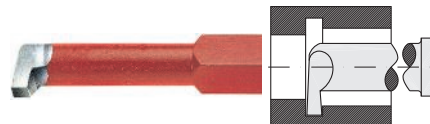
For internal grooving in steel, (stainless steel), cast iron, non-ferrous metals and (special alloys) material groups up to a strength of 1300 N/mm².

Execution:

- butt-welded design with varnished and square shank

Advantage:

- wear-resistant cutting material and high-quality grinding ensure a long service life



Shank width (mm)		8	10	12	16	20
Shaft height (mm)		8	10	12	16	20
Length (mm)		140	160	180	180	220
Recessing width (mm)		2	3	3	3	4
Max. turning depth (mm)		4	6	8	8	8
17091...	Ident. No.	220	230	260	290	320

Prod. Gr. 159

ORION® HSSE recessing lathe chisel, round (DIN Similar to 4963)

For internal recessing, for universal use up to 1300 N/mm²

Application:

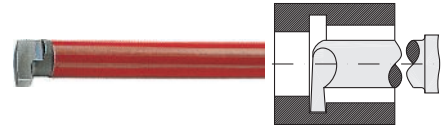
For internal grooving in steel, (stainless steel), cast iron, non-ferrous metals and (special alloys) material groups up to a strength of 1300 N/mm².

Execution:

- butt-welded design with varnished and round shank

Advantage:

- wear-resistant cutting material and high-quality grinding ensure a long service life



Shaft Ø (mm)		8	10	12	16	20
Length (mm)		140	160	180	220	250
Recessing width (mm)		2	3	3	4	5
Max. turning depth (mm)		4	6	8	10	14
17092...	Ident. No.	220	230	260	290	320
		●	●	●	●	●

Prod. Gr. 159

ORION® Thread turning tool, 60°, square

For internal thread cutting of metric male threads, for universal use up to 1300 N/mm²

Application:

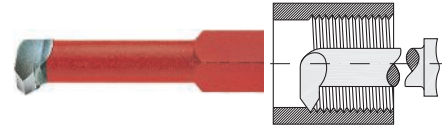
For cutting internal, 60° threads in the material groups steel, stainless steel, cast materials, non-ferrous metals and special alloys up to a strength of 1300 N/mm².

Execution:

- Butt-welded version with painted, round shaft

Advantage:

- Wear-resistant cutting material and high-quality ground finish for a long service life



Shank width (mm)		8	10	12	16	20
Shaft height (mm)		8	10	12	16	20
Length (mm)		140	160	180	220	250
Width of cutting edge (mm)		3.5	4	5	6	8
17095...	Ident. No.	220	230	260	290	320

Prod. Gr. 159

ORION® Carbide-tipped recessing lathe chisel, rectangular (DIN 4981)

for external grooving, for universal use up to 1300 N/mm²

Application:

For external grooving in steel, (stainless steel), cast iron, non-ferrous metals and (special alloys) material groups up to a strength of 1300 N/mm².

- Ident. No. 239, 269, 299, 329, 359: K 10-20 (high level of hardness) with painted and square shank

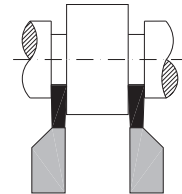
Advantage:

Execution:

- Ident. No. 232, 262, 292, 322, 352: P 20 (medium hardness, ductility) with painted and square shank
- Ident. No. 234, 264, 294, 324, 354: P 25-30 (high ductility) with painted and square shank

- Ident. No. 232, 262, 292, 322, 352: Hard-wearing cutting material and precision-ground cutting geometry

- Ident. No. 234-239, 264-269, 294-299, 324-329, 354-359: wear-resistant cutting material and precision-ground cutting geometry



17638 = left, 17636 = right

Shank width (mm)	Shaft height (mm)	Length (mm)	Cutting edge length (mm)	Recessing width (mm)	Carbide type		
					P 20	P 25/30	K 10/20
					17636... Ident. No.	17636... Ident. No.	17636... Ident. No.
12	8	100	12	3	232	234	239
16	10	110	14	4	262	264	269
20	12	125	16	5	292	294	299
25	16	140	20	6	322	324	329
32	20	170	25	8	352	354	359

Prod. Gr. 159

ORION® HSSE round lathe blank (DIN 4964)

Round cross-section

Application:

For grinding individual tool geometries with round cross-section.

Advantage:

- top-quality and wear-resistant cutting material with high cobalt content
- precision-ground cross section with excellent surface quality

Execution:

- precision-ground and round bar made from HSSE, W9 Co 10 (1.3207), 10% cobalt and 64-67 HRC

Cutting material	Ø (mm)	Length (mm)	Tolerance of outer dimension	17052... Ident. No.	
HSSE	4	63	h14	420	●
HSSE	4	80	h14	430	●
HSSE	4	100	h14	435	●
HSSE	5	100	h14	465	●
HSSE	6	63	h14	480	●
HSSE	6	100	h14	500	●
HSSE	6	160	h14	507	●
HSSE	8	40	h14	510	●
HSSE	8	63	h14	520	●
HSSE	8	80	h14	530	●
HSSE	8	100	h14	540	●
HSSE	8	125	h14	550	●
HSSE	8	160	h14	560	●
HSSE	8	200	h14	565	●
HSSE	10	80	h14	590	●
HSSE	10	100	h14	600	●

Prod. Gr. 159

ORION® HSSE square lathe blank (DIN 4964)

Square cross-section

Application:

For grinding individual tool geometries with square cross section.

Advantage:

- top-quality and wear-resistant cutting material with high cobalt content
- precision-ground cross section with excellent surface quality

Execution:

- precision-ground and square bar made from HSSE, W9 Co 10 (1.3207), 10% cobalt and 64-67 HRC

Cutting material	Width (mm)	Height (mm)	Length (mm)	Tolerance of outer dimension	17054... Ident. No.	
HSSE	4	4	63	h14	421	●
HSSE	4	4	80	h14	431	●
HSSE	5	5	63	h14	451	●
HSSE	5	5	80	h14	461	●
HSSE	5	5	100	h14	465	●
HSSE	6	6	40	h14	470	●
HSSE	6	6	63	h14	480	●
HSSE	6	6	80	h14	490	●
HSSE	6	6	100	h14	500	●
HSSE	6	6	125	h14	510	●
HSSE	6	6	160	h14	520	●
HSSE	8	8	63	h14	540	●
HSSE	8	8	80	h14	550	●
HSSE	8	8	100	h14	560	●
HSSE	8	8	125	h14	570	●
HSSE	8	8	160	h14	580	●
HSSE	8	8	200	h14	585	●
HSSE	10	10	63	h14	590	●
HSSE	10	10	80	h14	600	●
HSSE	10	10	100	h14	610	●

Prod. Gr. 159

ORION® HSSE rectangular lathe blank (DIN 4964)

Rectangular cross-section

Application:

For grinding individual tool geometries with rectangular cross section.

Advantage:

- top-quality and wear-resistant cutting material with high cobalt content
- precision-ground cross section with excellent surface quality

Execution:

- precision-ground and rectangular bar made from HSSE, W9 Co 10 (1.3207), 10% cobalt and 64-67 HRC

Cutting material	Width (mm)	Height (mm)	Length (mm)	Tolerance of outer dimension	17062... Ident. No.		Cutting material	Width (mm)	Height (mm)	Length (mm)	Tolerance of outer dimension	17062... Ident. No.	
HSSE	6	4	80	h14	411	●	HSSE	16	4	160	h14	630	●
HSSE	6	4	100	h14	421	●	HSSE	16	8	100	h14	640	●
HSSE	8	2	100	h14	425	●	HSSE	16	8	160	h14	650	●
HSSE	8	4	100	h14	441	●	HSSE	16	8	200	h14	660	●
HSSE	8	4	160	h14	450	●	HSSE	16	10	100	h14	670	●
HSSE	8	5	100	h14	471	●	HSSE	16	10	160	h14	680	●
HSSE	8	6	200	h14	472	●	HSSE	16	12	200	h14	695	●
HSSE	10	2	100	h14	473	●	HSSE	20	5	100	h14	700	●
HSSE	10	3	100	h14	475	●	HSSE	20	5	160	h14	710	●
HSSE	10	4	100	h14	476	●	HSSE	20	5	200	h14	720	●
HSSE	10	4	160	h14	477	●	HSSE	20	8	200	h14	725	●
HSSE	10	4	200	h14	478	●	HSSE	20	10	100	h14	730	●
HSSE	10	5	100	h14	491	●	HSSE	20	10	160	h14	740	●
HSSE	10	5	160	h14	501	●	HSSE	20	10	200	h14	750	●
HSSE	10	5	200	h14	511	●	HSSE	20	12	160	h14	770	●
HSSE	10	6	100	h14	521	●	HSSE	20	12	200	h14	780	●
HSSE	10	6	160	h14	531	●	HSSE	25	6	100	h14	800	●
HSSE	10	6	200	h14	540	●	HSSE	25	6	160	h14	810	●
HSSE	12	6	100	h14	551	●	HSSE	25	6	200	h14	820	●
HSSE	12	6	160	h14	560	●	HSSE	25	12	200	h14	840	●
HSSE	12	6	200	h14	570	●	HSSE	25	16	200	h14	870	●
HSSE	12	8	100	h14	580	●	HSSE	32	8	100	h14	890	●
HSSE	12	8	160	h14	590	●	HSSE	32	8	160	h14	900	●
HSSE	12	8	200	h14	600	●	HSSE	32	8	200	h14	910	●
HSSE	12	10	160	h14	605	●	HSSE	32	16	200	h14	930	●
HSSE	14	6	160	h14	607	●	HSSE	40	10	200	h14	950	●
HSSE	16	4	100	h14	620	●							

Prod. Gr. 159

ORION® HSSE trapezoidal lathe blank (DIN 4964)

Trapezoidal cross-section

Application:

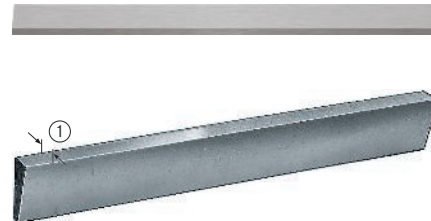
For grinding individual tool geometries with trapezoidal cross-section.

Execution:

- precision-ground and trapezoidal bar made from HSSE, W9 Co 10 (1.3207), 10% cobalt and 64-67 HRC

Advantage:

- top-quality and wear-resistant cutting material with high cobalt content
- precision-ground cross section with excellent surface quality



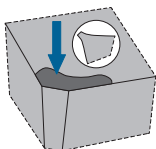
Shape E ① = width

Cutting material	Width (mm)	Height (mm)	Length (mm)	Tolerance of outer dimension	17064... Ident. No.		Cutting material	Width (mm)	Height (mm)	Length (mm)	Tolerance of outer dimension	17064... Ident. No.	
HSSE	2.5	10	80	h12	111	●	HSSE	4	16	160	h12	150	●
HSSE	2.5	10	125	h12	121	●	HSSE	5	20	100	h12	170	●
HSSE	3	12	160	h12	130	●	HSSE	5	20	160	h12	180	●
HSSE	4	16	100	h12	140	●							

Prod. Gr. 159

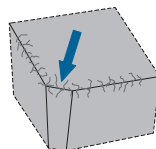


Indexable inserts - Types of wear and solution proposals



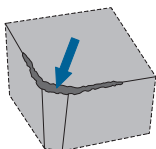
Built-up edges

- Select cutting material types with less friction resistance
- Increase the cutting speed
- Increase the feed
- Do not use water-soluble coolant
- Check coolant use
- Check indexable insert classification
- Check chip breaker selection
- Increase clearance angle
- Reduce chamfer and rounding of cutting edge



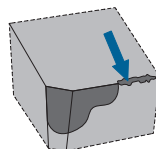
Ridge cracking at the cutting edge

- Select cutting material type less sensitive to temperature fluctuations
- Reduce cutting speed
- Reduce feed
- Reduce cutting depth
- Do not use water-soluble coolant
- Check coolant use
- Check chip breaker selection
- Increase clearance
- Reduce chamfer and rounding of cutting edge



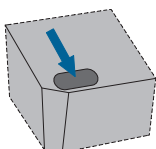
Brittle damage to the cutting edge

- Use tougher cemented carbide type
- Select less intensive cutting conditions
- Apply different cutting edge geometry
- Reduce feed when inserting into opening



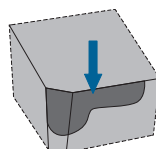
Damage to the cutting edge (outside opening)

- Change feed
- Select tool with different adjustment angle
- Apply different cutting edge geometry (different chip former)
- Use tougher cemented carbide type



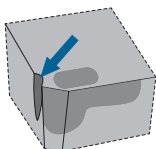
Scour wear

- Select harder cutting material
- Reduce cutting speed
- Reduce feed
- Reduce cutting depth
- Check coolant use
- Check chip breaker selection
- Increase clearance angle



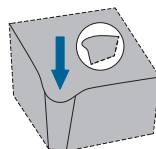
Breaking of cutting edge

- Select tougher cutting material
- Select cutting material type less sensitive to temperature fluctuations
- Reduce feed
- Reduce cutting depth
- Check chip breaker selection
- Increase size of chamfer and rounding of cutting edge
- Select machine with higher performance and rigidity



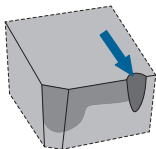
Oxidation gouging on secondary cutting edge

- Apply coated or wear-resistant cemented carbide types, if possible apply coated indexable inserts with Al₂O₃ content.
- Apply cooling emulsion or Increase cooling intensity
- Reduce cutting speed



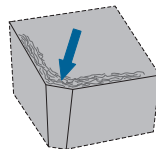
Plastic deformation

- Apply wear-resistant cemented carbide type
- Reduce cutting speed
- Reduce feed
- Apply cooling emulsion or Increase cooling intensity
- Apply indexable inserts with a larger rounding radius of the tip
- Apply indexable inserts with larger tip angle



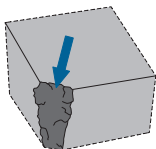
Notch wear on main cutting edge

- Apply coated or wear-resistant cemented carbide type, if possible apply coated indexable inserts with Al₂O₃ content.
- Use tool with a smaller adjustment angle
- Distribute chip unevenly



Fatigue crack along the open space

- Select tougher cemented carbide type
- Change retracting and extending of tool
- Change contact conditions
- Apply different cutting edge geometry or Indexable inserts with a different design of cutting edge
- Change feed



Breaking of cutting edge

- Select tougher cutting material
- Select cutting material type less sensitive to temperature fluctuations
- Reduce feed
- Reduce cutting depth
- Check chip breaker selection
- Increase size of chamfer and rounding of cutting edge
- Select machine with higher performance and rigidity



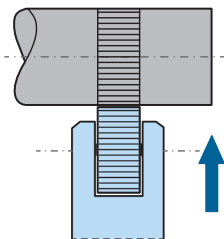
Knurling - process

The knurling process is used for the defined production of surfaces. In principle, a knurl serves as a power transmission element on components that are operated manually. Through the knurling process, the surface on the component is raised and higher forces can be transmitted. the process is used in all sectors from the watchmaking industry to mechanical engineering. Knurling can be applied to a wide range of materials.

A distinction is made between two basic knurling processes:

Knurl pressing (forming) is a chipless process in which the material begins to flow

- Recessed knurls (radial/tangential)
- Axial knurls (axial machining direction)



advantages of knurl pressing:

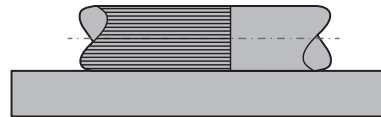
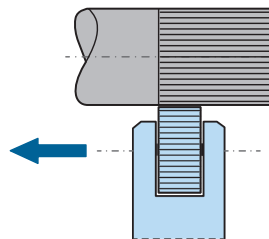
- cost-effective production of a knurl possible
- high stability as the fibre structure is not interrupted
- clean blank surface

disadvantages of knurl pressing:

- Enlargement of the diameter
- The final diameter must be calculated
- High force exertion resulting in high stress on machine and workpiece
- Risk of flaking of the material
- Limitation of the components to be manufactured (very thin-walled components cannot be machined)

Knurl cutting is a cutting process

- Axial knurls (axial machining direction)



Advantages of knurl cutting:

- small structure of workpiece diameter as material is cut
- low surface compaction
- high precision and surface quality of the knurl
- machining of difficult-to-cut materials (VA steels)
- machining of plastics (flat knurl preferred)
- stress reduction on the machine guides (low radial pressures)
- use in CNC lathes (series production, process safety)
- VDI direct intake (VDI 16 to VDI 50)
- knurling of thin-walled tubing without deformation of the workpiece
- diameter tolerances of up to ± 0.05 mm achievable
- use as left-, right-hand and conventional tool: No tool available on the market offers these application options. Thanks to the patented adjustment mechanism, it is possible to transform a right-hand tool into a left-hand tool and vice versa, without dismantling the carrier. The carrier can be moved 25 mm in relation to the clamping shaft and fixated in any position. These tools can therefore be used on CNC and conventional machines at will.

Disadvantages of knurl cutting:

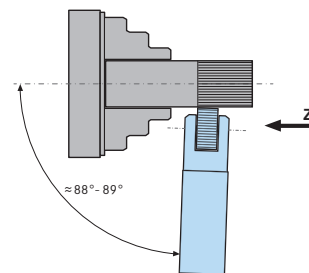
- limited application range: only knurl profiles RAA and RGE are producible; only cylindrical workpieces can be machined in the axial machining direction
- a recess is required to place the tool in the centre area of the workpiece.
- Time-consuming machining resulting in high cost
- Lower stability. Fibre structure is interrupted and notching effect produced
- Precise tool setting and fine-tuning as well as precise preparation of the workpiece are also required



Procedures and process parameters, knurl forming

Key steps

1. Tool setting - tip height
2. Clearance angle: max. 1° (only in the case of axial machining and wide projection lengths)
3. Infeed depth = pitch (for example 1 mm pitch requires 1 mm infeed in $\varnothing$)
4. Repeated insertion into profile possible
5. Knurling depth only sufficiently deep to produce sharp knurl
6. After a dwell time of 3-10 rotations, the workpiece is knurled under longitudinal feed
7. If the dwell time is too long, flaking may occur
8. Compliance with X-zero position for tangential tools



Reference values for process parameters

Material *	Workpiece diameter * (mm)	Speed n (rpm) *	Radial feed f (mm/r) *	Axial feed f (mm/r) *	Infeed depth (mm)
Up to a maximum of RM = 1000 N/mm ²	10	650	0.08-0.1	0.08-0.1	p = $\varnothing$
Up to a maximum of RM = 1000 N/mm ²	50	160	0.08-0.1	0.08-0.1	p = $\varnothing$
Up to a maximum of RM = 1000 N/mm ²	100	100	0.08-0.1	0.08-0.1	p = $\varnothing$

Note: The specified values (initial values) are recommendations and must be optimized in the application.

* The professional quality as well as the wear of the knurling wheels depend on:

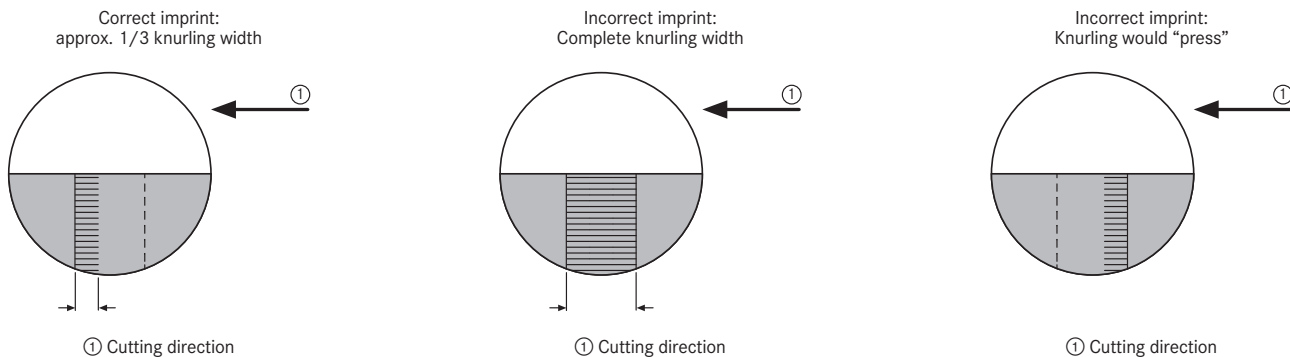
- The combination of workpiece diameter and speed
- The feed
- The material
- The application (e.g. clamping situation - one- or two-sided)



Procedures and process parameters, knurl cutting

Key steps

1. Tool setting - tip height
2. Align knurling wheels: Wheel must taper slightly on the spindle-side edge (approx. 1/3 of the wheel width)
3. Clearance angle: 1° - max. 3°
4. Infeed depth = pitch (for example 1 mm partition requires 1 mm infeed in Ø)
5. Knurling depth only sufficiently deep to produce sharp knurl
6. After a dwell time of 3-10 rotations, the workpiece is knurled under longitudinal feed



Reference values for process parameters

Material *	Workpiece diameter (mm)	Speed n (rpm) *	Radial feed f (mm/r) *	Axial feed f (mm/r) *	Infeed depth (mm)
Up to a maximum of RM = 1000 N/mm ²	10	1000	0.08-0.1	0.1-0.15	p = Ø
Up to a maximum of RM = 1000 N/mm ²	50	500	0.08-0.1	0.1-0.15	p = Ø
Up to a maximum of RM = 1000 N/mm ²	100	300	0.08-0.1	0.1-0.15	p = Ø

Note: The specified values (initial values) are recommendations and must be optimized in the application.

* The professional quality as well as the wear of the knurling wheels depend on:

- The combination of workpiece diameter and speed
- The feed
- The material
- The application (e.g. clamping situation - one- or two-sided)

Form knurling tool with one knurl (RD1 series, model 131)

For form knurling on lathes and turning machines

Application:

For pressing knurl profiles in accordance with DIN 82 RAA, RBL, RBR, RGE, RGV, (*RKE, *RKV on request) in steel, stainless steel and non-ferrous metals material groups.

Execution:

- hardened steel tool holder, integrated tip height, cemented carbide runner pins, set screw in the shaft for clearance angle collection

Advantage:

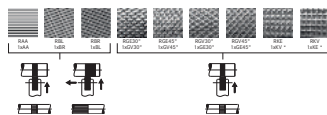
- click-pin design for user-friendly handling
- Easy conversion to a marking tool
- Knurling without plunging also possible
- inexpensive knurl production

Notes:

Top edge of the shaft = tip height!



Ident. No. 012-016



Ident. No. 031



Click-Pin design

Suitable for knurling size	Shank width (mm)	Shaft height (mm)	For min./max. workpiece Ø	Form knurling tool with one knurl (RD1 series, model 131)	knurl holder roller pin
				19003... Ident. No.	19011... Ident. No.
15 x 4 x 4 mm	12	12	3-50 mm	012	623
15 x 4 x 4 mm	16	16	3-50 mm	016	624
20 x 8 x 6 mm	20	20	8-200 mm	031	621

Prod. Gr. 1FP



Form knurling tool with one knurl (RD1 series, model 130)

For form knurling on lathes and turning machines

Application:

For pressing knurl profiles in accordance with DIN 82 RAA, RBL, RBR, RGE, RGV, RKE and RKV in the steel, stainless steel and non-ferrous metals groups.

Execution:

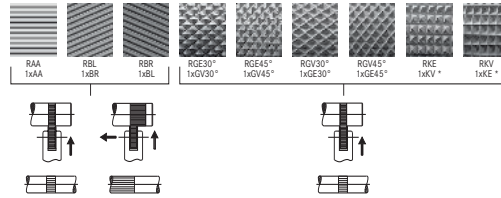
- Hardened steel tool holder, cemented carbide runner pins

Advantage:

- Easy conversion to a marking tool
- Knurling without plunging also possible
- inexpensive knurl production

Notes:

Tip height can be adjusted!



Suitable for knurling size	Shank width (mm)	Shaft height (mm)	For min./max. workpiece Ø	Form knurling tool with one knurl (RD1 series, model 130)		knurl holder roller pin	
				19004... Ident. No.		19011... Ident. No.	
15 x 4 x 4 mm	12	12	3-50 mm	160	●	412	●
15 x 6 x 4 mm	14	14	3-50 mm	161	●	414	●
20 x 6 x 6 mm	14	14	8-200 mm	210	●	614	●
20 x 8 x 6 mm	16	16	8-200 mm	211	●	616	●
20 x 10 x 6 mm	20	20	8-200 mm	220	●	618	●

Prod. Gr. 1FP

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Form knurling tool with two knurls (RD2 series, model 141)

For form knurling on lathes and turning machines

Application:

For knurl forming for knurl profiles in accordance with DIN 82 RAA, RBL30°/45°, RBR30°/45°, RGE 30° and RGE 45° in the steel, stainless steel and non-ferrous metals material groups.

Execution:

- Hardened steel tool holder, integrated tip height, cemented carbide runner pins

Advantage:

- click-pin design for user-friendly handling (only with 20x20 and 25x20 shaft designs)
- modular design enables right-handed and left-handed knurl forming
- Inexpensive knurl production
- Flexible centring and adjustable clearance angle

Notes:

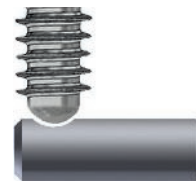
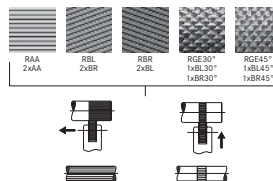
Tip height = top edge of the shaft!



Ident. No. 012-016



Ident. No. 021-025



Click-Pin design

Suitable for knurling size	Shank width (mm)	Shaft height (mm)	For min./max. workpiece Ø	Form knurling tool with two knurls (RD2 series, model 141)		knurl holder roller pin	
				19005... Ident. No.		19011... Ident. No.	
10 x 4 x 4 mm	12	12	3-25 mm	012	•	623	•
15 x 4 x 4 mm	16	16	6-60 mm	016	•	624	•
20 x 8 x 6 mm	20	20	10-110 mm	021	•	621	•
20 x 8 x 6 mm	25	20	10-110 mm	025	•	621	•

Prod. Gr. 1FP

Form knurling tool with two knurls (RD2 series, model 841)

For form knurling on lathes and turning machines

Application:

For knurl forming for knurl profiles in accordance with DIN 82 RAA, RBL30°/45°, RBR30°/45°, RGE 30° and RGE 45° in the steel, stainless steel and non-ferrous metals material groups.

Execution:

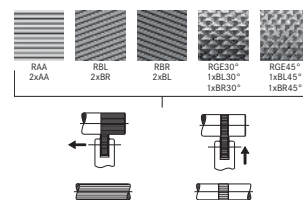
- hardened steel holder, integrated tip height, HSS runner pin

Advantage:

- Available adapter system guarantees high compatibility
- modular design enables right-handed and left-handed knurl press holder
- Inexpensive knurl production
- flexible centring

Notes:

Top edge of the shaft = tip height!



Suitable for knurling size	Shank width (mm)	Shaft height (mm)	For min./max. workpiece Ø	Form knurling tool with two knurls (RD2 series, model 841)		knurl holder roller pin	
				19006... Ident. No.		19011... Ident. No.	
20 x 8 x 6 mm	20	20	10-110 mm	030	•	620	•

Prod. Gr. 1FP

**Adjustable form knurling tool with two knurls (RD2 series, model 161)****For form knurling on lathes and turning machines****Application:**

For knurl forming for knurl profiles in accordance with DIN 82 RAA, RBL30°/45°, RBR30°/45°, RGE 30° and RGE 45° in the steel, stainless steel and non-ferrous metals material groups.

Execution:

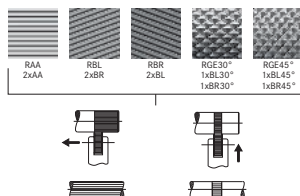
- Hardened steel tool holder, cemented carbide runner pins

Advantage:

- user-friendly setting of the work areas with a synchronised spindle
- reliable machining even with difficult materials thanks to low lateral contact pressure
- High wear resistance and long service life

Notes:

Pay attention to correct adjustment of tip height!



Jaw set for knurling up to collar

						Adjustable form knurling tool with two knurls (RD2 series, model 161)		jaw set for knurl forming		knurl holder roller pin	
Suitable for knurling size	Shank width (mm)	Shaft height (mm)	For min. work-piece Ø (mm)	For max. work-piece Ø (mm)	Min./max. working range	19008... Ident. No.		19008... Ident. No.		19011... Ident. No.	
15 x 4 x 4 mm 10 x 4 x 4 mm	12	12	0	15	0-15 mm	012	●	100	●	712	●
15 x 4 x 4 mm 10 x 4 x 4 mm	16	16	0	15	0-15 mm	016	●	100	●	712	●
20 x 8 x 6 mm 25 x 8 x 6 mm	25	20	0	65	0-65 mm	032	●	102	●	622	●

Prod. Gr. 1FP

**Form knurling tool set****For form knurling on lathes and turning machines****Application:**

For producing knurl cutting profiles in accordance with DIN 82 RAA, RGE 30° and RGE 30° in steel, stainless steel and non-ferrous metals material groups.

Execution:

- RAA, RGE 30°, RGE 45°, per 2 AA units with 0.8/1.0 mm division and per 1 BL 30° division, BR 30° with 0.8/1.0/1.2 mm division. Knurling tool (see Figure 19004), shank dimensions 16 x 16 mm and 135 mm in length, for knurling wheels 20 x

8 x 6 mm + HSS knurling wheel 1 x AA, division 0.8 mm. Knurling tool (see Figure 19006), shank dimensions 20 x 20 mm and 130 mm in length, for knurling wheels 20 x 8 x 6 mm + HSS knurling wheels, 2 AA units each with 0.8/1.0 mm division for BL 30°, BR 30° with 0.8/1.0/1.2 mm division. 3 spare running pins

Advantage:

- Compact set for producing a wide range of knurls
- Knurling without plunging also possible
- inexpensive knurl production

19009... Ident. No. 010

Prod. Gr. 1FP

**HSSE-PM precision press knurl with chamfer, type AA (DIN 403) with chamfers****Application:**

For creating knurl profiles in accordance with DIN 82 RAA knurl in steel, stainless steel and NF metal material groups.

Execution:

- hardness: approx. HRC 62-64, teeth milled fine, face sides and hole ground, HSSE PM, 45° chamfer

Advantage:

- High wear resistance
- High hot hardness and compressive strength



Form				AA
Knurling shape created on workpiece (DIN 82)				RAA
Material to be processed				Steel Stainless steel Non-ferrous metal
Vc in steel				25-50 m/min
Vc in stainless steel				15-50 m/min
Vc in non-ferrous metals				25-90 m/min
Ø (mm)	Partition (mm)	Width (mm)	Bore Ø (mm)	19014... Ident. No.
15	0.4	4	4	011
15	0.5	4	4	012
15	0.6	4	4	013
15	0.8	4	4	014
15	1	4	4	015
15	1.2	4	4	016

Form				AA
Knurling shape created on workpiece (DIN 82)				RAA
Material to be processed				Steel Stainless steel Non-ferrous metal
Vc in steel				25-50 m/min
Vc in stainless steel				15-50 m/min
Vc in non-ferrous metals				25-90 m/min
Ø (mm)	Partition (mm)	Width (mm)	Bore Ø (mm)	19014... Ident. No.
15	0.5	6	4	022
15	0.6	6	4	023
15	0.8	6	4	024
15	1	6	4	025
20	0.5	6	6	032
20	0.6	6	6	033



Turning tools \ Knurls, knurling tools

Form				AA	
Knurling shape created on workpiece (DIN 82)				RAA	
Material to be processed				Steel Stainless steel Non-ferrous metal	
Vc in steel ●				25-50 m/min	
Vc in stainless steel ●				15-50 m/min	
Vc in non-ferrous metals ●				25-90 m/min	
Ø (mm)	Partition (mm)	Width (mm)	Bore Ø (mm)	19014... Ident. No.	
20	0.8	6	6	034	●
20	1	6	6	035	●
20	1.2	6	6	036	●
20	0.4	8	6	041	●
20	0.5	8	6	042	●
20	0.6	8	6	043	●
20	0.8	8	6	044	●
20	1	8	6	045	●
20	1.2	8	6	046	●
20	1.5	8	6	047	●
20	2	8	6	049	●
20	0.5	10	6	052	●

Prod. Gr. 1FP



HSSE-PM precision press knurl with chamfer, type BR/BL 30° (DIN 403) with chamfers

Application:

Ident. No. 113-149: For creating knurl press forms in accordance with DIN 82 RBL 30° knurl in steel, stainless steel and NF metal material groups.

Ident. No. 213-249: For creating knurl press forms in accordance with DIN 82 RBR 30° knurl in steel, stainless steel and NF metal material groups.

Execution:

- hardness: approx. HRC 62-64, teeth milled fine, face sides and hole ground, HSSE PM, 45° chamfer

Advantage:

- High wear resistance
- High hot hardness and compressive strength



Ident. No. 113-149



Ident. No. 213-249

Form				BR 30°		BL 30°	
Knurling shape created on workpiece (DIN 82)				RBL 30°		RBR 30°	
Material to be processed				Steel Stainless steel Non-ferrous metal		Steel Stainless steel Non-ferrous metal	
Vc in steel ●				25-50 m/min		25-50 m/min	
Vc in stainless steel ●				15-50 m/min		15-50 m/min	
Vc in non-ferrous metals ●				25-90 m/min		25-90 m/min	
Ø (mm)	Partition (mm)	Width (mm)	Bore Ø (mm)	19014... Ident. No.		19014... Ident. No.	
15	0.6	4	4	113	●	213	●
15	0.8	4	4	114	●	214	●
15	1	4	4	115	●	215	●
15	0.6	6	4	123	●	223	●
15	0.8	6	4	124	●	224	●
15	1	6	4	125	●	225	●
15	1.2	6	4	126	●	226	●
20	1	6	6	135	●	235	●
20	0.5	8	6	142	●	242	●
20	0.6	8	6	143	●	243	●
20	0.8	8	6	144	●	244	●
20	1	8	6	145	●	245	●
20	1.2	8	6	146	●	246	●
20	1.5	8	6	147	●	247	●
20	2	8	6	149	●	249	●

Prod. Gr. 1FP



HSSE-PM precision press knurl with chamfer, type BR/BL45° (DIN 403) with chamfers

Application:

Ident. No. 513–585: For creating knurl press forms in accordance with DIN 82 RBL 45° knurl in steel, stainless steel and non-ferrous metals material groups.

Ident. No. 613–649: For creating knurl press forms in accordance with DIN 82 RBR 45° knurl in steel, stainless steel and non-ferrous metals material groups.

groups.

Execution:

- hardness: approx. HRC 62-64, teeth milled fine, face sides and hole ground, HSSE PM, 45° chamfer

Advantage:

- High wear resistance
- High hot hardness and compressive strength



Ident. No. 513–585

Ident. No. 613–649

Form				BR 45°	BL 45°
Knurling shape created on workpiece (DIN 82)				RBR 45°	RBL 45°
Material to be processed				Steel Stainless steel Non-ferrous metal	Steel Stainless steel Non-ferrous metal
Vc in steel ●				25-50 m/min	25-50 m/min
Vc in stainless steel ●				15-50 m/min	15-50 m/min
Vc in non-ferrous metals ●				25-90 m/min	25-90 m/min
Ø (mm)	Partition (mm)	Width (mm)	Bore Ø (mm)	19014... Ident. No.	19014... Ident. No.
15	0.6	4	4	513	613
15	0.8	4	4	514	614
15	1	4	4	515	615
15	0.6	6	4	523	623
15	0.8	6	4	524	624
15	1	6	4	525	625
15	1.2	6	4	526	626
20	1	6	6	535	635
20	0.5	8	6	542	642
20	0.6	8	6	543	643
20	0.8	8	6	544	644
20	1	8	6	547	645
20	1.2	8	6	549	646
20	1.5	8	6	584	647
20	2	8	6	585	649

Prod. Gr. 1FP



HSSE-PM precision press knurl with chamfer, type GE30°/GE45° (DIN 403) with chamfers

Application:

Ident. No. 312–349: For creating knurl press forms in accordance with DIN 82 RGV knurl, only for recessed knurls in steel, stainless steel and NF metal material groups.

Ident. No. 418–447: For creating knurl press forms in accordance with DIN 82 RGE knurl, only for recessed knurls in steel, stainless steel and NF metal material groups.

Ident. No. 702–707: For creating knurl press forms in accordance with DIN 82 RGV knurl, only for recessed knurls in steel, stainless steel and non-ferrous metals material groups.

Ident. No. 720–723: For creating knurl press forms in accordance with DIN 82 RGE knurl, only for recessed knurls in steel, stainless steel and non-ferrous metals material groups.

Execution:

- hardness: approx. HRC 62-64, teeth milled fine, face sides and hole ground, HSSE PM, 45° chamfer

Advantage:

- High wear resistance
- High hot hardness and compressive strength



Ident. No. 312–349



Ident. No. 418–447

Form				GE 30°	GV 30°	GE 45°	GV 45°
Knurling shape created on workpiece (DIN 82)				RGV	RGE	RGV	RGE
Material to be processed				Steel Stainless steel Non-ferrous metal	Steel Stainless steel Non-ferrous metal	Steel Stainless steel Non-ferrous metal	Steel Stainless steel Non-ferrous metal
Vc in steel ●				25-50 m/min	25-50 m/min	25-50 m/min	25-50 m/min
Vc in stainless steel ●				15-50 m/min	15-50 m/min	15-50 m/min	15-50 m/min
Vc in non-ferrous metals ●				25-90 m/min	25-90 m/min	25-90 m/min	25-90 m/min
Ø (mm)	Partition (mm)	Width (mm)	Bore Ø (mm)	19014... Ident. No.	19014... Ident. No.	19014... Ident. No.	19014... Ident. No.
15	0.5	4	4	312	418	-	-
15	0.6	4	4	313	419	-	-
15	0.8	4	4	314	420	-	-
15	1	4	4	315	421	-	-
15	0.5	6	4	316	422	-	-
15	0.6	6	4	317	423	-	-
15	0.8	6	4	324	424	-	-
15	1	6	4	325	425	-	-
15	0.5	6	6	332	426	-	-
15	0.6	6	6	333	427	-	-
15	0.8	6	6	334	-	-	-

Source: Hahn+Kolb Werkzeuge GmbH

Technical data subject to change.

Availability subject to country specific rules and regulations.

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Form				GE 30°	GV 30°	GE 45°	GV 45°
Knurling shape created on workpiece (DIN 82)				RGV	RGE	RGV	RGE
Material to be processed				Steel Stainless steel Non-ferrous metal	Steel Stainless steel Non-ferrous metal	Steel Stainless steel Non-ferrous metal	Steel Stainless steel Non-ferrous metal
Vc in steel				25-50 m/min	25-50 m/min	25-50 m/min	25-50 m/min
Vc in stainless steel				15-50 m/min	15-50 m/min	15-50 m/min	15-50 m/min
Vc in non-ferrous metals				25-90 m/min	25-90 m/min	25-90 m/min	25-90 m/min
Ø (mm)	Partition (mm)	Width (mm)	Bore Ø (mm)	190 14... Ident. No.	190 14... Ident. No.	190 14... Ident. No.	190 14... Ident. No.
15	0.5	8	6	-	436	-	-
15	0.6	8	6	-	437	-	-
20	1	6	6	335	435	-	-
20	0.5	8	6	342	-	702	720
20	0.6	8	6	343	-	703	721
20	0.8	8	6	344	444	704	722
20	1	8	6	345	445	705	723
20	1.2	8	6	346	446	706	-
20	1.5	8	6	347	447	707	-
20	2	8	6	349	-	-	-
20	0.8	6	6	-	434	-	-

Prod. Gr. 1FP



Technical information on knurl cutting as PDF download
Access the information directly from your mobile phone

Knurling machining is a metal-cutting processing with the following advantages:

- Maximum precision and surface quality
- Allows knurling of thin-walled workpieces without deformation
- Time savings through higher cutting speed and feed
- For universal use in materials
- Low operating forces reduce machine wear

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Knurling wheel Ø	8,9		14,5		21,5	
	VC m/min	s m/min	VC m/min	s m/min	VC m/min	s m/min
Steel 700 N/mm ²	30-35	0,05-0,08	40-45	0,07-0,09	55-60	0,07-0,14
Steel 1000 N/mm ²	20-25	0,04-0,05	30-35	0,06-0,08	40-50	0,06-0,12
VA	20-22	0,04-0,06	28-30	0,06-0,08	32-40	0,06-0,12
Non-ferrous metals	35-70	0,06-0,13	40-80	0,07-0,18	55-120	0,07-0,25
Cast metals	20-22	0,04-0,06	28-30	0,06-0,08	32-40	0,06-0,12

QUICK Knurl cutter holder with one knurl cutter, model LA/FL

For knurl cutting on lathes and turning machines

Application:

For producing knurl cutting profiles in accordance with DIN 82 RAA, RBR 15°, RBL 15°, RBR 30° and RBL 30° in steel, stainless steel, non-ferrous metals and cast iron material groups.

Advantage:

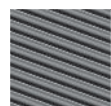
- Compact and robust holder design for high process stability for small components
- User-friendly setting without disassembly
- cemented carbide bushings minimise maintenance costs

Execution:

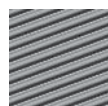
- high-strength steel tool holder for one knurl cutter, with cemented carbide bushings



RAA
1x30° (R/L)



RBR 15°
1x15° R
RBR 30°
1x90°



RBL 15°
1x15° L
RBR 30°
1x90°

Shaft length (mm)	For min. work-piece Ø (mm)	For max. work-piece Ø (mm)	Suitable for knurling wheel Ø (mm)	Min./max. possible division	Shank width (mm)	Shaft height (mm)	Tool design	19100... Ident. No.
88	1.5	12	8.9	0.3-1.0 mm	8	8	Right	508
88	1.5	12	8.9	0.3-1.0 mm	10	10	Right	510
88	1.5	12	8.9	0.3-1.0 mm	12	12	Right	512
88	1.5	12	8.9	0.3-1.0 mm	8	8	Left	514
88	1.5	12	8.9	0.3-1.0 mm	10	10	Left	516
88	1.5	12	8.9	0.3-1.0 mm	12	12	Left	518

Prod. Gr. 192



Knurl cutter holder with two knurl cutters, model LA/KF

For knurl cutting on lathes and turning machines

Application:

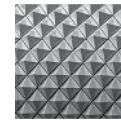
For producing knurl cutting profiles to DIN 82 RGE 45° and RGE 30° in steel, stainless steel, non-ferrous metals and cast iron material groups.

Execution:

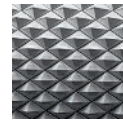
- high-strength steel tool holder for two knurl cutters, with cemented carbide bushings

Advantage:

- Compact and robust holder design for high process stability for small components
- User-friendly setting without disassembly
- cemented carbide bushings minimise maintenance costs



RGE 45°
1x15° R
1x15° L



RGE 30°
2x90°

Shaft length (mm)	For min. work-piece Ø (mm)	For max. work-piece Ø (mm)	Suitable for knurling wheel Ø (mm)	Min./max. possible division	Shank width (mm)	Shaft height (mm)	Tool design	19100... Ident. No.	
83	1.5	12	8.9	0.3-1.0 mm	8	8	Right	528	○
83	1.5	12	8.9	0.3-1.0 mm	10	10	Right	530	○
83	1.5	12	8.9	0.3-1.0 mm	12	12	Right	532	○
83	1.5	12	8.9	0.3-1.0 mm	8	8	Left	534	○
83	1.5	12	8.9	0.3-1.0 mm	10	10	Left	536	○
83	1.5	12	8.9	0.3-1.0 mm	12	12	Left	538	○

Prod. Gr. 192



Knurl cutter holder with one knurl cutter, model A1/FL

For knurl cutting on lathes and turning machines

Application:

Ident. No. 160-180: For producing knurl cutting profiles in accordance with DIN 82 RAA, RBR 15°, RBL 15°, RBR 30° and RBL 30° in steel, stainless steel, non-ferrous metals and cast iron material groups.

Ident. No. 200-210: For producing knurl cutting profiles to DIN 82 RAA in steel, stainless steel, non-ferrous metals and cast iron material groups.

Execution:

- Ident. No. 160-180:** high-strength steel tool holder, interchangeable head system for one knurl cutter, with cemented carbide bushings

- Ident. No. 200-210:** High-strength steel tool holder, interchangeable head system for one knurl cutter

Advantage:

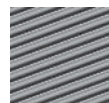
- High flexibility with interchangeable shanks and use as right-hand and left-hand tool on main spindle and counter-spindle
- Clearance-free clamping for high surface quality and service life
- User-friendly setting without disassembly
- Ident. No. 160-180:** cemented carbide bushings minimise maintenance costs



RAA
1x30° (R/L)



RBR 15°
1x15° R
RBR 30°
1x90°



RBL 15°
1x15° L
RBR 30°
1x90°

Shaft length (mm)	For min. work-piece Ø (mm)	For max. work-piece Ø (mm)	Suitable for knurling wheel Ø (mm)	Min./max. possible division	Shank width (mm)	Shaft height (mm)	Tool design	19100... Ident. No.	
80	3	50	14.5	0.4-2.0 mm	16	10	Right Left	160	○
80	3	50	14.5	0.4-2.0 mm	16	12	Right Left	170	○
80	3	50	14.5	0.4-2.0 mm	16	16	Right Left	180	○
110	5	250	21.5	0.4-2.0 mm	25	20	Right Left	200	●
110	5	250	21.5	0.4-2.0 mm	25	25	Right Left	210	○

Prod. Gr. 192



Knurl cutter holder with two knurl cutters, model A1/KF and A2/KF

For knurl cutting on lathes and turning machines

Application:

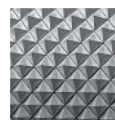
For producing knurl cutting profiles to DIN 82 RGE 45° and RGE 30° in steel, stainless steel, non-ferrous metals and cast iron material groups.

Execution:

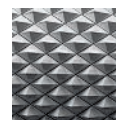
- high-strength steel tool holder, interchangeable head system for two knurl cutters, with cemented carbide bushing

Advantage:

- High flexibility with interchangeable shanks and use as right-hand and left-hand tool on main spindle and counter-spindle
- Clearance-free clamping for high surface quality and service life
- User-friendly setting without disassembly
- cemented carbide bushing ensures low-maintenance work



RGE 45°
1x15° R
1x15° L



RGE 30°
2x90°

Shaft length (mm)	For min. work-piece Ø (mm)	For max. work-piece Ø (mm)	Suitable for knurling wheel Ø (mm)	Min./max. possible division	Shank width (mm)	Shaft height (mm)	Tool design	19100... Ident. No.	
80	3	50	14.5	0.4-2.0 mm	16	10	Right Left	250	○
80	3	50	14.5	0.4-2.0 mm	16	12	Right Left	260	○
80	3	50	14.5	0.4-2.0 mm	16	16	Right Left	270	●
110	5	250	21.5	0.4-2.0 mm	25	20	Right Left	300	●
110	5	250	21.5	0.4-2.0 mm	25	25	Right Left	310	●

Prod. Gr. 192



Knurl cutting tool sets A1 and A2

Application:

For producing knurl cutting profiles to DIN 82 RAA, RGE 45° and RGE 30° in steel, stainless steel, non-ferrous metals and cast iron material groups.

Execution:

- Ident. No. 380:** set comprising: one each of interchangeable FL/KF head, 1 each of shaft 10x16, 12x16, 16x16, with cemented carbide bushings, setting gauge, instructions for use, cutting data and operating key
- Ident. No. 390:** set comprising: one each of interchangeable FL/KF head, 1 each of 20x25,

25x25 shafts, with cemented carbide bushings, setting gauge, instructions for use, cutting data and operating key

Advantage:

- High flexibility with interchangeable shanks and use as right-hand and left-hand tool on main spindle and counter-spindle
- Clearance-free clamping for high surface quality and service life
- User-friendly setting without disassembly



Ident. No. 380
Set A1



Ident. No. 390
Set A2

For min. workpiece Ø (mm)	For max. workpiece Ø (mm)	Min./max. possible division	Suitable for knurling wheel Ø (mm)	Shaft length (mm)	19100... Ident. No.	
3	50	0.4-2.0 mm	14.5	80	380	●
5	250	0.4-2.0 mm	21.5	110	390	●

Prod. Gr. 192



Knurl cutter spare part set

For knurl cutting tools

Application:

For use on knurl cutters.

Advantage:

- low-maintenance work thanks to cemented carbide bushing

Execution:

- cemented carbide bushing, cover disc and fastening screw

Suitable for knurling wheel Ø (mm)		14.5	21.5
19100...	Ident. No.	146	216

Prod. Gr. 192



Ident. No. 146



Ident. No. 216



HSSE-PM 15° knurl cutter

For use on knurl cutting tools 19100

Application:

For producing knurls in accordance with DIN 82 RGE 45° (for holders with 2 knurls) and RBR 15° and RBL 15° (for holders with 1 knurl), in the steel, stainless steel, non-ferrous metals and cast iron material groups.

Execution:

- HSSE PM 15°, ground tooth flanks, uncoated

Advantage:

- High precision with ground teeth and good cutting performance, even with difficult materials
- Very good surface quality and long service life with high-quality HSSE-PM cutting material
- No. 19163–19164: coating for increased service life requirements



No. 19161



No. 19162



No. 19163–19164
UNIDUR

Knurling wheel Ø (mm)	Partition (mm)	Machining direction		Right		Left		Right		Left	
		Surface		Uncoated		Uncoated		Coated		Coated	
		19161...		Ident. No.		19162...		Ident. No.		19163...	
8.9	0.4	004	○	004	○	004	○	004	○	004	○
8.9	0.5	005	○	005	○	005	○	005	○	005	○
8.9	0.6	006	○	006	○	006	○	006	○	006	○
8.9	0.8	008	○	008	○	008	○	008	○	008	○
8.9	1.0	010	○	010	○	010	○	010	○	010	○
14.5	0.8	208	●	208	●	-	-	-	-	-	-
14.5	1	210	●	210	●	210	●	210	●	210	●
14.5	1.2	212	●	212	●	-	-	-	-	-	-
21.5	0.5	305	●	305	●	-	-	-	-	-	-
21.5	0.6	306	●	306	●	-	-	-	-	-	-
21.5	0.8	308	●	308	●	308	●	308	●	308	●
21.5	1	310	●	310	●	310	●	310	●	310	●
21.5	1.2	312	●	312	●	312	●	312	●	312	●
21.5	1.5	315	●	315	●	315	●	315	●	315	●
21.5	1.6	316	●	316	●	-	-	-	-	-	-
21.5	2	320	●	320	●	-	-	-	-	-	-

Prod. Gr. 192



HSSE-PM 90° knurl cutter

For use on knurl cutting tools 19100

Application:

For producing knurls in accordance with DIN 82 RGE 30° (in holders with 2 knurls) and RBL30° or RBR30° (in holders with 1 knurl) in the steel, stainless steel, non-ferrous metals and cast iron material groups.

Execution:

- **No. 19165:** HSSE PM 90°, ground tooth flanks, uncoated

- **No. 19166:** HSSE PM 90°, ground tooth flanks, coated

Advantage:

- High precision with ground teeth and good cutting performance, even with difficult materials
- Very good surface quality and long service life with high-quality HSSE-PM cutting material
- **No. 19166:** coating for increased service life requirements



No. 19165

No. 19166
UNIDUR

Knurling wheel Ø (mm)	Partition (mm)	Surface			
		Uncoated		Coated	
		19165... Ident. No.		19166... Ident. No.	
8.9	0.4	004	○	004	○
8.9	0.5	005	○	005	○
8.9	0.6	006	○	006	○
8.9	0.8	008	●	008	○
8.9	1.0	010	●	010	○
14.5	0.6	206	○	-	-
14.5	0.8	208	●	-	-
14.5	1	210	●	-	-
21.5	0.6	306	●	306	○
21.5	0.8	308	●	308	●
21.5	1	310	●	310	●
21.5	1.2	312	●	312	●
21.5	1.5	315	●	-	-
21.5	2	320	●	-	-

Prod. Gr. 192



HSSE-PM 30° knurl cutter

For use on knurl cutting tools 19100

Application:

For producing straight knurls in accordance with DIN 82 RAA (in holders with 1 knurl) in steel, stainless steel, non-ferrous metals and cast iron material groups.

Execution:

- **No. 19170–19171:** HSSE PM 30°, ground tooth flanks, uncoated
- **No. 19172–19173:** HSSE PM 30°, ground tooth flanks, coated

Advantage:

- **No. 19170–19171:**

- High precision with ground teeth and good cutting performance, even with difficult materials
- Very good surface quality and long service life with high-quality HSSE-PM cutting material
- **No. 19172–19173:**
 - high degree of precision thanks to ground teeth and good cutting performance, even on hard-to-machine materials
 - excellent finish quality and long service life thanks to high-quality HSSE-PM cutting material
 - coating for increased service life requirements



No. 19170



No. 19171

No. 19172–19173
UNIDUR

Knurling wheel Ø (mm)	Partition (mm)	Machining direction		Right		Left		Right		Left	
		Surface		Uncoated		Uncoated		Coated		Coated	
		19170... Ident. No.		19171... Ident. No.		19172... Ident. No.		19173... Ident. No.			
8.9	0.4	004	○	004	○	004	○	004	○	004	○
8.9	0.5	005	○	005	○	005	○	005	○	005	○
8.9	0.6	006	○	006	○	006	○	006	○	006	○
8.9	0.8	008	○	008	○	008	○	008	○	008	○
8.9	1.0	010	○	010	○	010	○	010	○	010	○
14.5	0.6	206	●	206	●	-	-	-	-	-	-
14.5	0.8	208	●	208	●	-	-	-	-	-	-
14.5	1	210	●	210	●	-	-	-	-	-	-
14.5	1.2	212	●	-	-	-	-	-	-	-	-
21.5	0.6	306	●	306	●	306	●	306	●	306	●
21.5	0.8	308	●	308	●	308	●	308	●	308	●
21.5	1	310	●	310	●	310	●	310	●	310	●
21.5	1.2	312	●	312	●	312	○	312	○	312	○
21.5	1.5	315	●	315	●	-	-	-	-	-	-
21.5	2	320	●	320	●	-	-	-	-	-	-

Prod. Gr. 192



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