Turning tools

HM monoblock turning tools

Turning bars and turning tools 30-3

Monoblock carrier tools for internal and external machining

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Tool holders, positive 30-16

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Boring bars, positive 30-28

Monoblock polygonal carrier tools

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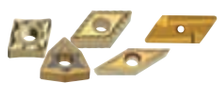

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Thread turning

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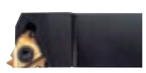

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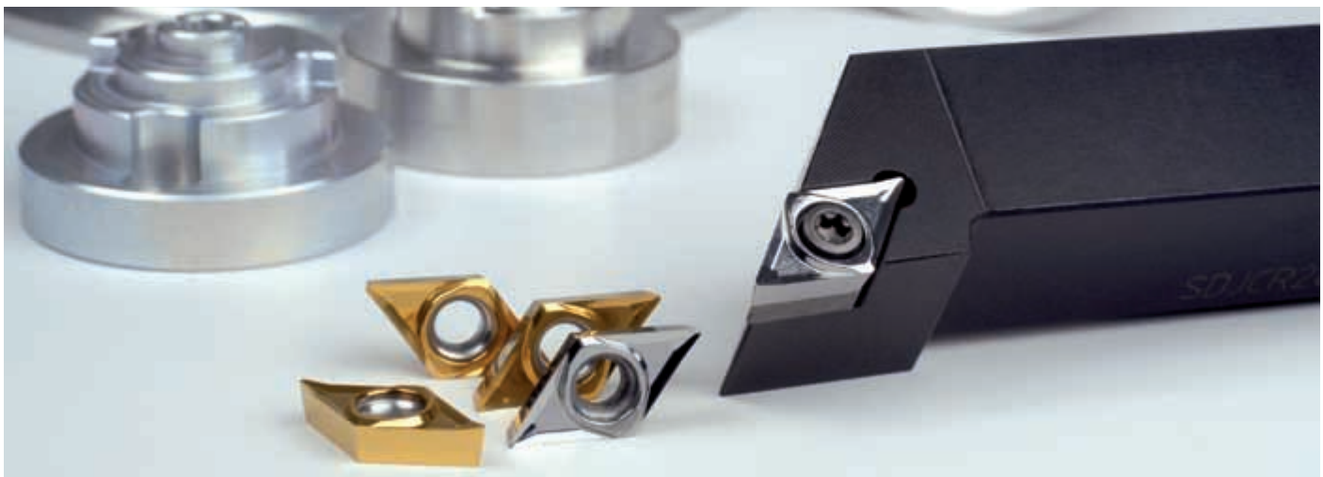

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Summary of icons used for turning tools

INFO

Cutting material	HM E.g.: carbide metal	CBN e.g.: cubic boron nitride	PKD e.g. polycrystalline diamond
Coating	TiN TiCN TiAlN		
Standard	DIN 4951-4965		
Shank design			
Thread	M e.g. metric thread	MF e.g. metric fine thread	BSW e.g. British standard Whitworth
Thread angle	55° 60°		
Coolant design	with internal coolant supply		
Cutting data	More information such as cutting data recommendations on request		

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Toolbits

HSS-E

- **DIN 4964**
- Entire length hardened, tempered and ground true to size on all sides
- **Use:** Turning, boring, grooving etc. and for producing profile steels

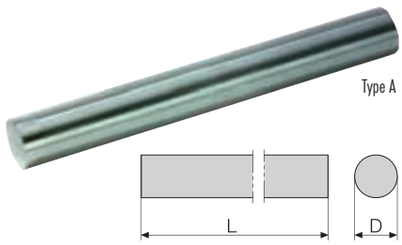
Type A, round, tolerance h8

D mm	L mm	art.no.	€
4	63	**300101** 0001	3,92
4	80	300101 0002	4,34
4	100	300101 0003	5,10
5	63	300101 0004	3,92
5	80	300101 0005	4,95
5	100	300101 0006	5,65
5	125	300101 0007	6,80
6	40	300101 0008	4,29
6	63	300101 0009	5,10
6	80	300101 0010	5,65
6	100	300101 0011	6,50
6	125	300101 0012	7,70
6	160	300101 0013	9,70
8	40	300101 0014	5,10
8	63	300101 0015	6,10
8	80	300101 0016	7,35
8	100	300101 0017	8,40
8	125	300101 0018	10,60
8	160	300101 0019	13,50
8	200	300101 0020	16,40
10	40	300101 0021	6,50

3101

D mm	L mm	art.no.	€
10	63	300101 0022	8,–
10	80	300101 0023	9,40
10	100	300101 0024	10,85
10	125	300101 0025	13,15
10	160	300101 0026	15,90
10	200	300101 0027	20,20
12	63	300101 0028	10,60
12	80	300101 0029	12,30
12	100	300101 0030	12,75
12	125	300101 0031	18,10
12	160	300101 0032	22,–
12	200	300101 0033	26,50
14	160	300101 0034	29,–
16	125	300101 0035	28,90
16	160	300101 0036	36,70
16	200	300101 0037	44,80
18	160	300101 0038	40,80
18	200	300101 0039	51,50
20	125	300101 0040	41,–
20	160	300101 0041	50,50
20	200	300101 0042	63,–

3101



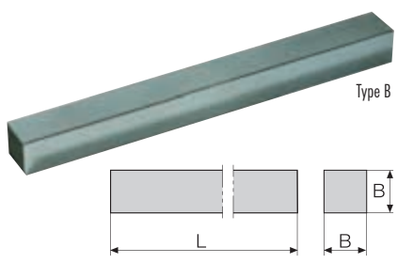
Type B, square, tolerance h13

B mm	L mm	art.no.	€
4	40	**300110** 0001	4,29
4	63	300110 0002	5,30
4	80	300110 0003	5,90
4	100	300110 0004	7,70
5	40	300110 0005	4,29
5	63	300110 0006	5,30
5	100	300110 0007	7,–
6	40	300110 0008	4,12
6	63	300110 0009	4,87
6	80	300110 0010	5,20
6	100	300110 0011	5,90
6	125	300110 0012	8,25
6	160	300110 0013	9,55
8	40	300110 0014	7,–
8	63	300110 0015	7,70
8	80	300110 0016	8,55
8	100	300110 0017	10,–
8	125	300110 0018	11,25
8	160	300110 0019	13,65
8	200	300110 0020	15,90
10	63	300110 0021	9,90
10	80	300110 0022	10,95
10	100	300110 0023	13,65
10	125	300110 0024	15,20

3101

B mm	L mm	art.no.	€
10	160	300110 0025	19,50
10	200	300110 0026	23,90
12	63	300110 0027	12,95
12	80	300110 0028	14,55
12	100	300110 0029	17,10
12	125	300110 0030	20,70
12	160	300110 0031	26,30
12	200	300110 0032	31,60
14	100	300110 0033	21,40
14	125	300110 0034	26,50
14	160	300110 0035	32,50
14	200	300110 0036	37,80
16	100	300110 0037	25,60
16	125	300110 0038	30,90
16	160	300110 0039	37,90
16	200	300110 0040	44,90
18	160	300110 0041	56,50
18	200	300110 0042	71,–
20	200	300110 0043	71,50
20	250	300110 0044	89,50
25	160	300110 0045	94,–
25	200	300110 0046	114,–
25	250	300110 0047	145,–

3101



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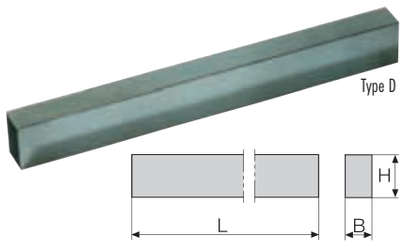
Type D, rectangular, tolerance h13

B mm	H mm	L mm	art.no.	€
4	16	100	**300120** 0001	14,20
4	16	160	300120 0002	20,20
5	10	100	300120 0003	9,90
5	10	160	300120 0004	16,10
5	10	200	300120 0005	19,80
5	20	100	300120 0006	17,10
5	20	160	300120 0007	24,80
5	20	200	300120 0008	30,70
6	10	100	300120 0009	10,60
6	10	160	300120 0010	16,40
6	10	200	300120 0011	20,50
6	12	100	300120 0012	11,10
6	12	160	300120 0013	16,20
6	25	160	300120 0014	34,30
6	25	200	300120 0015	42,70
8	12	100	300120 0016	11,95
8	12	160	300120 0017	18,80
8	12	200	300120 0018	23,40
8	16	100	300120 0019	20,50

3101

B mm	H mm	L mm	art.no.	€
8	16	160	300120 0020	25,60
8	16	200	300120 0021	32,50
8	32	200	300120 0022	62,50
10	16	100	300120 0023	18,80
10	16	160	300120 0024	30,70
10	16	200	300120 0025	37,60
10	20	100	300120 0026	26,60
10	20	160	300120 0027	42,40
10	20	200	300120 0028	53,–
10	40	160	300120 0029	95,50
10	40	200	300120 0030	120,–
12	20	160	300120 0031	49,20
12	20	200	300120 0032	61,50
12	25	200	300120 0033	61,50
12	25	250	300120 0034	84,50
16	25	160	300120 0035	71,50
16	25	200	300120 0036	89,–
16	32	200	300120 0037	92,–

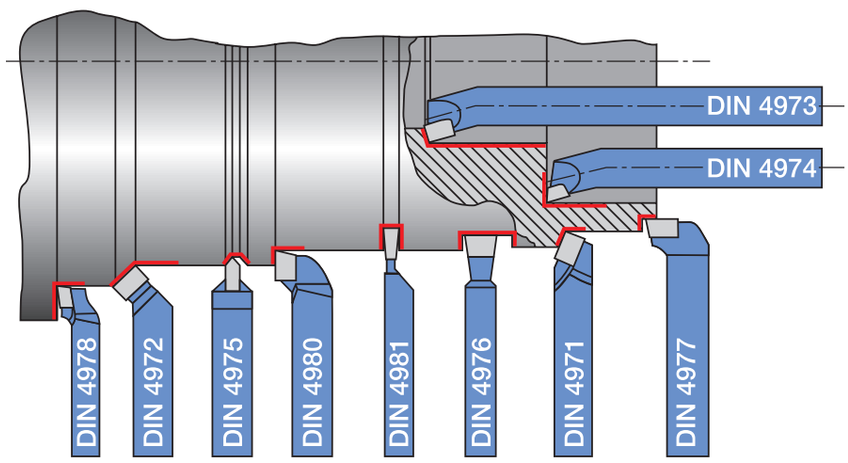
3101



Turning tool

HM

- Shanks made from non-alloy steel (700 - 800 N/mm in² strength)
- Finely ground face and flank surfaces
- Fitted with ISO solid carbide cutting inserts according to DIN 4950
- **P20**
  P25/P30 multi-range quality
  K10/K20 multi-range quality
- Unit prices when purchased in PU
- Other qualities can be found in our webshop

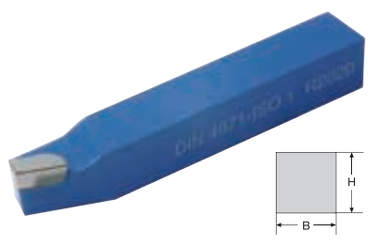


Figures show right-hand version

Straight turning tool, right-hand, DIN 4971 – ISO 1

- Left-hand version available on request

B mm	H mm	L mm	Cutting edge width mm	P20			P25 / P30			K10 / K20		
					art.no.	€		art.no.	€		art.no.	€
10	10	90	8.0	5	**302001** 0202	5,55	5	**302001** 0203	5,55	5	**302001** 0221	5,55
12	12	100	10.0	5	302001 0302	6,50	5	302001 0303	6,50	5	302001 0321	6,50
16	16	110	12.2	5	302001 0402	7,50	5	302001 0403	7,50	5	302001 0421	7,50
20	20	125	16.5	5	302001 0502	9,65	5	302001 0503	9,65	5	302001 0521	9,65
25	25	140	20.6	2	302001 0602	15,60	2	302001 0603	15,60	2	302001 0621	15,60
32	32	170	25.5				2	302001 0703	23,40	2	302001 0721	23,40
				3103			3103			3103		



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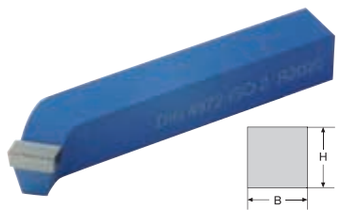
Curved turning tool, right-hand, DIN 4972 – ISO 2

B mm	H mm	L mm	Cutting edge width mm	P20	art.no.	€	P25 / P30	art.no.	€	K10 / K20	art.no.	€
10	10	90	7.7	5	**302005** 0202	5,85	5	**302005** 0203	5,85	5	**302005** 0221	5,85
12	12	100	9.9	5	302005 0302	6,80	5	302005 0303	6,80	5	302005 0321	6,80
16	16	110	11.6	5	302005 0402	7,80	5	302005 0403	7,80	5	302005 0421	7,80
20	20	125	15.9	5	302005 0502	9,95	5	302005 0503	9,95	5	302005 0521	9,95
25	25	140	19.7	2	302005 0602	15,70	2	302005 0603	15,70	2	302005 0621	15,70
32	32	170	24.9	2	302005 0702	23,50	2	302005 0703	23,50	2	302005 0721	23,50
					3103			3103			3103	



Curved turning tool, left-hand, DIN 4972 – ISO 2

B mm	H mm	L mm	Cutting edge width mm	P20	art.no.	€	P25 / P30	art.no.	€	K10 / K20	art.no.	€
10	10	90	7.7	5	**302007** 0202	5,85	5	**302007** 0203	5,85	5	**302007** 0221	5,85
12	12	100	9.9	5	302007 0302	6,80	5	302007 0303	6,80	5	302007 0321	6,80
16	16	110	11.6	5	302007 0402	7,80	5	302007 0403	7,80	5	302007 0421	7,80
20	20	125	15.9	5	302007 0502	9,95	5	302007 0503	9,95	5	302007 0521	9,95
25	25	140	19.7	2	302007 0602	15,70	2	302007 0603	15,70	2	302007 0621	15,70
32	32	170	24.9	2	302007 0702	23,50	2	302007 0703	23,50	2	302007 0721	23,50
					3103			3103			3103	

Internal turning tool with square shank, DIN 4973 – ISO 8

- Available with round shank on request

B mm	H mm	L mm	Cutting edge width mm	P20	art.no.	€	P25 / P30	art.no.	€	K10 / K20	art.no.	€
8	8	125	5.0	5	**302010** 0102	5,75	5	**302010** 0103	5,75	5	**302010** 0121	5,75
10	10	150	6.0	5	302010 0202	6,40	5	302010 0203	6,40	5	302010 0221	6,40
12	12	180	8.2	5	302010 0302	7,90	5	302010 0303	7,90	5	302010 0321	7,90
16	16	210	10.3	5	302010 0402	9,65	5	302010 0403	9,65	5	302010 0421	9,65
20	20	250	12.0	5	302010 0502	11,70	5	302010 0503	11,70	5	302010 0521	11,70
25	25	300	15.5	2	302010 0602	18,10	2	302010 0603	18,10	2	302010 0621	18,10
32	32	355	20.0	2	302010 0702	27,10	2	302010 0703	27,10	2	302010 0721	27,10
					3103			3103			3103	

Internal corner turning tool with square shank, DIN 4974 – ISO 9

B mm	H mm	L mm	Cutting edge width mm	P20	art.no.	€	P25 / P30	art.no.	€	K10 / K20	art.no.	€
8	8	125	5.1	5	**302015** 0102	5,75	5	**302015** 0103	5,75	5	**302015** 0121	5,75
10	10	150	6.0	5	302015 0202	6,05	5	302015 0203	6,05	5	302015 0221	6,05
12	12	180	8.7	5	302015 0302	7,90	5	302015 0303	7,90	5	302015 0321	7,90
16	16	210	9.4	5	302015 0402	9,65	5	302015 0403	9,65	5	302015 0421	9,65
20	20	250	11.8	5	302015 0502	11,70	5	302015 0503	11,70	5	302015 0521	11,70
25	25	300	15.0	2	302015 0602	18,10	2	302015 0603	18,10	2	302015 0621	18,10
32	32	355	19.4	2	302015 0702	27,10	2	302015 0703	27,10	2	302015 0721	27,10
					3103			3103			3103	

Internal corner turning tool with straight shank, DIN 4974 – ISO 9

D mm	L mm	Cutting edge width mm	P20	art.no.	€	P25 / P30	art.no.	€	K10 / K20	art.no.	€
8	125	5.1	5	**302017** 2202	5,75	5	**302017** 2203	5,75	5	**302017** 2221	5,75
10	150	6.0	5	302017 2302	6,05	5	302017 2303	6,05	5	302017 2321	6,05
12	180	8.7	5	302017 2402	7,60	5	302017 2403	7,60	5	302017 2421	7,60
16	210	9.4	5	302017 2502	9,55	5	302017 2503	9,55	5	302017 2521	9,55
20	250	11.8	5	302017 2602	10,90	5	302017 2603	10,90	5	302017 2621	10,90
25	300	15.0	2	302017 2702	17,–	2	302017 2703	17,–	2	302017 2721	17,–
				3103			3103			3103	

Pointed turning tool, DIN 4975

B mm	H mm	L mm	P20	art.no.	€	P25 / P30	art.no.	€	K10 / K20	art.no.	€
10	16	110	5	**302020** 1202	6,65	5	**302020** 1203	6,65	5	**302020** 1221	6,65
12	20	125	5	302020 1302	7,30	5	302020 1303	7,30	5	302020 1321	7,30
16	25	140	2	302020 1402	9,85	2	302020 1403	9,85	2	302020 1421	9,85
20	32	170	2	302020 1502	12,95	2	302020 1503	12,95	2	302020 1521	12,95
				3103			3103			3103	

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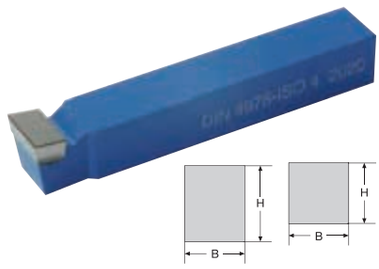
Broad turning tool, DIN 4976 – ISO 4

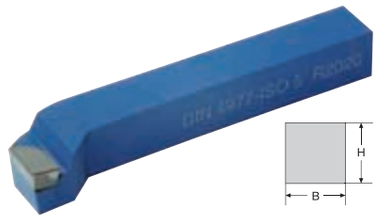
B mm	H mm	L mm	Cutting edge width mm	P20			P25 / P30			K10 / K20		
					art.no.	€		art.no.	€		art.no.	€
10	10	90	10.0	5	**302025** 0202	*6,20*	5	**302025** 0203	**6,20**	5	**302025** 0221	*6,20*
12	12	100	11.6	5	302025 0302	**8,05**	5	302025 0303	**8,05**	5	302025 0321	*8,05*
16	16	110	16.0	5	302025 0402	**9,55**	5	302025 0403	**9,55**	5	302025 0421	*9,55*
20	20	125	20.0	5	302025 0502	**12,95**	5	302025 0503	**12,95**	5	302025 0521	**12,95**
20	32	170	20.0	2	302025 1502	*17,60*	2	302025 1503	*17,60*	2	302025 1521	*17,60*
25	25	140	24.7	2	302025 0602	*22,50*	2	302025 0603	**22,50**	2	302025 0621	*22,50*
32	32	170	31.5	2	302025 0702	*38,60*	2	302025 0703	*38,60*	2	302025 0721	*38,60*
					3103			3103			3103	



Offset face turning tool, right-hand, DIN 4977 – ISO 5

- Left-hand version available on request

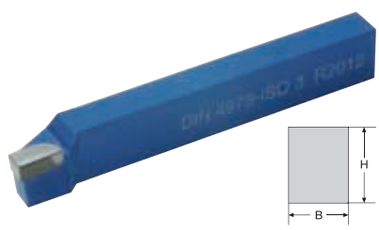
B mm	H mm	L mm	Cutting edge width mm	P20			P25 / P30			K10 / K20		
					art.no.	€		art.no.	€		art.no.	€
16	16	110	7.4	5	**302030** 0402	*8,05*	5	**302030** 0403	**8,05**	5	**302030** 0421	*8,05*
20	20	125	9.7	5	302030 0502	*10,30*	5	302030 0503	**10,30**	5	302030 0521	*10,30*
25	25	140	11.2	2	302030 0602	*15,80*	2	302030 0603	*15,80*	2	302030 0621	*15,80*
					3103			3103			3103	



Offset corner turning tool, right-hand, DIN 4978 – ISO 3

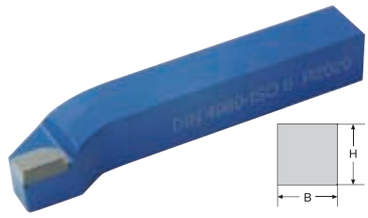
- Left-hand version available on request

B mm	H mm	L mm	Cutting edge width mm	P20			P25 / P30			K10 / K20		
					art.no.	€		art.no.	€		art.no.	€
10	16	110	8.0	5	**302035** 1202	**7,10**	5	**302035** 1203	**7,10**	5	**302035** 1221	**7,10**
12	20	125	10.0	5	302035 1302	**8,05**	5	302035 1303	*8,–*	5	302035 1321	**8,05**
16	25	140	12.2	2	302035 1402	*9,85*	2	302035 1403	*9,85*	2	302035 1421	*9,85*
					3103			3103			3103	



Offset side turning tool, right-hand, DIN 4980 – ISO 6

B mm	H mm	L mm	Cutting edge width mm	P20			P25 / P30			K10 / K20		
					art.no.	€		art.no.	€		art.no.	€
10	10	90	8.7	5	**302040** 0202	**5,65**	5	**302040** 0203	**5,65**	5	**302040** 0221	**5,65**
12	12	100	10.0	5	302040 0302	**6,50**	5	302040 0303	**6,50**	5	302040 0321	**6,50**
16	16	110	12.2	5	302040 0402	**7,90**	5	302040 0403	**7,90**	5	302040 0421	**7,90**
20	20	125	15.8	5	302040 0502	**9,85**	5	302040 0503	**9,85**	5	302040 0521	**9,85**
25	25	140	20.0	2	302040 0602	**15,–**	2	302040 0603	**15,–**	2	302040 0621	**15,–**
32	32	170	25.4	2	302040 0702	*22,80*	2	302040 0703	**22,80**	2	302040 0721	*22,80*
					3103			3103			3103	



Offset side turning tool, left-hand, DIN 4980 – ISO 6

B mm	H mm	L mm	Cutting edge width mm	P20			P25 / P30			K10 / K20		
					art.no.	€		art.no.	€		art.no.	€
10	10	90	8.7	5	**302042** 0202	**5,65**	5	**302042** 0203	*5,65*	5	**302042** 0221	**5,65**
12	12	100	10.0	5	302042 0302	**6,50**	5	302042 0303	**6,50**	5	302042 0321	*6,50*
16	16	110	12.2	5	302042 0402	*7,90*	5	302042 0403	**7,90**	5	302042 0421	**7,90**
20	20	125	15.8	5	302042 0502	**9,85**	5	302042 0503	**9,85**	5	302042 0521	**9,85**
25	25	140	20.0	2	302042 0602	**15,–**	2	302042 0603	*15,–*	2	302042 0621	**15,–**
32	32	170	25.4	2	302042 0702	*22,80*	2	302042 0703	*22,80*	2	302042 0721	*22,80*
					3103			3103			3103	

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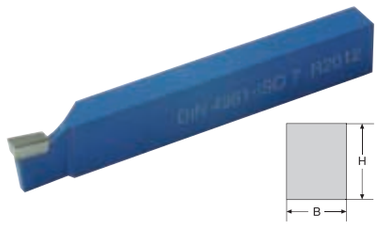
Parting-off tool, right-hand, DIN 4981 – ISO 7

B mm	H mm	L mm	Cutting edge width mm	P20			P25 / P30			K10 / K20		
					art.no.	€		art.no.	€		art.no.	€
8	12	100	3.2	5	**302045** 1102	5,85	5	**302045** 1103	5,85	5	**302045** 1121	5,85
10	16	110	4.2	5	302045 1202	6,40	5	302045 1203	6,40	5	302045 1221	6,40
12	20	125	5.0	5	302045 1302	7,70	5	302045 1303	7,70	5	302045 1321	7,70
16	25	140	6.2	2	302045 1402	11,–	2	302045 1403	11,–	2	302045 1421	11,–
20	32	170	8.4	2	302045 1502	15,30	2	302045 1503	15,30	2	302045 1521	15,30
25	40	200	10.4	2	302045 1602	26,–	2	302045 1603	26,–	2	302045 1621	26,–
					3103			3103			3103	



Parting-off tool, left-hand, DIN 4981 – ISO 7

B mm	H mm	L mm	Cutting edge width mm	P20			P25 / P30			K10 / K20		
					art.no.	€		art.no.	€		art.no.	€
8	12	100	3.2	5	**302047** 1102	5,85	5	**302047** 1103	5,85	5	**302047** 1121	5,85
10	16	110	4.2	5	302047 1202	6,40	5	302047 1203	6,40	5	302047 1221	6,40
12	20	125	5.3	5	302047 1302	7,70	5	302047 1303	7,70	5	302047 1321	7,70
16	25	140	6.2	2	302047 1402	11,–	2	302047 1403	11,–	2	302047 1421	11,–
20	32	170	8.4	2	302047 1502	15,30	2	302047 1503	15,30	2	302047 1521	15,30
25	40	200	10.4	2	302047 1602	26,–	2	302047 1603	26,–	2	302047 1621	26,–
					3103			3103			3103	

Hooked turning tool, no. 263

B mm	H mm	L mm	Cutting edge width mm	P20			P25 / P30			K10 / K20		
					art.no.	€		art.no.	€		art.no.	€
10	10	140	3.0	5	**302050** 0202	15,20	5	**302050** 0203	15,20	5	**302050** 0221	15,20
12	12	160	4.0	5	302050 0302	16,70	5	302050 0303	16,70	5	302050 0321	16,70
16	16	180	5.0	5	302050 0402	19,70	5	302050 0403	19,70	5	302050 0421	19,70
20	20	210	6.0	5	302050 0502	22,–	5	302050 0503	22,–	5	302050 0521	22,–
25	25	250	8.0	2	302050 0602	27,90	2	302050 0603	27,90	2	302050 0621	*27,90*
32	32	300	10.0	2	302050 0702	*39,–*	2	302050 0703	*39,–*	2	302050 0721	*39,–*
					3103			3103			3103	

Internal thread turning tool, no. 283 – 60°

B mm	H mm	L mm	P20			P25 / P30			K10 / K20		
				art.no.	€		art.no.	€		art.no.	€
10	10	140	5	**302060** 0202	*15,30*	5	**302060** 0203	*15,30*	5	**302060** 0221	*15,30*
12	12	160	5	302060 0302	16,70	5	302060 0303	16,70	5	302060 0321	16,70
16	16	180	5	302060 0402	*19,70*	5	302060 0403	19,70	5	302060 0421	19,70
20	20	210	5	302060 0502	*22,–*	5	302060 0503	22,–	5	302060 0521	*22,–*
25	25	250	2	302060 0602	27,90	2	302060 0603	*27,90*	2	302060 0621	*27,90*
				3103			3103			3103	

Turning tool holder with bore

- For holding internal turning tools and round toolbits
- Adjustment of tools to the bore depth
- Slotted on opposite sides for secure tool clamping

D mm	B mm	H mm	L mm	art.no.	€
6	10	10	70	**302070** 0006	*40,–*
8	12	12	80	302070 0008	*42,20*
10	14	14	85	302070 0010	*44,70*
12	16	16	90	302070 0012	*52,20*
16	20	20	100	302070 0016	*62,40*
20	25	25	110	302070 0020	*77,60*
				3103	

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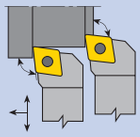
Overview of tool holders

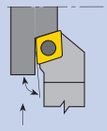
ISO designation codes in the INFO section

INFO

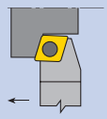
PCLN R/L 95° for CNM. Page 30-9



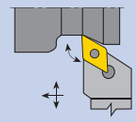
PCKN R/L 75° for CNM. Page 30-9



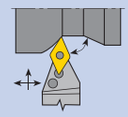
PCBN R/L 75° for CNM. Page 30-10



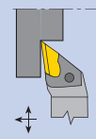
PDJN R/L 93° for DNM. Page 30-10



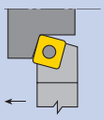
PDNNN 63° for DNM. Page 30-11



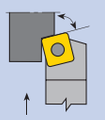
CKJN R/L 93° for KNUX Page 30-11



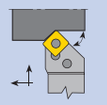
PSBN R/L 75° for SNM. Page 30-12



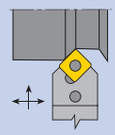
PSKN R/L 75° for SNM. Page 30-12



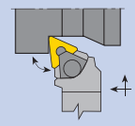
PSSN R/L 45° for SNM. Page 30-13



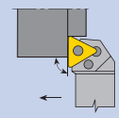
PSDNN 45° for SNM. Page 30-13



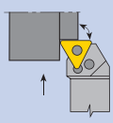
MTJN R/L 93° for TNM. Page 30-13



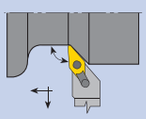
PTGN R/L 90° for TNM. Page30-14



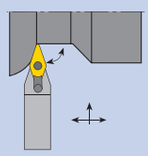
PTFN R/L 90° for TNM. Page 30-14



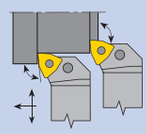
MVJN R/L 93° for VNM. Page 30-14



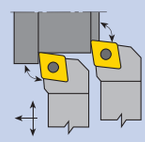
MVVNM 72.5° for VNM. Page 30-15



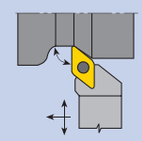
MWLN R/L 95° for WNM. Page 30-15



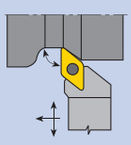
SCLC R/L 95° for CC.. Page 30-16



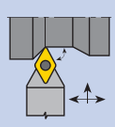
SDJC R/L 93° for DCM. Page 30-16



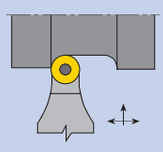
SDHC R/L 107.5° for DC.. Page 30-17



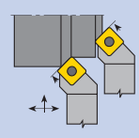
SDNCN 62.5° for DC.. Page 30-17



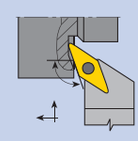
SRDCN 90° for RC.. Page 30-17



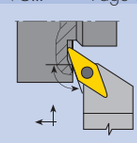
SSSC R/L 45° for SC.. Page30-18



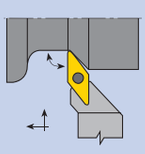
SVXC R/L 112° for VC... Page 30-18



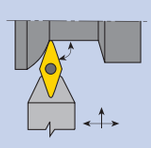
SVHC R/L 107.5° for VC... Page 30-18



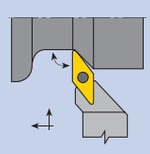
SVJC R/L 93° for VC... Page 30-19



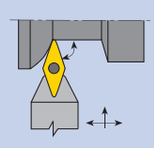
SVNCN 72.5° for VC... Page 30-19



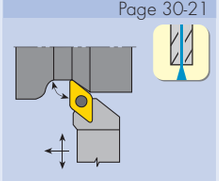
SVJB R/L 93° for VBM. Page 30-20



SVNBN 72.5° for VBM. Page 30-20



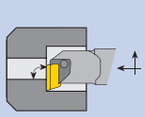
DLOCK with and without IC Page 30-21



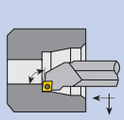
Overview of boring bars

INFO

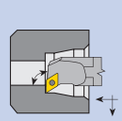
CKUN R/L 93° for KNUX Page 30-24



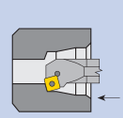
PCLN R/L 95° for CNM. Page 30-24



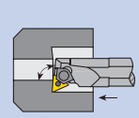
PDUN R/L 93° for DNM. Page 30-25



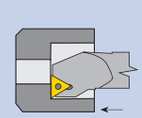
PSKN R/L 75° for SNM. Page 30-25



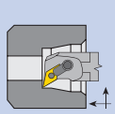
MTLN R/L 95° for TNM. Page 30-26



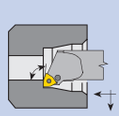
PTFN R/L 90° for TNM. Page 30-26



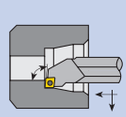
MVUN R/L 93° for VNM. Page 30-27



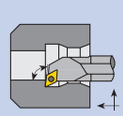
PWLN R/L 95° for WNM. Page 30-27



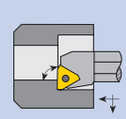
SCLC R/L 95° for CC.. from page 30-28



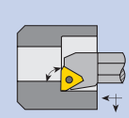
SDUC R/L 93° for DC.. from page 30-28



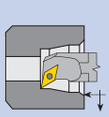
STFC R/L 90° for TCM. Page 30-32



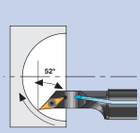
STLC R 95° for TC.. Page 30-33



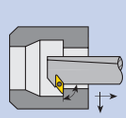
SVUC R/L 93° for VC... Page 30-33



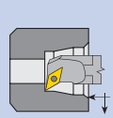
SVJC R/L 52° for VC... Page 30-34



SVLBC R/L 95° for VC... Page 30-34



SVUB R/L 93° for VB.. Page 30-34



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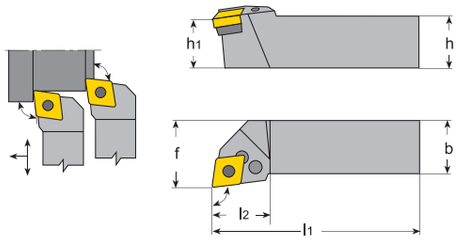
Tool holders, negative *PCLN*

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



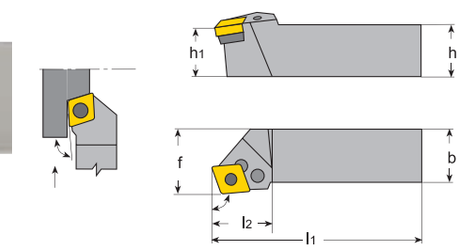
ISO designation	h=h1 mm	b mm	l1 mm	l2 mm	f mm	for indexable inserts							**Right-hand** art.no.	€	**Left-hand** art.no.	€
PCLN..1616 H12	16	16	100	26	20	CN..1204..	A1	B4	C4	D1	E1	F1	**320140** 0001	70,50	**320141** 0001	70,50
PCLN..2020 K12	20	20	125	28	25	CN..1204..	A1	B1	C1	D1	E1	F1	320140 0002	71,50	320141 0002	71,50
PCLN..2525 M12	25	25	150	28	32	CN..1204..	A1	B1	C1	D1	E1	F1	320140 0003	75,–	320141 0003	75,–
PCLN..3225 P12	32	25	170	28	32	CN..1204..	A1	B1	C1	D1	E1	F1	320140 0004	87,50	320141 0004	*87,50*
PCLN..3232 P12	32	32	170	28	40	CN..1204..	A1	B1	C1	D1	E1	F1	320140 0005	104,–	320141 0005	104,–
PCLN..2525 M16	25	25	150	34	32	CN..1606..	A2	B2	C2	D2	E2	F1	320140 0006	82,–	320141 0006	*82,–*
PCLN..3225 P16	32	25	170	34	32	CN..1606..	A2	B2	C2	D2	E2	F1	320140 0007	87,50	320141 0007	87,50
PCLN..3232 P16	32	32	170	34	40	CN..1606..	A2	B2	C2	D2	E2	F1	320140 0008	104,–	320141 0008	104,–
PCLN..4040 S16	40	40	250	34	50	CN..1606..	A2	B2	C2	D2	E2	F1	320140 0009	137,–	320141 0009	137,–
PCLN..2525 M19	25	25	150	42	32	CN..1906..	A3	B3	C3	D3	E3	F2	320140 0010	82,–	320141 0010	*82,–*
PCLN..3225 P19	32	25	170	42	32	CN..1906..	A3	B3	C3	D3	E3	F2	320140 0011	87,50	320141 0011	*87,50*
PCLN..3232 P19	32	32	170	42	40	CN..1906..	A3	B3	C3	D3	E3	F2	320140 0012	104,–	320141 0012	*104,–*
PCLN..4040 S19	40	40	250	45	50	CN..1906..	A3	B3	C3	D3	E3	F2	320140 0013	137,–	320141 0013	137,–
													3104		3104	

Spare parts

	Support plate art.no.	€		**Clamping lever** art.no.	€		**Screw** art.no.	€		**Hollow pin** art.no.	€		**Pin** art.no.	€		**Offset screwdriver, nickel-plated** art.no.	€
A1	321601 0007	8,25	B1	321601 0102	11,–	C1	321601 0202	3,19	D1	321601 0302	1,06	E1	321601 0402	1,21	F1	703005 0030	0,32
A2	321601 0008	12,45	B2	321601 0103	10,55	C2	321601 0203	2,98	D2	321601 0303	1,06	E2	321601 0403	1,21	F2	703005 0040	0,38
A3	321601 0009	19,40	B3	321601 0104	16,–	C3	321601 0204	2,98	D3	321601 0304	1,45	E3	321601 0404	1,21			
			B4	321601 0108	10,40	C4	321601 0209	3,19									
	3106			3106			3106			3106			3106			7111	

Tool holders, negative *PCKN*

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



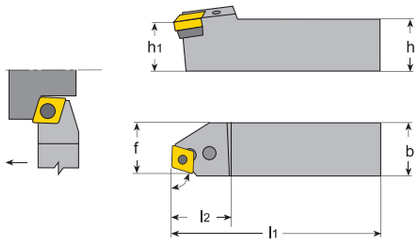
ISO designation	h=h1 mm	b mm	l1 mm	l2 mm	f mm	for indexable inserts							**Right-hand** art.no.	€	**Left-hand** art.no.	€
PCKN..2020 K12	20	20	125	28	25	CN..1204..	A1	B1	C1	D1	E1	F1	**320135** 0001	77,50	**320136** 0001	77,50
PCKN..2525 M12	25	25	150	28	32	CN..1204..	A1	B1	C1	D1	E1	F1	320135 0002	82,–	320136 0002	*82,–*
PCKN..3225 P12	32	25	170	28	32	CN..1204..	A1	B1	C1	D1	E1	F1	320135 0003	87,50	320136 0003	87,50
													3104		3104	

Spare parts

	Support plate art.no.	€		**Clamping lever** art.no.	€		**Screw** art.no.	€		**Hollow pin** art.no.	€		**Pin** art.no.	€		**Offset screwdriver, nickel-plated** art.no.	€
A1	321601 0007	8,25	B1	321601 0102	11,–	C1	321601 0202	3,19	D1	321601 0302	1,06	E1	321601 0402	1,21	F1	703005 0030	0,32
	3106			3106			3106			3106			3106			7111	

Tool holders, negative *PCBN*

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



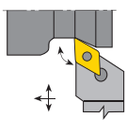
ISO designation	h=h1 mm	b mm	l1 mm	l2 mm	f mm	for indexable inserts							Right-hand art.no.	€	Left-hand art.no.	€
PCBN..2525 M12	25	25	150	28	22	CN..1204..	A1	B1	C1	D1	E1	F1	**320150** 0002	82,–	**320151** 0002	82,–
PCBN..2525 M16	25	25	150	34	22	CN..1606..	A2	B2	C2	D2	E2	F1	320150 0003	82,–	320151 0003	82,–
PCBN..3232 P19	32	32	170	42	27	CN..1906..	A3	B3	C3	D3	E3	F2	320150 0007	104,–	320151 0007	104,–
													3104		3104	

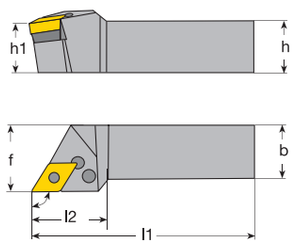
Spare parts

Support plate			Clamping lever			Screw			Hollow pin			Pin			Offset screwdriver, nickel-plated		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	321601 0007	8,25	B1	321601 0102	11,–	C1	321601 0202	3,19	D1	321601 0302	1,06	E1	321601 0402	1,21	F1	703005 0030	0,32
A2	321601 0008	12,45	B2	321601 0103	10,55	C2	321601 0203	2,98	D2	321601 0303	1,06	E2	321601 0403	1,21	F2	703005 0040	0,38
A3	321601 0009	19,40	B3	321601 0104	16,–	C3	321601 0204	2,98	D3	321601 0304	1,45	E3	321601 0404	1,21			
	3106			3106			3106			3106			3106			7111	

PDJN tool holders, negative

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





ISO designation	h=h1 mm	b mm	l1 mm	l2 mm	f mm	for indexable inserts							Right-hand art.no.	€	Left-hand art.no.	€
PDJN..1616 H11	16	16	100	28	20	DN..1104..	A2	B1	C1	D1	E1	F1	**320155** 0010	70,50	**320156** 0010	70,50
PDJN..2020 K11	20	20	125	28	25	DN..1104..	A2	B1	C1	D1	E1	F1	320155 0011	77,50	320156 0011	77,50
PDJN..2525 M11	25	25	150	28	32	DN..1104..	A2	B1	C1	D1	E1	F1	320155 0012	82,–	320156 0012	82,–
PDJN..2020 K15	20	20	125	34	25	DN..1506..	A1	B2	C2	D2	E2	F2	320155 0001	77,50	320156 0001	77,50
PDJN..2525 M15	25	25	150	34	32	DN..1506..	A1	B2	C2	D2	E2	F2	320155 0002	77,50	320156 0002	77,50
PDJN..3225 P15	32	25	170	34	32	DN..1506..	A1	B2	C2	D2	E2	F2	320155 0003	87,50	320156 0003	87,50
PDJN..3232 P15	32	32	170	34	40	DN..1506..	A1	B2	C2	D2	E2	F2	320155 0004	104,–	320156 0004	104,–
													3104		3104	

Spare parts

Support plate			Clamping lever			Screw			Hollow pin			Pin			Offset screwdriver, nickel-plated		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	321601 0010	8,–	B1	321601 0101	10,55	C1	321601 0201	3,19	D1	321601 0301	0,82	E1	321601 0401	1,21	F1	703005 0025	0,30
A2	321601 0012	14,15	B2	321601 0107	11,80	C2	321601 0206	2,98	D2	321601 0302	1,06	E2	321601 0402	1,21	F2	703005 0030	0,32
	3106			3106			3106			3106			3106			7111	

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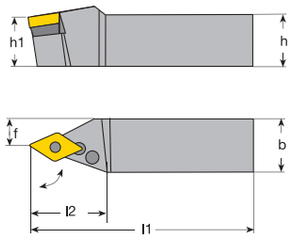
Tool holders, negative *PDNNN*

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



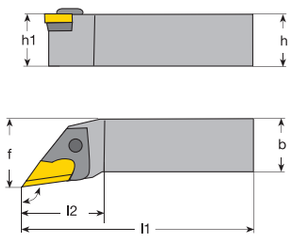
ISO designation	h=h1 mm	b mm	l1 mm	l2 mm	f mm	for indexable inserts	A1	B1	C1	D1	E1	F1	Neutral art.no.	€
PDNNN 2020 K15	20	20	125	34	10	DN..1506..	A1	B1	C1	D1	E1	F1	**320160** 0001	77,50
PDNNN 2525 M15	25	25	150	34	12.5	DN..1506..	A1	B1	C1	D1	E1	F1	320160 0002	82,–
PDNNN 3232 P15	32	32	170	34	16	DN..1506..	A1	B1	C1	D1	E1	F1	320160 0004	104,–
PDNNN 4025 S15	40	25	250	34	12.5	DN..1506..	A1	B1	C1	D1	E1	F1	320160 0006	137,–
PDNNN 5032 S15	50	32	250	34	16	DN..1506..	A1	B1	C1	D1	E1	F1	320160 0007	215,–
													3104	

Spare parts

Support plate			Clamping lever			Screw			Hollow pin			Pin			Offset screwdriver, nickel-plated		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	321601 0010	8,–	B1	321601 0107	11,80	C1	321601 0206	2,98	D1	321601 0302	1,06	E1	321601 0402	1,21	F1	703005 0030	0,32
	3106			3106			3106			3106			3106			7111	

Tool holders, negative *CKJN*

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



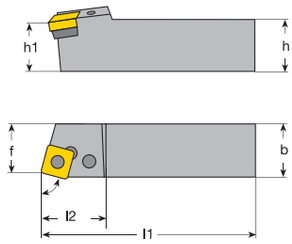
ISO designation	h=h1 mm	b mm	l1 mm	l2 mm	f mm	for indexable inserts								Right-hand art.no.	€	Left-hand art.no.	€
CKJNR 2020 K16	20	20	125	34	30	KNUX1604..	A1	B1	C1	D1	E1	F1	G1	**320179** 0001	130,–		
CKJNL 2020 K16	20	20	125	34	30	KNUX1604..	A2	B2	C1	D1	E1	F1	G1			**320181** 0001	130,–
CKJNR 2525 M16	25	25	150	34	32	KNUX1604..	A1	B1	C1	D1	E1	F2	G1	320179 0002	130,–		
CKJNL 2525 M16	25	25	150	34	32	KNUX1604..	A2	B2	C1	D1	E1	F2	G1			320181 0002	130,–
CKJNR 3225 P16	32	25	170	34	32	KNUX1604..	A1	B1	C1	D1	E1	F2	G1	320179 0003	137,–		
CKJNL 3225 P16	32	25	170	34	32	KNUX1604..	A2	B2	C1	D1	E1	F2	G1			320181 0003	137,–
CKJNR 3232 P16	32	32	170	34	40	KNUX1604..	A1	B1	C1	D1	E1	F2	G1	320179 0004	149,–		
CKJNL 3232 P16	32	32	170	34	40	KNUX1604..	A2	B2	C1	D1	E1	F2	G1			320181 0004	149,–
														3104		3104	

Spare parts

Support plate			Clamping lever			Screw			Pin			Spring			Spring pin			Offset screwdriver, nickel-plated		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	321601 0018	10,80	B1	321601 0114	12,70	C1	321601 0215	3,19	D1	321601 0408	1,28	E1	321601 0901	1,21	F1	321601 0902	2,77	G1	703005 0040	0,38
A2	321601 0019	10,80	B2	321601 0115	12,70										F2	321601 0903	2,77			
	3106			3106			3106			3106			3106			3106			7111	

Tool holders, negative *PSBN*

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



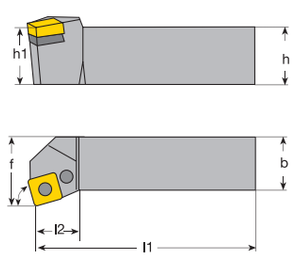
ISO designation	h=h1 mm	b mm	l1 mm	l2 mm	f mm	for indexable inserts							Right-hand art.no.	€	Left-hand art.no.	€
PSBN..2020 K12	20	20	125	28	17	SN..1204..	A1	B1	C1	D1	E1	F1	**320115** 0001	77,50	**320116** 0001	77,50
PSBN..2525 M12	25	25	150	28	22	SN..1204..	A1	B1	C1	D1	E1	F1	320115 0002	82,–	320116 0002	82,–
PSBN..3225 P12	32	25	170	28	22	SN..1204..	A1	B1	C1	D1	E1	F1	320115 0003	87,50	320116 0003	87,50
PSBN..3232 P19	32	32	170	42	27	SN..1906..	A2	B2	C2	D2	E2	F2	320115 0006	104,–	320116 0006	104,–
PSBN..4040 S25	40	40	250	45	35	SN..2507..	A3	B3	C3	D3	E3	F3	320115 0008	137,–	320116 0008	137,–
													3104		3104	

Spare parts

	Support plate art.no.	€		Clamping lever art.no.	€		Screw art.no.	€		Hollow pin art.no.	€		Pin art.no.	€		Offset screwdriver, nickel-plated art.no.	€
A1	321601 0003	8,40	B1	321601 0102	11,–	C1	321601 0202	3,19	D1	321601 0302	1,06	E1	321601 0402	1,21	F1	703005 0030	0,32
A2	321601 0005	15,80	B2	321601 0104	16,–	C2	321601 0204	2,98	D2	321601 0304	1,45	E2	321601 0404	1,21	F2	703005 0040	0,38
A3	321601 0006	37,60	B3	321601 0105	17,80	C3	321601 0205	4,22	D3	321601 0305	1,45	E3	321601 0405	1,99	F3	703005 0050	0,50
	3106			3106			3106			3106			3106			7111	

Tool holders, negative *PSKN*

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



ISO designation	h=h1 mm	b mm	l1 mm	l2 mm	f mm	for indexable inserts							Right-hand art.no.	€
PSKN..2020 K12	20	20	125	28	25	SN..1204..	A1	B1	C1	D1	E1	F1	**320120** 0001	77,50
PSKN..2525 M12	25	25	150	28	32	SN..1204..	A1	B1	C1	D1	E1	F1	320120 0002	82,–
PSKN..3225 P12	32	25	170	28	32	SN..1204..	A1	B1	C1	D1	E1	F1	320120 0003	87,50
PSKN..3232 P19	32	32	170	42	40	SN..1906..	A2	B2	C2	D2	E2	F2	320120 0006	104,–
													3104	

Spare parts

	Support plate art.no.	€		Clamping lever art.no.	€		Screw art.no.	€		Hollow pin art.no.	€		Pin art.no.	€		Offset screwdriver, nickel-plated art.no.	€
A1	321601 0003	8,40	B1	321601 0102	11,–	C1	321601 0202	3,19	D1	321601 0302	1,06	E1	321601 0402	1,21	F1	703005 0030	0,32
A2	321601 0005	15,80	B2	321601 0104	16,–	C2	321601 0204	2,98	D2	321601 0304	1,45	E2	321601 0404	1,21	F2	703005 0040	0,38
	3106			3106			3106			3106			3106			7111	

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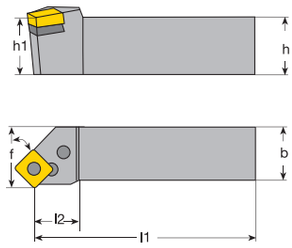
Tool holders, negative *PSSN*

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



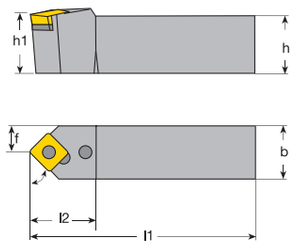
ISO designation	h=h1 mm	b mm	l1 mm	l2 mm	f mm	for indexable inserts							Right-hand art.no.	€	Left-hand art.no.	€
PSSN..2020 K12	20	20	125	28	25	SN..1204..	A1	B1	C1	D1	E1	F1	**320125** 0001	77,50	**320126** 0001	77,50
PSSN..2525 M12	25	25	150	28	32	SN..1204..	A1	B1	C1	D1	E1	F1	320125 0002	82,–	320126 0002	82,–
PSSN..3232 P19	32	32	170	42	40	SN..1906..	A2	B2	C2	D2	E2	F2	320125 0006	104,–	320126 0006	104,–
													3104		3104	

Spare parts

Support plate			Clamping lever			Screw			Hollow pin			Pin			Offset screwdriver, nickel-plated		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	321601 0003	8,40	B1	321601 0102	11,–	C1	321601 0202	3,19	D1	321601 0302	1,06	E1	321601 0402	1,21	F1	703005 0030	0,32
A2	321601 0005	15,80	B2	321601 0104	16,–	C2	321601 0204	2,98	D2	321601 0304	1,45	E2	321601 0404	1,21	F2	703005 0040	0,38
	3106			3106			3106			3106			3106			7111	

Tool holders, negative *PSDNN*

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



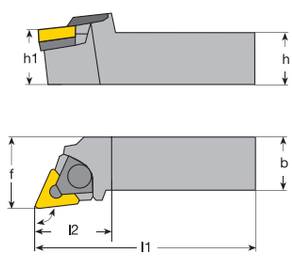
ISO designation	h=h1 mm	b mm	l1 mm	l2 mm	f mm	for indexable inserts							Neutral art.no.	€
PSDNN 2020 K12	20	20	125	28	10	SN..1204..	A1	B1	C1	D1	E1	F1	**320130** 0001	77,50
PSDNN 2525 M12	25	25	150	28	12.5	SN..1204..	A1	B1	C1	D1	E1	F1	320130 0002	82,–
PSDNN 3232 P12	32	32	170	28	16	SN..1204..	A1	B1	C1	D1	E1	F1	320130 0003	104,–
													3104	

Spare parts

Support plate			Clamping lever			Screw			Hollow pin			Pin			Offset screwdriver, nickel-plated		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	321601 0003	8,40	B1	321601 0102	11,–	C1	321601 0202	3,19	D1	321601 0302	1,06	E1	321601 0402	1,21	F1	703005 0030	0,32
	3106			3106			3106			3106			3106			7111	

Tool holders, negative *MTJN*

- **MTJN R/L 93°**
- Setting angle 93°, for negative 0° triangular indexable inserts, 60° point angle
- **Use:** Longitudinal turning and facing



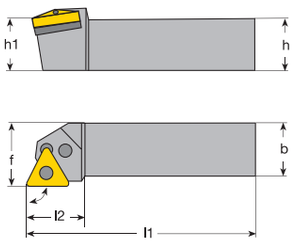
ISO designation	h=h1 mm	b mm	l1 mm	l2 mm	f mm	for indexable inserts						Right-hand art.no.	€	Left-hand art.no.	€
MTJN..2020K16	20	20	125	35	25	TN..1604..	A1	B1	C1	D1	E1	**320253** 2020	81,–	**320524** 2020	81,–
MTJN..2525M16	25	25	150	32	32	TN..1604..	A1	B1	C1	D1	E1	320253 2525	87,–	320524 2525	87,–
												3134		3134	

Spare parts

Wedge			Support plate			Clamping pin			Stud			Offset screwdriver, nickel-plated		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	320901 0150	29,95	B1	320901 0151	11,30	C1	320901 0152	15,–	D1	320901 0153	5,60	E1	703005 0025	0,30
	3106			3106			3106			3106			7111	

Tool holders, negative *PTGN*

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



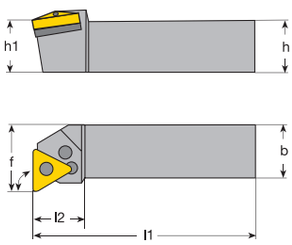
ISO designation	h=h1 mm	b mm	l1 mm	l2 mm	f mm	for indexable inserts	A1	B1	C1	D1	E1	F1	Right-hand art.no.	€	Left-hand art.no.	€
PTGN..1616 H16	16	16	100	22	20	TN..1604..	A1	B1	C1	D1	E1	F1	**320101** 0001	70,50	**320102** 0001	*70,50*
PTGN..2020 K16	20	20	125	22	25	TN..1604..	A1	B1	C1	D1	E1	F1	320101 0002	77,50	320102 0002	77,50
PTGN..2525 M16	25	25	150	22	32	TN..1604..	A1	B1	C1	D1	E1	F1	320101 0003	82,–	320102 0003	82,–
PTGN..2525 M22	25	25	150	28	32	TN..2204..	A2	B2	C2	D2	E2	F2	320101 0005	*82,–*	320102 0005	82,–
PTGN..3232 P22	32	32	170	28	40	TN..2204..	A2	B2	C2	D2	E2	F2	320101 0007	87,50	320102 0007	87,50
													3104		3104	

Spare parts

Support plate			Clamping lever			Screw			Hollow pin			Pin			Offset screwdriver, nickel-plated		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	321601 0001	7,25	B1	321601 0101	10,55	C1	321601 0201	3,19	D1	321601 0301	0,82	E1	321601 0401	1,21	F1	703005 0025	0,30
A2	321601 0002	9,75	B2	321601 0102	11,–	C2	321601 0202	3,19	D2	321601 0302	1,06	E2	321601 0402	1,21	F2	703005 0030	0,32
3106			3106			3106			3106			3106			7111		

Tool holders, negative *PTFN*

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



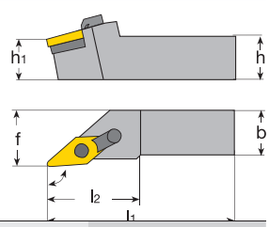
ISO designation	h=h1 mm	b mm	l1 mm	l2 mm	f mm	for indexable inserts	A1	B1	C1	D1	E1	F1	Right-hand art.no.	€	Left-hand art.no.	€
PTFN..1616 H16	16	16	100	22	20	TN..1604..	A1	B1	C1	D1	E1	F1	**320105** 0001	70,50	**320106** 0001	*70,50*
PTFN..2020 K16	20	20	125	22	25	TN..1604..	A1	B1	C1	D1	E1	F1	320105 0002	*77,50*	320106 0002	*77,50*
PTFN..2525 M16	25	25	150	22	32	TN..1604..	A1	B1	C1	D1	E1	F1	320105 0003	82,–	320106 0003	82,–
													3104		3104	

Spare parts

Support plate			Clamping lever			Screw			Hollow pin			Pin			Offset screwdriver, nickel-plated		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	321601 0001	7,25	B1	321601 0101	10,55	C1	321601 0201	3,19	D1	321601 0301	0,82	E1	321601 0401	1,21	F1	703005 0025	0,30
3106			3106			3106			3106			3106			7111		

Tool holders, negative *MVJN*

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



ISO designation	h=h1 mm	b mm	l1 mm	l2 mm	f mm	for indexable inserts	A1	B1	C1	D1	E2	Right-hand art.no.	€	Left-hand art.no.	€
MVJN..2020 K16	20	20	125	37	25	VN..1604..	A1	B1	C1	D1	E2	**320175** 0020	84,–	**320176** 0020	84,–
MVJN..2525 M16	25	25	150	37	32	VN..1604..	A1	B1	C1	D1	E2	320175 0025	90,50	320176 0025	90,50
MVJN..3225 P16	32	25	170	37	32	VN..1604..	A1	B1	C1	D1	E2	320175 0032	96,50	320176 0032	96,50
												3104		3104	

Spare parts

Support plate			Clamping claw			Screw			Clamping pin			Offset screwdriver, nickel-plated		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	321601 0017	14,15	B1	321601 0111	12,20	C1	321601 0212	3,62	D1	321601 0407	10,36	E1	703005 0020	0,28
												E2	703005 0030	0,32
3106			3106			3106			3106			7111		

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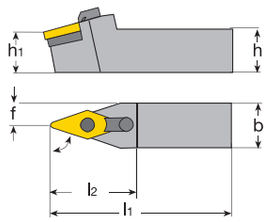
Tool holders, negative *MVVNN*

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



ISO designation	h=h1 mm	b mm	l1 mm	l2 mm	f mm	for indexable inserts	A1	B1	C1	D1	E1	**Neutral** art.no.	€
MVVNN 2020 K16	20	20	125	43	10	VN..1604..	A1	B1	C1	D1	E1	**320177** 0001	84,–
MVVNN 2525 M16	25	25	150	43	12.5	VN..1604..	A1	B1	C1	D1	E1	320177 0002	90,50
												3104	

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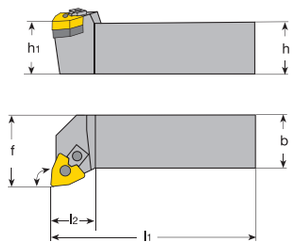
Spare parts

	Support plate art.no.	€		Clamping claw art.no.	€		Screw art.no.	€		Clamping pin art.no.	€		Offset screwdriver, nickel-plated art.no.	€
A1	321601 0017	14,15	B1	321601 0111	12,20	C1	321601 0212	3,62	D1	321601 0407	10,36	E1	703005 0030	0,32
	3106			3106			3106			3106			7111	

MWLN tool holders, negative

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



ISO designation	h=h1 mm	b mm	l1 mm	l2 mm	f mm	for indexable inserts	A2	B2	C2	D2	E1	**Right-hand** art.no.	€	**Left-hand** art.no.	€
MWLN..2020 K06	20	20	125	25	25	WN..0604..	A2	B2	C2	D2	E1	**320170** 0620	77,50	**320171** 0620	77,50
MWLN..2525 M06	25	25	150	25	32	WN..0604..	A2	B2	C2	D2	E1	320170 0625	*82,–*	320171 0625	82,–
MWLN..2020 K08	20	20	125	34	25	WN..0804..	A1	B1	C1	D1	E2	320170 0001	77,50	320171 0001	77,50
MWLN..2525 M08	25	25	150	34	32	WN..0804..	A1	B1	C1	D1	E2	320170 0002	82,–	320171 0002	82,–
MWLN..3232 P08	32	32	170	34	40	WN..0804..	A1	B1	C1	D1	E2	320170 0003	104,–	320171 0003	104,–
												3104		3104	

Spare parts

	Support plate art.no.	€		Screw art.no.	€		Clamping pin art.no.	€		Clamping claw art.no.	€		Offset screwdriver, nickel-plated art.no.	€
A1	321601 0015	8,40	B1	321601 0024	1,67	C1	321601 0410	3,19	D1	321601 0503	13,55	E1	703005 0030	0,32
A2	321601 0025	9,05	B2	321601 0026	1,67	C2	321601 0414	*3,37*	D2	321601 0504	14,–	E2	703005 0050	0,50
	3106			3106			3106			3106			7111	

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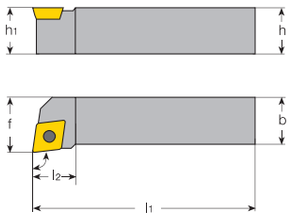
Tool holders, positive *SCLC*

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



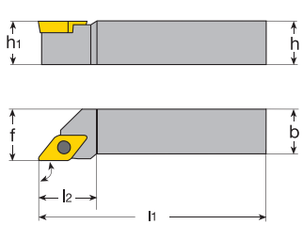
ISO designation	h=h1 mm	b mm	l1 mm	l2 mm	f mm	for indexable inserts					Right-hand art.no.	€	Left-hand art.no.	€
SCLC..1010 E06	10	10	70	9	12	CC..0602..		B1		D1	**320163** 0000	73,–	**320164** 0000	73,–
SCLC..1212 F09	12	12	80	15	16	CC..09T3..		B2		D2	320163 0001	73,–	320164 0001	73,–
SCLC..1616 H09	16	16	100	17	20	CC..09T3..		B2		D2	320163 0002	66,50	320164 0002	66,50
SCLC..2020 K09	20	20	125	17	25	CC..09T3..		B2		D2	320163 0005	76,–	320164 0005	76,–
SCLC..2525 M09	25	25	150	17	32	CC..09T3..		B2		D2	320163 0006	82,50	320164 0006	82,50
SCLC..1616 H12	16	16	100	20	20	CC..1204..	A1	B3	C1	D2	320163 0007	74,–	320164 0007	74,–
SCLC..2020 K12	20	20	125	20	25	CC..1204..	A1	B3	C1	D2	320163 0003	71,50	320164 0003	71,50
SCLC..2525 M12	25	25	150	20	32	CC..1204..	A1	B3	C1	D2	320163 0004	84,50	320164 0004	84,50
											3104		3104	

Spare parts

Support plate art.no.	€	Screw art.no.	€	Screw art.no.	€	TORX art.no.	€
A1 321601 0029	5,20	B1 321601 0210	2,98	C1 321601 0221	6,75	D1 703053 0070	3,–
		B2 321601 0216	3,23			D2 703053 0150	3,25
		B3 321601 0220	3,19				
3106		3106		3106		7114	

Tool holders, positive *SDJC*

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



ISO designation	h=h1 mm	b mm	l1 mm	l2 mm	f mm	for indexable inserts					Right-hand art.no.	€	Left-hand art.no.	€
SDJC..1010 E07	10	10	70	14	12	DC..0702..					**320165** 0001	60,–	**320166** 0001	60,–
SDJC..1212 F07	12	12	80	14	16	DC..0702..		B1		D1	320165 0002	64,50	320166 0002	64,50
SDJC..1212 F11	12	12	80	21	16	DC..11T3..		B2		D2	320165 0006	73,–	320166 0006	73,–
SDJC..1616 H11	16	16	100	22	20	DC..11T3..		B2		D2	320165 0003	66,50	320166 0003	66,50
SDJC..2020 K11	20	20	125	23	25	DC..11T3..	A1	B3	C1	D2	320165 0004	71,–	320166 0004	71,–
SDJC..2525 M11	25	25	150	27	32	DC..11T3..	A1	B3	C1	D2	320165 0005	78,–	320166 0005	78,–
											3104		3104	

Spare parts

Support plate art.no.	€	Screw art.no.	€	Screw art.no.	€	TORX art.no.	€
A1 321601 0022	14,15	B1 321601 0210	2,98	C1 321611 0013	10,50	D1 703053 0070	3,–
		B2 321601 0222	3,23			D2 703053 0150	3,25
		B3 321601 0754	3,19				
3106		3106		3106		7114	

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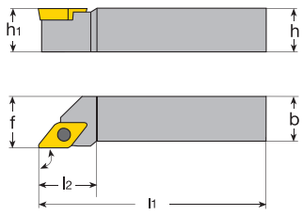
Tool holders, positive *SDHC*

- **SDHC R/L 107.5°**
- Setting angle 107.5°, for positive 7° rhombic indexable inserts, 55° point angle
- **Use:** Copy turning



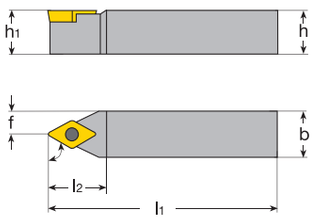
ISO designation	h=h1 mm	b mm	l1 mm	l2 mm	f mm	for indexable inserts					Right-hand art.no.	€	Left-hand art.no.	€
SDHC..1616 H11	16	16	100	10.4	20	DC..11T3..	A1	B1	C1	D1	**320168** 1616	79,–	**320169** 1616	79,–
SDHC..2020 K11	20	20	125	14	25	DC..11T3..	A1	B1	C1	D1	320168 2020	79,–	320169 2020	79,–
SDHC..2525 M11	25	25	150	20	32	DC..11T3..	A1	B1	C1	D1	320168 2525	85,–	320169 2525	85,–
											3134		3134	

Spare parts

	Support plate art.no.	€		Screw art.no.	€		Screw art.no.	€		TORX art.no.	€
A1	321611 0003	18,90	B1	321611 0011	6,95	C1	321611 0013	10,50	D1	703053 0150	3,25
	3106			3106			3106			7114	

Tool holders, positive *SDNCN*

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



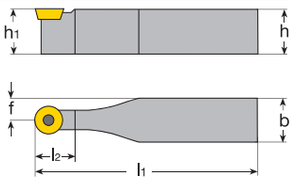
ISO designation	h=h1 mm	b mm	l1 mm	l2 mm	f mm	for indexable inserts					art.no.	€
SDNCN 0808 D07	8	8	60	9	4	DC..0702..			C1	D1	**320167** 0001	60,–
SDNCN 1010 E07	10	10	70	11	5	DC..0702..			C1	D1	320167 0002	60,–
SDNCN 1616 H11	16	16	100	16	8	DC..11T3..	A1	B1	C2	D2	320167 0004	66,50
SDNCN 2020K11	20	20	125	20	10	DC..11T3..	A1	B1	C2	D2	320167 0005	71,50
SDNCN 2525 M11	25	25	150	25	12.5	DC..11T3..	A1	B1	C2	D2	320167 0006	78,–
											3104	

Spare parts

	Screw art.no.	€		Support plate art.no.	€		Screw art.no.	€		TORX art.no.	€
A1	321601 0021	4,58	B1	321601 0022	14,15	C1	321601 0210	2,98	D1	703053 0070	3,–
						C2	321601 0754	3,19	D2	703053 0150	3,25
	3106			3106			3106			7114	

Tool holders, positive *SRDCN*

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



ISO designation	h=h1 mm	b mm	l1 mm	l2 mm	f mm	for indexable inserts						art.no.	€
SRDCN 1616 H08-D	16	16	100	11	20	RC..0803..	A1				E1	**320248** 0816	107,–
SRDCN 2020 K10-D	20	20	125	14	25	RC..10T3..	A3				E2	320248 1020	120,–
SRDCN 2525 M12-D	25	25	150	18	32	RC..1204..	A2	B1	C1	D1	E3	320248 1225	126,–
SRDCN 3225 M12-D	32	25	170	25	12.5	RC..1204..	A2	B1	C1	D1	E3	320248 1232	138,–
SRDCN 3225 M16-D	32	25	170	32	12.5	RC..1606..	A2	B1	C2	D1	E3	320248 1632	*138,–*
												3104	

Spare parts

	Screw art.no.	€		Screw art.no.	€		Spacer art.no.	€		Offset screwdriver, nickel-plated art.no.	€		TORX art.no.	€
A1	320901 0076	6,75	B1	320901 0091	20,10	C1	320901 0111	5,95	D1	703005 0030	0,32	E1	703053 0080	3,05
A2	320901 0079	4,85				C2	320901 0112	5,95				E2	703053 0150	3,25
A3	320901 0080	4,85										E3	703053 0200	3,30
	3106			3106			3106			7111			7114	

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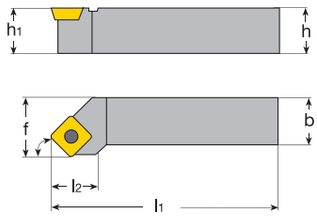
Tool holders, positive *SSSC*

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



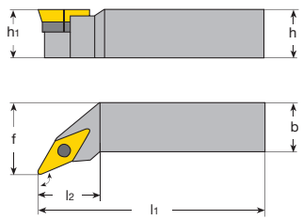
ISO designation	h=h1 mm	b mm	l1 mm	l2 mm	f mm	for indexable inserts					Right-hand art.no.	€	Left-hand art.no.	€
SSSC..1212 F09	12	12	80	11	16	SC..09T3..		B1		D1	**320184** 0001	64,50	**320185** 0001	64,50
SSSC..1616 H09	16	16	100	22	20	SC..09T3..		B1		D1	320184 0002	66,50	320185 0002	*66,50*
SSSC..2020 K12	20	20	125	22	25	SC..1204..	A1	B2	C1	D1	320184 0003	71,50	320185 0003	71,50
SSSC..2525 M12	25	25	150	22	32	SC..1204..	A1	B2	C1	D1	320184 0004	78,–	320185 0004	78,–
											3104		3104	

Spare parts

Support plate			Screw			Screw			TORX		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	321601 0030	8,25	B1	321601 0216	3,23	C1	321601 0221	6,75	D1	703053 0150	3,25
			B2	321601 0220	3,19						
3106			3106			3106			7114		

Tool holders, positive *SVXC*

- **SVXC R/L 112°**
- Setting angle 112°, for positive 7° rhombic indexable insert, 35° point angle
- **Use:** Longitudinal turning and facing



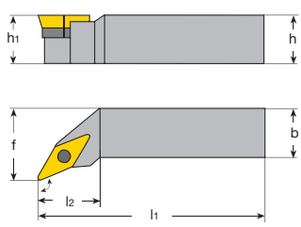
ISO designation	h=h1 mm	b mm	l1 mm	l2 mm	f mm	for indexable inserts						Right-hand art.no.	€	Left-hand art.no.	€
SVXC..2020 K16-D	20	20	125	25	25	VC..1604..	A1	B1	C1	D1	E1	**320243** 1620	143,–	**320244** 1620	143,–
SVXC..2525 M16-D	25	25	150	30	32	VC..1604..	A1	B1	C1	D1	E1	320243 1625	154,–	320244 1625	154,–
												3104		3104	

Spare parts

Screw			Screw			Support plate			Offset screwdriver, nickel-plated			TORX		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	320901 0081	4,85	B1	320901 0089	20,10	C1	320901 0126	8,60	D1	703005 0025	0,30	E1	703053 0150	3,25
3106			3106			3106			7111			7114		

Tool holders, positive *SVHC*

- **SVHC R/L 107.5°**
- Setting angle 107.5°, for positive 7° rhombic indexable inserts, 35° point angle
- **Use:** Longitudinal turning and facing



ISO designation	h=h1 mm	b mm	l1 mm	l2 mm	f mm	for indexable inserts			Right-hand art.no.	€	Left-hand art.no.	€
SVHC..2020 K11	20	20	125	14.6	25	VC..1103..	A1	B1	**320193** 2020	102,–	**320194** 2020	*102,–*
SVHC..2525 M11	25	25	150	20.9	32	VC..1103..	A1	B1	320193 2525	118,–	320194 2525	118,–
									3134		3134	

Spare parts

Screw			TORX		
	art.no.	€		art.no.	€
A1	321701 0102	9,50	B1	703053 0080	3,05
3106			7114		

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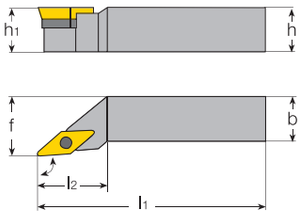
Tool holders, positive *SVJC*

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



ISO designation	h=h1 mm	b mm	l1 mm	l2 mm	f mm	for indexable inserts					Right-hand art.no.	€	Left-hand art.no.	€
SVJC..1616 H11	16	16	100	24	20	VC..1103..			C1	D1	**320188** 1616	78,50	**320189** 1616	78,50
SVJC..2020 K11	20	20	125	23	25	VC..1103..			C1	D1	320188 2020	88,50	320189 2020	88,50
SVJC..2525 M11	25	25	150	27	32	VC..1103..			C1	D1	320188 2525	95,–	320189 2525	95,–
SVJC..2020 K16	20	20	125	30	25	VC..1604..	A1	B1	C2	D2	320188 0001	84,–	320189 0001	84,–
SVJC..2525 M16	25	25	150	33	32	VC..1604..	A1	B1	C2	D2	320188 0002	89,50	320189 0002	89,50
											3104		3104	

Spare parts

	Screw art.no.	€
A1	321601 0021	4,58
	3106	

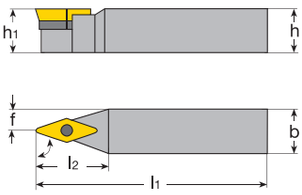
	Support plate art.no.	€
B1	321601 0027	9,60
	3106	

	Screw art.no.	€
C1	321601 0210	2,98
C2	321601 0754	3,19
	3106	

	TORX art.no.	€
D1	703053 0070	3,–
D2	703053 0150	3,25
	7114	

SVNC tool holders, positive

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



ISO designation	h=h1 mm	b mm	l1 mm	l2 mm	f mm	for indexable inserts					art.no.	€
SVNC 2020 K16	20	20	125	37	10.6	VC..1604..	A1	B1	C1	D1	**320192** 0001	84,–
SVNC 2525 M16	25	25	150	37	13.1	VC..1604..	A1	B1	C1	D1	320192 0002	89,50
											3104	

Spare parts

	Screw art.no.	€
A1	321601 0021	4,58
	3106	

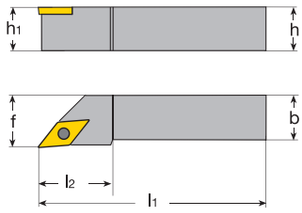
	Support plate art.no.	€
B1	321601 0027	9,60
	3106	

	Screw art.no.	€
C1	321601 0754	3,19
	3106	

	TORX art.no.	€
D1	703053 0150	3,25
	7114	

Tool holders, positive *SVJB*

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



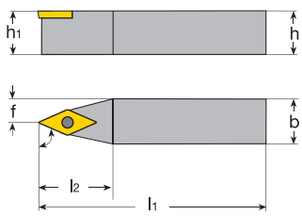
ISO designation	h=h1 mm	b mm	l1 mm	l2 mm	f mm	for indexable inserts	A1	B1	C1	D1	Right-hand art.no.	€	Left-hand art.no.	€
SVJB..2020 K16	20	20	125	37	25	VB..1604..	A1	B1	C1	D1	**320190** 1620	83,50	**320191** 1620	83,50
SVJB..2525 M16	25	25	150	37	32	VB..1604..	A1	B1	C1	D1	320190 1625	89,50	320191 1625	89,50
											3104		3104	

Spare parts

A1 Screw art.no.	€	B1 Support plate art.no.	€	C1 Screw art.no.	€	D1 TORX art.no.	€
321601 0021	4,58	321601 0027	9,60	321601 0754	3,19	703053 0150	3,25
3106		3106		3106		7114	

SVNB tool holders, positive

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



ISO designation	h=h1 mm	b mm	l1 mm	l2 mm	f mm	for indexable inserts	A1	B1	C1	D1	art.no.	€
SVNB 2020 K16	20	20	125	37	10.0	VB..1604..	A1	B1	C1	D1	**320195** 1620	83,50
SVNB 2525 M16	25	25	150	37	12.5	VB..1604..	A1	B1	C1	D1	320195 1625	89,50
											3104	

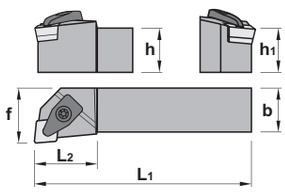
Spare parts

A1 Screw art.no.	€	B1 Support plate art.no.	€	C1 Screw art.no.	€	D1 TORX art.no.	€
321601 0021	4,58	321601 0027	9,60	321601 0754	3,19	703053 0150	3,25
3106		3106		3106		7114	

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

- **DCLN R/L 95°**
- **With 1/8" GAS internal cooling connection**
- Setting angle 95°, for negative 0° rhombic indexable inserts, 80° point angle
- Use: Longitudinal turning and facing

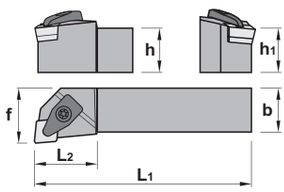
ISO designation	b mm	l1 mm	l2 mm	f mm	h=h1 mm	for indexable inserts	Right-hand art.no.	€	Left-hand art.no.	€
DCLN.. 2020 K12 A	20	125	28	25	20	CN..12	**324003** 0001	133,–	**324004** 0001	133,–
DCLN.. 2020 K16 A	20	125	28	25	20	CN..16	324003 0002	*133,–*	324004 0002	*133,–*
DCLN.. 2525 M12 A	25	150	28	32	25	CN..12	324003 0003	159,–	324004 0003	159,–
DCLN.. 2525 M16 A	25	150	34	32	25	CN..16	324003 0004	159,–	324004 0004	159,–
DCLN.. 3232 P19 A	32	170	42	40	32	CN..19	324003 0005	215,–	324004 0005	215,–
							3133		3133	



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

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

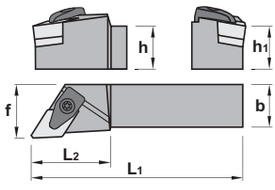
ISO designation	b mm	l1 mm	l2 mm	f mm	h=h1 mm	for indexable inserts	Right-hand art.no.	€	Left-hand art.no.	€
DCLN.. 2020 K12	20	125	28	25	20	CN..12	**324001** 0001	79,–	**324002** 0001	79,–
DCLN.. 2525 M12	25	150	28	25	25	CN..12	324001 0002	79,–	324002 0002	79,–
DCLN.. 2525 M16	25	150	34	32	25	CN..16	324001 0003	71,50	324002 0003	71,50
DCLN.. 3232 P19	32	170	42	40	32	CN..19	324001 0004	105,–	324002 0005	105,–
							3132		3132	



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

- **DDJN R/L 93°**
- **With 1/8" GAS internal cooling connection**
- Setting angle 93°, for negative 0° rhombic indexable inserts, 55° point angle
- Use: Copy turning

ISO designation	b mm	l1 mm	l2 mm	f mm	h=h1 mm	for indexable inserts	Right-hand art.no.	€	Left-hand art.no.	€
DDJN.. 2020 K11 A	20	125	28	25	20	DN..11	**324007** 0001	133,–	**324008** 0001	133,–
DDJN.. 2020 K15 A	20	125	34	25	20	DN..15	324007 0002	133,–	324008 0002	133,–
DDJN.. 2525 M15 A	32	150	42	40	25	DN..15	324007 0003	159,–	324008 0003	159,–
							3133		3133	



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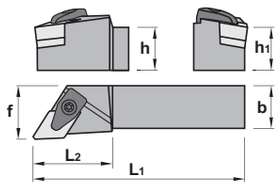
SARA® DLOCK tool holder with D clamping, DDJN for negative turning inserts

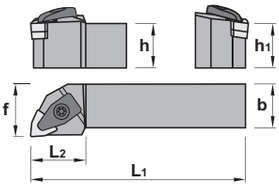
- **DDJN R/L 93°**
- Setting angle 93°, for negative 0° rhombic indexable inserts, 55° point angle
- Use: Copy turning



ISO designation	b mm	l1 mm	l2 mm	f mm	h=h1 mm	for indexable inserts	Right-hand art.no.	€	Left-hand art.no.	€
DDJN.. 2020 K11	20	125	34	25	20	DN..11	**324005** 0001	79,–	**324006** 0001	79,–
DDJN.. 2020 K15	20	125	34	25	20	DN..15	324005 0002	79,–	324006 0002	79,–
DDJN.. 2525 M15	25	150	34	32	25	DN..15	324005 0003	79,–	324006 0003	79,–
							3132		3132	

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

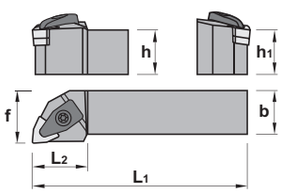
- **DWLN R/L 95°**
- **With 1/8" GAS internal cooling connection**
- Setting angle 95°, for negative 0° trigonometric indexable inserts, 80° point angle
- Use: Longitudinal turning and facing



ISO designation	b mm	l1 mm	l2 mm	f mm	h=h1 mm	for indexable inserts	Right-hand art.no.	€	Left-hand art.no.	€
DWLN.. 2020 K06 A	20	125	34	25	20	WN..06	**324011** 0001	133,–	**324012** 0001	133,–
DWLN.. 2020 K08 A	20	125	34	25	20	WN..08	324011 0002	133,–	324012 0002	133,–
DWLN.. 2525 M08 A	25	150	34	32	25	WN..08	324011 0003	159,–	324012 0003	159,–
							3133		3133	

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

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



ISO designation	b mm	l1 mm	l2 mm	f mm	h=h1 mm	for indexable inserts	Right-hand art.no.	€	Left-hand art.no.	€
DWLN.. 2020 K06	20	125	34	25	20	WN..06	**324009** 0001	68,–	**324010** 0001	68,–
DWLN.. 2020 K08	20	125	34	25	20	WN..08	324009 0002	79,–	324010 0002	79,–
DWLN.. 2525 M08	25	150	34	32	25	WN..08	324009 0003	79,–	324010 0003	79,–
							3132		3132	

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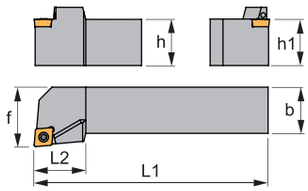
SARA® DLOCK tool holder with S clamping, SCLC for positive turning inserts

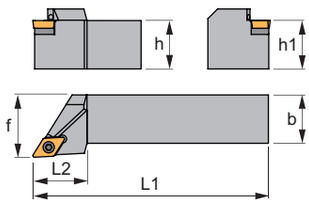
- **SCLC R/L 95°**
- **With 1/8" GAS internal cooling connection**
- Setting angle 95°, for positive 7° rhombic indexable inserts, 80° point angle
- Use: Longitudinal turning and facing



ISO designation	b mm	l1 mm	l2 mm	f mm	h=h1 mm	for indexable inserts	Right-hand art.no.	€	Left-hand art.no.	€
SCLC.. 1616 H09 A	16	100	18	20	16	CC..09	**324013** 0001	127,–	**324014** 0001	127,–
SCLC.. 2020 H09 A	20	125	22	25	20	CC..09	324013 0002	133,–	324014 0002	133,–
SCLC.. 2525 H09 A	25	125	25	25	25	CC..09	324013 0003	159,–	324014 0003	159,–
							3133		3133	

SARA® DLOCK tool holder with S clamping, SDJC for positive turning inserts

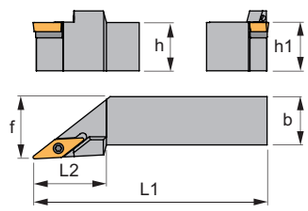
- **SDJC R/L 93°**
- **With 1/8" GAS internal cooling connection**
- Setting angle 93°, for positive 7° rhombic indexable inserts, 55° point angle
- Use: Copy turning



ISO designation	b mm	l1 mm	l2 mm	f mm	h=h1 mm	for indexable inserts	Right-hand art.no.	€	Left-hand art.no.	€
SDJC.. 2020 K11 A	20	125	22	25	20	DC..11	**324015** 0001	133,–	**324016** 0001	133,–
SDJC.. 2525 K11 A	25	150	22	32	25	DC..11	324015 0002	159,–	324016 0002	159,–
							3133		3133	

SARA® DLOCK tool holder with S clamping, SVJC for positive turning inserts

- **SVJC R/L 93°**
- **With 1/8" GAS internal cooling connection**
- Setting angle 93°, for positive 7° rhombic indexable inserts, 35° point angle
- Use: Longitudinal and copy turning



ISO designation	b mm	l1 mm	l2 mm	f mm	h=h1 mm	for indexable inserts	Right-hand art.no.	€	Left-hand art.no.	€
SVJC.. 2020 K11 A	20	125	25	25	20	VC..11	**324017** 0001	133,–	**324018** 0001	133,–
SVJC.. 2020 M16 A	20	125	37	25	20	VC..16	324017 0002	133,–	324018 0002	133,–
							3133		3133	

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Boring bar, negative *CKUN*

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

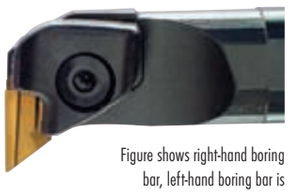
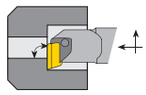
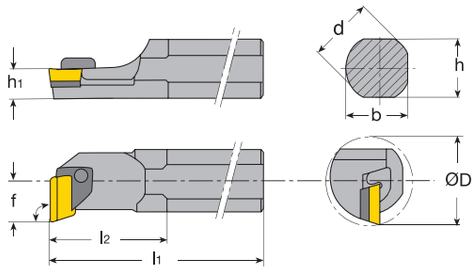


Figure shows right-hand boring bar, left-hand boring bar is mirror image





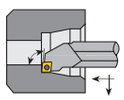
ISO designation	d mm	h mm	h1 mm	l1 mm	l2 mm	f mm	D min. mm	for indexable inserts								Right-hand art.no.	€	Left-hand art.no.	€
S25T CKUNL 16	25	23	11.5	300	50	20.5	37	KNUX 1604..		B1	C1		E1	F2	G1			**321504** 0025	147,–
S25T CKUNR 16	25	23	11.5	300	50	20.5	37	KNUX 1604..		B2	C1		E1	F2	G1	**321503** 0025	147,–		
S32U CKUNL 16	32	30	15	350	54	22	39	KNUX 1604..	A2	B1	C1	D1	E1	F3	G1			321504 0032	215,–
S32U CKUNR 16	32	30	15	350	54	22	39	KNUX 1604..	A1	B2	C1	D1	E1	F3	G1	321503 0032	215,–		
S40V CKUNL 16	40	37	18.5	400	60	27	48	KNUX 1604..	A2	B2	C1	D1	E1	F1	G1			321504 0040	250,–
S40V CKUNR 16	40	37	18.5	400	60	27	48	KNUX 1604..	A1	B2	C1	D1	E1	F1	G1	321503 0040	250,–		
																3105		3105	

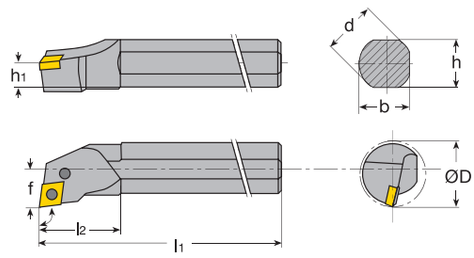
Spare parts

Support plate			Clamping lever			Screw			Pin			Spring			Spring pin			Offset screwdriver, nickel-plated		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	321601 0018	10,80	B1	321601 0114	12,70	C1	321601 0215	3,19	D1	321601 0408	1,28	E1	321601 0901	1,21	F1	321601 0903	2,77	G1	703005 0040	0,38
A2	321601 0019	10,80	B2	321601 0115	12,70										F2	321601 0904	2,77			
															F3	321601 0905	2,77			
	3106			3106			3106			3106			3106			3106			7111	

Boring bar, negative *PCLN*

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





ISO designation	d mm	h mm	h1 mm	l1 mm	l2 mm	f mm	D min. mm	for indexable inserts							Right-hand art.no.	€	Left-hand art.no.	€
S25T PCLN..12	25	23	11.5	300	40	17	31	CN..1204..		B4	C4			F1	**321515** 0025	162,–	**321516** 0025	162,–
S32U PCLN..12	32	30	15	350	50	22	39	CN..1204..	A1	B3	C3	D1	E1	F2	321515 0032	225,–	321516 0032	225,–
S40V PCLN..12	40	37	18.5	400	60	27	48	CN..1204..	A1	B1	C1	D1	E1	F2	321515 0040	255,–	321516 0040	255,–
S50W PCLN..16	50	47	23.5	450	65	35	61	CN..1606..	A2	B2	C2	D2	E2	F2	321515 0050	310,–	321516 0050	310,–
															3105		3105	

With internal cooling

(one clamping surface from above)

ISO designation	d mm	h mm	h1 mm	l1 mm	l2 mm	f mm	D min. mm	for indexable inserts							Right-hand art.no.	€	Left-hand art.no.	€
A25R PCLN..12	25	23	11.5	200	40	17	32	CN..1204..		B4	C4			F1	**321515** 0125	210,–	**321516** 0125	210,–
A32S PCLN..12	32	30	15	250	50	22	40	CN..1204..	A1	B3	C3	D1	E1	F2	321515 0132	290,–	321516 0132	290,–
															3105		3105	

Spare parts

Support plate			Clamping lever			Screw			Hollow pin			Pin			Offset screwdriver, nickel-plated		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	321601 0007	8,25	B1	321601 0102	11,–	C1	321601 0202	3,19	D1	321601 0302	1,06	E1	321601 0402	1,21	F1	703005 0025	0,30
A2	321601 0008	12,45	B2	321601 0103	10,55	C2	321601 0203	2,98	D2	321601 0303	1,06	E2	321601 0403	1,21	F2	703005 0030	0,32
			B3	321601 0108	10,40	C3	321601 0209	3,19									
			B4	321601 0112	11,–	C4	321601 0217	3,19									
	3106			3106			3106			3106			3106			7111	

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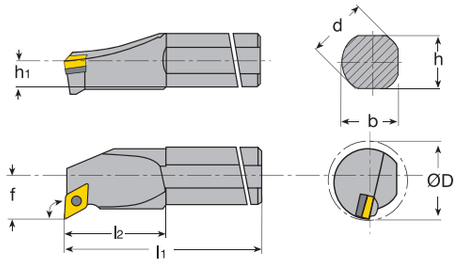
Boring bar, negative *PDUN*

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



ISO designation	d mm	h mm	h1 mm	l1 mm	l2 mm	f mm	D min. mm	for indexable inserts	A2	B1	C1	D1	E1	F1	Right-hand art.no.	€	Left-hand art.no.	€
S20S PDUN..11	20	18	9	250	29	13	25	DN..1104..	A2	B1	C1	D1	E1	F1	**321501** 0020	240,–	**321502** 0020	240,–
S25T PDUN..11	25	23	11.5	300	40	17	32	DN..1104..	A2	B1	C1	D1	E1	F1	321501 0025	240,–	321502 0025	240,–
S32U PDUN..15	32	30	15	350	50	22	39	DN..1506..	A1	B2	C3	D2	E2	F2	321501 0032	225,–	321502 0032	225,–
S40V PDUN..15	40	37	18.5	400	60	27	48	DN..1506..	A1	B2	C2	D2	E2	F2	321501 0040	255,–	321502 0040	255,–
S50W PDUN..15	50	47	23.5	450	65	35	61	DN..1506..	A1	B2	C2	D2	E2	F2	321501 0050	310,–	321502 0050	310,–
															3105		3105	

With internal cooling
(one clamping surface from above)

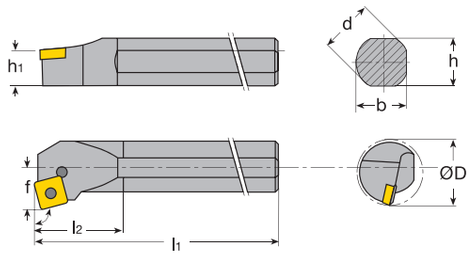
ISO designation	d mm	h mm	h1 mm	l1 mm	l2 mm	f mm	D min. mm	for indexable inserts	A2	B1	C1	D1	E1	F1	Right-hand art.no.	€	Left-hand art.no.	€
A25R PDUN..11	25	23	11.5	200	40	17	32	DN..1104..	A2	B1	C1	D1	E1	F1	**321501** 0125	210,–	**321502** 0125	210,–
A32S PDUN..15	32	30	15	250	50	22	40	DN..1506..	A1	B2	C3	D2	E2	F2	321501 0132	290,–	321502 0132	290,–
A40T PDUN..15	40	37	18.5	300	60	27	50	DN..1506..	A1	B2	C2	D2	E2	F2	321501 0140	330,–	321502 0140	330,–
															3105		3105	

Spare parts

Support plate			Clamping lever			Screw			Hollow pin			Pin			Offset screwdriver, nickel-plated		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	321601 0010	8,–	B1	321601 0101	10,55	C1	321601 0201	3,19	D1	321601 0301	0,82	E1	321601 0401	1,21	F1	703005 0025	0,30
A2	321601 0012	14,15	B2	321601 0107	11,80	C2	321601 0206	2,98	D2	321601 0302	1,06	E2	321601 0402	1,21	F2	703005 0030	0,32
						C3	321601 0209	3,19									
3106			3106			3106			3106			3106			7111		

Boring bar, negative *PSKN*

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



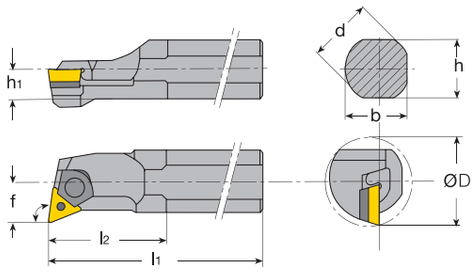
ISO designation	d mm	h mm	h1 mm	l1 mm	l2 mm	f mm	D min. mm	for indexable inserts	A1	B1	C1	D1	E1	F1	Right-hand art.no.	€
S25T PSKN..12	25	23	11.5	300	40	17	31	SN..1204..		B2	C2			F1	**321505** 0025	162,–
S32U PSKN..12	32	30	15	350	50	22	39	SN..1204..	A1	B1	C1	D1	E1	F2	321505 0032	225,–
															3105	

Spare parts

Support plate			Clamping lever			Screw			Hollow pin			Pin			Offset screwdriver, nickel-plated		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	321601 0003	8,40	B1	321601 0108	10,40	C1	321601 0209	3,19	D1	321601 0302	1,06	E1	321601 0402	1,21	F1	703005 0025	0,30
			B2	321601 0112	11,–	C2	321601 0217	3,19							F2	703005 0030	0,32
3106			3106			3106			3106			3106			7111		

Boring bar, negative *MTLN*

- **MTLN R/L 95°**
- Setting angle 95°, for negative 0° triangular indexable inserts, 90° point angle
- **Use:** Longitudinal turning



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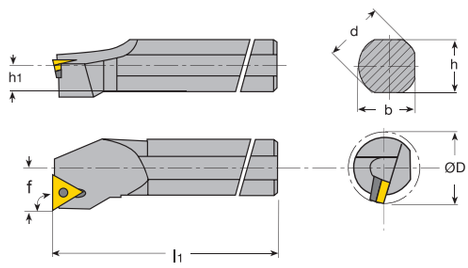
ISO designation	d mm	h mm	h1 mm	l1 mm	l2 mm	f mm	D min. mm	for indexable inserts						Right-hand art.no.	€
S25S MTLN..16W-D	25	23	12.2	250	40	17	35	TN..1604..	A1	B1	C2	D1	E2	**322101** 1625	*300,–*
S32T MTLN..16W-D	32	29	14.5	300	48	22	40	TN..1604..	A1	B1	C2	D1	E2	322101 1632	*310,–*
														3105	

Spare parts

	Wedge art.no.	€		Stud art.no.	€		Support plate art.no.	€		Clamping pin art.no.	€		Offset screwdriver, nickel-plated art.no.	€
A1	320901 0019	32,60	B1	320901 0055	13,30	C1	320901 0122	5,40	D1	320901 0132	13,30	E1	703005 0020	0,28
						C2	320901 0123	5,40				E2	703005 0025	0,30
	3106			3106			3106			3106			7111	

Boring bar, negative *PTFN*

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



ISO designation	d mm	h mm	h1 mm	l1 mm	l2 mm	f mm	D min. mm	for indexable inserts							Right-hand art.no.	€	Left-hand art.no.	€
S25T PTFN..16	25	23	11.5	300	40	17	31	TN..1604..		B3	C3			F1	**321510** 0025	162,–	**321511** 0025	162,–
S32U PTFN..16	32	30	15	350	50	22	39	TN..1604..	A1	B1	C1	D2	E1	F2	321510 0032	225,–	321511 0032	225,–
S40V PTFN..22	40	37	18.5	400	60	27	48	TN..2204..	A2	B2	C2	D1	E2	F3	321510 0040	*255,–*	321511 0040	255,–
S50W PTFN..22	50	47	23.5	450	65	35	61	TN..2204..	A2	B2	C2	D1	E2	F3	321510 0050	310,–	321511 0050	310,–
															3105		3105	

With internal cooling

(one clamping surface from above)

ISO designation	d mm	h mm	h1 mm	l1 mm	l2 mm	f mm	D min. mm	for indexable inserts							Right-hand art.no.	€	Left-hand art.no.	€
A25R PTFN..16	25	23	11.5	200	40	17	32	TN..1604..		B3	C3			F1	**321510** 0125	210,–	**321511** 0125	210,–
A32S PTFN..16	32	30	15	250	50	22	40	TN..1604..	A1	B1	C1	D2	E1	F2	321510 0132	290,–	321511 0132	290,–
															3105		3105	

Spare parts

	Support plate art.no.	€		Clamping lever art.no.	€		Screw art.no.	€		Hollow pin art.no.	€		Pin art.no.	€		Offset screwdriver, nickel-plated art.no.	€
A1	321601 0001	7,25	B1	321601 0101	10,55	C1	321601 0201	3,19	D1	321601 0302	1,06	E1	321601 0401	1,21	F1	703005 0020	0,28
A2	321601 0002	9,75	B2	321601 0102	11,–	C2	321601 0202	3,19	D2	321601 0308	0,82	E2	321601 0402	1,21	F2	703005 0025	0,30
			B3	321601 0113	10,55	C3	321601 0213	3,19							F3	703005 0030	0,32
	3106			3106			3106			3106			3106			7111	

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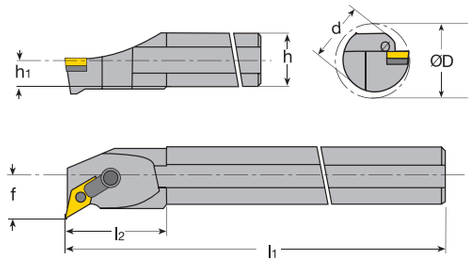
Boring bar, negative *MVUN*

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



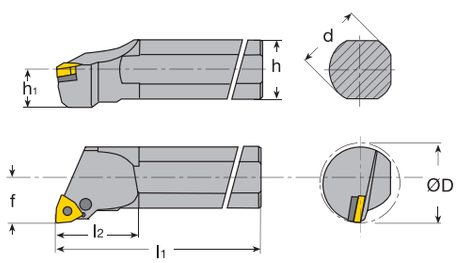
ISO designation	d mm	h mm	h1 mm	l1 mm	l2 mm	f mm	D min. mm	for indexable inserts						Right-hand art.no.	€	Left-hand art.no.	€
S25T MVUN..16	25	23	11.5	300	40	17	31	VN..1604..	A1	B1	C2	D1	E1	**321520** 1625	178,–	**321521** 1625	178,–
S32U MVUN..16	32	30	15	350	50	22	39	VN..1604..	A1	B1	C1	D1	E1	321520 1632	245,–	321521 1632	245,–
S40V MVUN..16	40	37	18.5	400	60	27	48	VN..1604..	A1	B1	C1	D1	E1	321520 1640	280,–	321521 1640	280,–
														3105		3105	

Spare parts

	Support plate art.no.	€		Clamping lever art.no.	€		Screw art.no.	€		Clamping pin art.no.	€		Offset screwdriver, nickel-plated art.no.	€
A1	321601 0017	14,15	B1	321601 0118	12,20	C1	321601 0212	3,62	D1	321601 0407	10,36	E1	703005 0020	0,28
						C2	321601 0219	3,62						
	3106			3106			3106			3106			7111	

Boring bar, negative *PWLN*

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



ISO designation	d mm	h mm	h1 mm	l1 mm	l2 mm	f mm	D min. mm	for indexable inserts							Right-hand art.no.	€	Left-hand art.no.	€
S16R PWLN..06	16	14	7	200	24	11	20	WN..0604..		B4	C4			F1	**321531** 0616	152,–	**321532** 0616	152,–
S20S PWLN..06	20	18	9	250	36	13	27	WN..0604..		B4	C4			F1	321531 0620	160,–	321532 0620	160,–
S25T PWLN..06	25	23	11.5	300	40	17	31	WN..0604..	A2	B1	C1	D1	E1	F1	321531 0625	172,–	321532 0625	172,–
S25T PWLN..08	25	23	11.5	300	40	17	31	WN..0804..		B3	C3			F2	321531 0825	172,–	321532 0825	172,–
S32U PWLN..08	32	30	15	350	50	22	39	WN..0804..	A1	B2	C2	D2	E2	F2	321531 0832	240,–	321532 0832	240,–
S40V PWLN..08	40	37	18.5	400	60	27	48	WN..0804..	A1	B2	C2	D2	E2	F2	321531 0840	270,–	321532 0840	270,–
															3105		3105	

Spare parts

	Support plate art.no.	€		Clamping lever art.no.	€		Screw art.no.	€		Hollow pin art.no.	€		Pin art.no.	€		Offset screwdriver, nickel-plated art.no.	€
A1	321601 0016	8,85	B1	321601 0101	10,55	C1	321601 0201	3,19	D1	321601 0301	0,82	E1	321601 0401	1,21	F1	703005 0025	0,30
A2	321601 0031	9,05	B2	321601 0102	11,–	C2	321601 0202	3,19	D2	321601 0302	1,06	E2	321601 0402	1,21	F2	703005 0030	0,32
			B3	321601 0108	10,40	C3	321601 0209	3,19									
			B4	321601 0113	10,55	C4	321601 0213	3,19									
	3106			3106			3106			3106			3106			7111	

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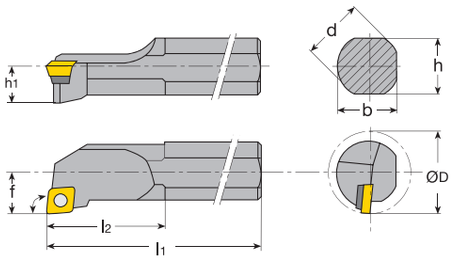
ATORN® Boring bar, positive SCLC

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



Standard version with internal cooling

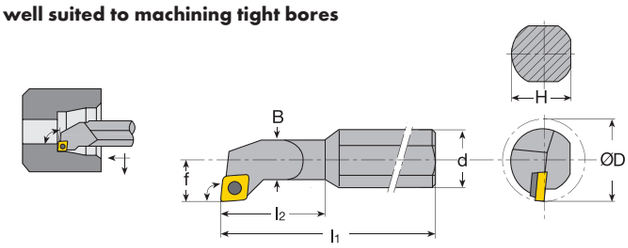
ISO designation	d mm	h mm	h1 mm	l1 mm	l2 mm	f mm	D min. mm	for indexable inserts					Right-hand art.no.	€	Left-hand art.no.	€
A08H SCLC..06	8	7	3.5	100	12	6	12	CC..0602..	A1			D1	**321001** 0108	90,–	**321002** 0108	90,–
A10K SCLC..06	10	9	4.5	125	16	7	14	CC..0602..	A1			D1	321001 0110	90,–	321002 0110	*90,–*
A12L SCLC..06	12	11	5.5	140	20	9	18	CC..0602..	A1			D1	321001 0112	90,–	321002 0112	90,–
A16Q SCLC..09	16	15	7.5	180	25	11	22	CC..09T3..	A2			D2	321001 0116	93,–	321002 0116	93,–
A20R SCLC..09	20	18	9.0	200	32	13	26	CC..09T3..	A2			D2	321001 0120	96,–	321002 0120	96,–
A25R SCLC..12	25	23	11.5	200	40	17	34	CC..1204..	A4	B1	C1	D3	321001 0126	130,–	321002 0126	130,–
A32S SCLC..12	32	30	15.0	250	22	20	40	CC..1204..	A3	B1	C1	D2	321001 0132	162,–	321002 0132	*162,–*
A40T SCLC..12	40	38	38.5	300	22	25	50	CC..1204..	A3	B1	C1	D2	321001 0140	*232,–*	321002 0140	*232,–*
													3134		3134	

Spare parts

Screw			Support plate			Screw			TORX		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	320901 2513	10,20	B1	321611 0001	*28,50*	C1	321611 0012	*10,50*	D1	703053 0080	3,05
A2	320901 2516	8,50							D2	703053 0150	3,25
A3	321611 0010	*6,95*							D3	703053 0200	3,30
A4	321701 0108	8,50									
	3106			3106			3106			7114	

ATORN® Boring bar, positive SCLC

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



Boring bar, individual

ISO designation	d mm	H mm	l1 mm	l2 mm	f mm	B mm	D min. mm	for indexable inserts			Right-hand art.no.	€	Left-hand art.no.	€
A0608H SCLC..06	8	7	100	25	4	6	8.5	CC.. 0602..	A1	B1	**321003** 0008	62,–	**321004** 0008	62,–
A0810J SCLC..06	10	9	110	32	6	8	12	CC.. 0602..	A1	B1	321003 0010	62,–	321004 0010	62,–
A1012K SCLC..06	12	11	125	38	7	10	14	CC.. 0602..	A1	B1	321003 0012	70,–	321004 0012	70,–
A1216M SCLC..06	16	15	150	50	9	12	18	CC.. 0602..	A1	B1	321003 0016	70,–	321004 0016	70,–
											3134		3134	

Set

Contents			Right-hand art.no.	€	Left-hand art.no.	€
1 each of A0608H SCLCR/L 06; A0810J SCLCR/L 06; A1012K SCLCR/L 06; A1216M SCLCR/L 06	A1	B1	**321003** 1004	202,–	**321004** 1004	202,–
			3134		3134	

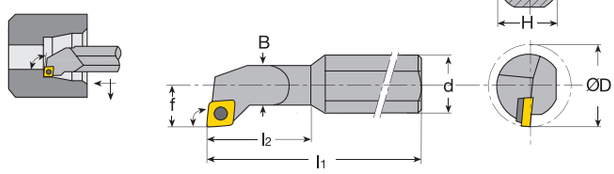
Spare parts

Screw			TORX		
	art.no.	€		art.no.	€
A1	320901 2513	10,20	B1	703053 0080	3,05
	3106			7114	

ATORN® Boring bar, positive SCLC

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

- **SCLC R/L 95°**
- Setting angle 95°, for positive 7° rhombic indexable inserts, 80° point angle
- Use: longitudinal turning, **very well suited to small bores**
- **With internal cooling**
- **D min from 5.00 mm**
- Note: right-hand boring bar = left-hand indexable insert, left-hand boring bar = right-hand indexable insert



HSS version

ISO designation	d mm	l1 mm	l2 mm	f mm	D min. mm	for indexable inserts	A1	B1	Right-hand art.no.	€	Left-hand art.no.	€
AH 0410H SCLC..03	10	100	24	2.5	5	CCGT 0301..	A1	B1	**321103** 0004	172,–	**321104** 0004	172,–
AH 0610H SCLC..03	10	100	24	2.5	7	CCGT 0301..	A1	B1	321103 0006	174,–	321104 0006	174,–
									3134		3134	

Solid carbide version

ISO designation	d mm	l1 mm	l2 mm	f mm	D min. mm	for indexable inserts	A1	B1	Right-hand art.no.	€	Left-hand art.no.	€
C 04G SCLC..03	4	90	10	2.5	5	CCGT 0301..	A1	B1	**321101** 0104	185,–	**321102** 0104	185,–
C 05H SCLC..03	5	100	10	3.0	6	CCGT 0301..	A1	B1	321101 0105	185,–	321102 0105	185,–
E 06J SCLC..03	6	110	10	3.5	7	CCGT 0301..	A1	B1	321101 0106	195,–	321102 0106	195,–
									3134		3134	

Suitable ISO P/K indexable inserts

ISO designation	ISO P K Right-hand art.no.	€	ISO P K Left-hand art.no.	€
CCGT 030102 L-F HC 4625			10 **321265** 0165	14,–
CCGT 030102 R-F HC 4625	10 **321266** 0165	14,–		
	3110		3110	

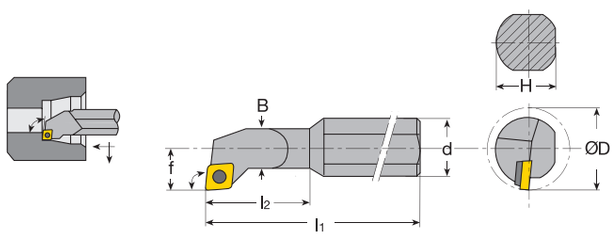
Spare parts

Screw art.no.	€
A1 262551 0016	9,95
3106	

TORX art.no.	€
B1 703053 0060	3,–
7114	

ATORN® SCLC HSS boring bars

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



Boring bar, individual

ISO designation	d mm	H mm	l1 mm	l2 mm	f mm	B mm	D min. mm	for indexable inserts	A1	B1	Right-hand art.no.	€	Left-hand art.no.	€
AH0608H SCLC..06	8	7	100	25	4	6	8	CC..0602..	A1	B1	**321103** 0008	110,–	**321104** 0008	110,–
AH0810J SCLC..06	10	9	110	32	6	8	12	CC..0602..	A1	B1	321103 0010	112,–	321104 0010	112,–
AH1012K SCLC..06	12	11	125	38	7	10	14	CC..0602..	A1	B1	321103 0012	124,–	321104 0012	124,–
AH1216M SCLC..06	16	15	150	50	9	12	18	CC..0602..	A1	B1	321103 0016	149,–	321104 0016	149,–
											3134		3134	

Set

Contents	A1	B1	Right-hand art.no.	€	Left-hand art.no.	€
1 each of AH0608H SCLCR/L 06; AH0810J SCLCR/L 06; AH1012K SCLCR/L 06; AH1216M SCLCR/L 06	A1	B1	**321103** 1004	340,–	**321104** 1004	340,–
			3134		3134	

Spare parts

Screw art.no.	€
A1 320901 2513	10,20
3106	

TORX art.no.	€
B1 703053 0080	3,05
7114	

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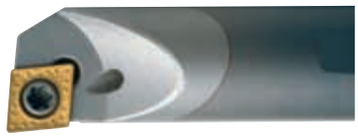
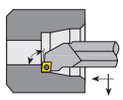
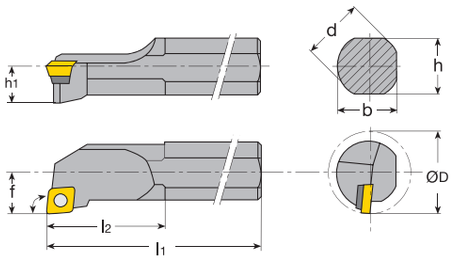
ATORN® SCLC solid carbide boring bars

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







Boring bar, individual

ISO designation	d mm	h mm	h1 mm	l1 mm	l2 mm	f mm	D min. mm	for indexable inserts					Right-hand art.no.	€	Left-hand art.no.	€
E08K SCLC..06	8	7.5	3.5	125	10	5	10	CC..0602..	A1			D1	**321101** 0108	158,–	**321102** 0108	158,–
E10K SCLC..06	10	9.5	4.5	125	10	6	12	CC..0602..	A1			D1	321101 0110	170,–	321102 0110	170,–
E12M SCLC..06	12	11.5	5.5	150	10	7	14	CC..0602..	A1			D1	321101 0112	192,–	321102 0112	192,–
E16R SCLC..09	16	15.5	7.0	200	16	9	18	CC..09T3..	A2			D2	321101 0116	340,–	321102 0116	340,–
E20S SCLC..09	20	19.5	9.0	250	16	11.5	23	CC..09T3..	A2			D2	321101 0120	770,–	321102 0120	770,–
E25S SCLC..12	25	24.5	11.5	250	16	15	30	CC..1204..	A3	B1	C1	D3	321101 0125	1.190,–	321102 0125	1.190,–
													3134		3134	

Set

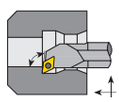
Contents			Right-hand art.no.	€	Left-hand art.no.	€
1 each of E08K SCLCR/L 06; E10K SCLCR/L 06; E12M SCLCR/L 06	A1	D1	**321101** 0003	418,–	**321102** 0003	418,–
			3134		3134	

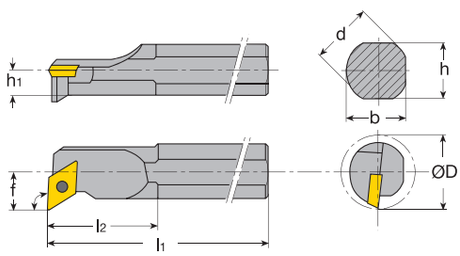
Spare parts

	Screw art.no.	€		Support plate art.no.	€		Screw art.no.	€		TORX art.no.	€
A1	320901 2513	10,20	B1	321611 0001	28,50	C1	321611 0012	10,50	D1	703053 0080	3,05
A2	320901 2516	8,50							D2	703053 0150	3,25
A3	321701 0108	8,50							D3	703053 0200	3,30
	3106			3106			3106			7114	

ATORN® Boring bar, positive SDUC

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





Standard version with internal cooling

ISO designation	d mm	h mm	h1 mm	l1 mm	l2 mm	f mm	D min. mm	for indexable inserts					Right-hand art.no.	€	Left-hand art.no.	€
A10H SDUC..07	10	9.5	4.5	100	16	7	14	DC..0702..	A1			D1	**321008** 0110	91,–	**321009** 0110	91,–
A12L SDUC..07	12	11	5.5	140	20	9	18	DC..0702..	A1			D1	321008 0112	91,–	321009 0112	91,–
A16Q SDUC..07	16	14	7	180	25	11	22	DC..0702..	A1			D1	321008 0116	100,–	321009 0116	100,–
A20R SDUC..11	20	18	9	200	32	13	26	DC..11T3..	A2			D2	321008 0120	108,–	321009 0120	108,–
A25R SDUC..11	25	23	11.5	200	40	17	34	DC..11T3..	A2			D2	321008 0125	122,–	321009 0125	122,–
A32S SDUC..11	32	31	16	250	50	20	40	DC..11T3..	A3	B1	C1	D2	321008 0132	180,–	321009 0132	180,–
A40T SDUC..11	40	38.5	20	300	50	25	50	DC..11T3..	A3	B1	C1	D2	321008 0140	240,–	321009 0140	240,–
													3134		3134	

Spare parts

	Screw art.no.	€		Support plate art.no.	€		Screw art.no.	€		TORX art.no.	€
A1	320901 2513	10,20	B1	321611 0003	18,90	C1	321611 0013	10,50	D1	703053 0080	3,05
A2	320901 2516	8,50							D2	703053 0150	3,25
A3	321611 0011	6,95									
	3106			3106			3106			7114	

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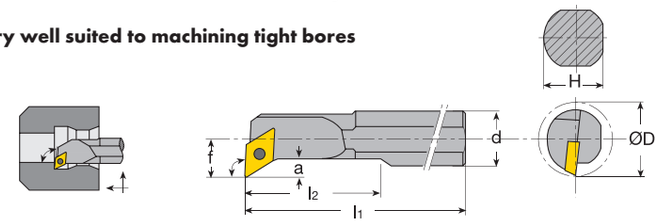
ATORN® Boring bars, positive SDUC

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



Boring bar, individual

ISO designation	d mm	H mm	l1 mm	l2 mm	f mm	a mm	D min. mm	for indexable inserts	A1	B1	Right-hand art.no.	€	Left-hand art.no.	€
A0810H SDUC..07	10	9	100	22	7	5	12.5	DC.. 0702..	A1	B1	**321013** 0010	91,–	**321014** 0010	91,–
A1012K SDUC..07	12	11	125	28	9	5	15.5	DC.. 0702..	A1	B1	321013 0012	91,–	321014 0012	91,–
A1216M SDUC..07	16	15	150	36	11	5	19.5	DC.. 0702..	A1	B1	321013 0016	91,–	321014 0016	91,–
											3134		3134	

Set

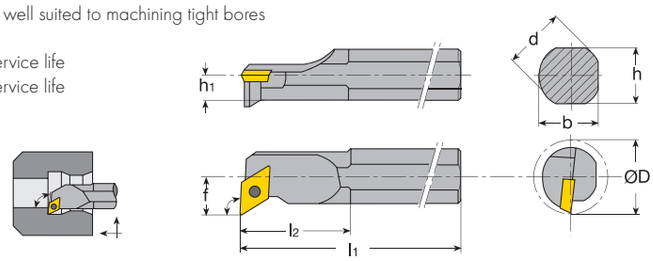
Contents	A1	B1	Right-hand art.no.	€	Left-hand art.no.	€
1 each of A0810H SDUCR/L 07; A1012K SDUCR/L 07; A1216M SDUCR/L 07	A1	B1	**321013** 1003	200,–	**321014** 1003	200,–
			3134		3134	

Spare parts

	Screw art.no.	€		TORX art.no.	€
A1	320901 2513	10,20	B1	703053 0080	3,05
	3106			7114	

ATORN® SDUC HSS boring bars, positive

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



Boring bar, individual

ISO designation	d mm	H mm	l1 mm	l2 mm	f mm	a mm	D min. mm	for indexable inserts	A1	B1	Right-hand art.no.	€	Left-hand art.no.	€
AH0810H SDUC..07	10	9	100	22	7	5	12.5	DC..0702..	A1	B1	**321113** 0010	126,–	**321114** 0010	126,–
AH1012K SDUC..07	12	11	125	28	9	5	15.5	DC..0702..	A1	B1	321113 0012	136,–	321114 0012	136,–
AH1216M SDUC..07	16	15	150	36	11	5	19.5	DC..0702..	A1	B1	321113 0016	162,–	321114 0016	162,–
											3134		3134	

Set

Contents	A1	B1	Right-hand art.no.	€	Left-hand art.no.	€
1 each of AH0810H SDUCR/L 07; AH1012K SDUCR/L 07; AH1216M SDUCR/L 07	A1	B1	**321113** 1003	309,–	**321114** 1003	309,–
			3134		3134	

Spare parts

	Screw art.no.	€		TORX art.no.	€
A1	320901 2513	10,20	B1	703053 0080	3,05
	3106			7114	

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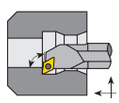
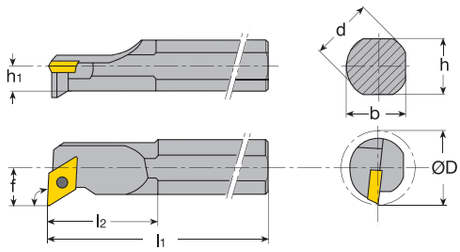
ATORN® SDUC solid carbide boring bars

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





Boring bar, individual

ISO designation	d mm	h mm	h1 mm	l1 mm	l2 mm	f mm	D min. mm	for indexable inserts			Right-hand art.no.	€	Left-hand art.no.	€
E08K SDUC..07	8	7.5	3.5	125	10.0	7.5	12.5	DC..0702..	A1	B1	**321108** 0108	180,–	**321109** 0108	180,–
E10K SDUC..07	10	9.5	4.5	125	10.0	7.5	13.5	DC..0702..	A1	B1	321108 0110	185,–	321109 0110	185,–
E12M SDUC..07	12	11.5	5.7	150	12.5	7.5	15	DC..0702..	A1	B1	321108 0112	202,–	321109 0112	202,–
E16R SDUC..07	16	15.5	7.0	200	16.5	9.5	19	DC..0702..	A1	B1	321108 0116	358,–	321109 0116	358,–
E20S SDUC..11	20	19.0	9.0	250	20.5	13.75	25	DC..11T3..	A2	B2	321108 0120	740,–	321109 0120	740,–
E25S SDUC..11	25	24.0	11.5	250	26.0	16	32	DC..11T3..	A2	B2	321108 0125	999,–	321109 0125	999,–
											3134		3134	

Set

Contents			Right-hand art.no.	€	Left-hand art.no.	€
1 each of E10K SDUCR/L 07; E12M SDUCR/L 07	A1	B1	**321108** 0002	350,–	**321109** 0002	350,–
			3134		3134	

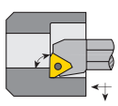
Spare parts

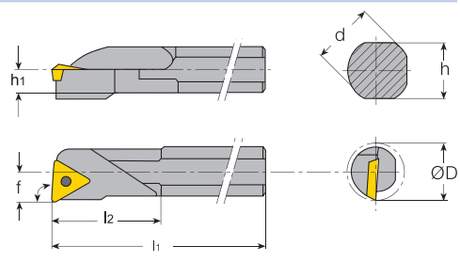
	Screw art.no.	€
A1	320901 2513	10,20
A2	320901 2516	8,50
	3106	

	TORX art.no.	€
B1	703053 0080	3,05
B2	703053 0150	3,25
	7114	

ATORN® Boring bar, positive STFC

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





Standard version with internal cooling

ISO designation	d mm	h mm	h1 mm	l1 mm	l2 mm	f mm	D min. mm	for indexable inserts				Right-hand art.no.	€	Left-hand art.no.	€
A10K STFC..11	10	9	4.5	125	16	7	14	TC..1102..	A1		D1	**321005** 0110	84,–	**321006** 0110	84,–
A12L STFC..11	12	11	5.5	140	20	9	18	TC..1102..	A1		D1	321005 0112	84,–	321006 0112	84,–
A16Q STFC..11	16	14	7	180	25	11	22	TC..1102..	A1		D1	321005 0116	84,–	321006 0116	84,–
A20R STFC..16	20	18	9	200	32	13	26	TC..16T3..	A2		D2	321005 0120	100,–	321006 0120	100,–
A25R STFC..16	25	23	11.5	200	40	17	34	TC..16T3..	A2		D2	321005 0125	112,–	321006 0125	112,–
A32S STFC..16	32	31	16	250	21	22	40	TC..16T3..	A3	B1 C1	D2	321005 0132	168,–	321006 0132	168,–
A40T STFC..16	40	38.5	20	300	21	27	49	TC..16T3..	A3	B1 C1	D2	321005 0140	220,–	321006 0140	220,–
												3134		3134	

Solid carbide version with internal cooling

ISO designation	d mm	h mm	h1 mm	l1 mm	l2 mm	f mm	D min. mm	for indexable inserts			Right-hand art.no.	€	Left-hand art.no.	€
E12M STFC..11	12	11	5.5	150	20	7.5	15	TC..1102..	A1	D1	**321105** 0112	198,–	**321106** 0112	198,–
E16R STFC..11	16	14	7	200	25	9.5	19	TC..1102..	A1	D1	321105 0116	345,–	321106 0116	345,–
E20S STFC..16	20	18	9	250	32	12	24	TC..16T3..	A2	D2	321105 0120	770,–	321106 0120	770,–
E25S STFC..16	25	23	11.5	250	40	13.5	27	TC..16T3..	A2	D2	321105 0125	1.050,–	321106 0125	1.050,–
											3134		3134	

Spare parts

	Screw art.no.	€
A1	320901 2513	10,20
A2	320901 2516	8,50
A3	321611 0011	6,95
	3106	

	Support plate art.no.	€
B1	321611 0004	18,90
	3106	

	Screw art.no.	€
C1	321611 0013	10,50
	3106	

	TORX art.no.	€
D1	703053 0080	3,05
D2	703053 0150	3,25
	7114	

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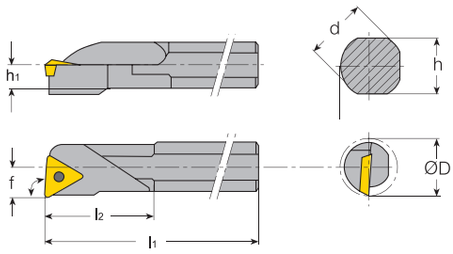
Boring bar, positive *STLC*

- **STLC R 95°**
- Setting angle 95°, for positive 7° triangular indexable inserts, 60° point angle
- **Use:** Longitudinal turning



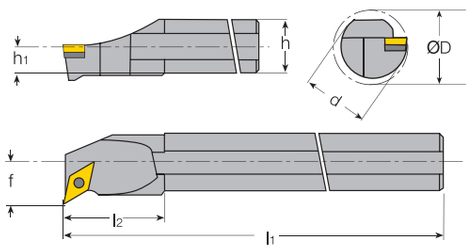
ISO designation	d mm	h mm	h1 mm	l1 mm	l2 mm	f mm	D min. mm	for indexable inserts			Right-hand art.no.	€
S16Q-STLCR 11-D	16	15	7.5	180	45	11	20	TC..1102..	A1	B1	**322203** 1116	135,–
S20R-STLCR 16-D	20	18	9	200	50	13	25	TC..16T3..	A2	B2	322203 1620	165,–
											3105	

Spare parts

	Screw art.no.	€		TORX art.no.	€
A1	320901 0078	6,75	B1	703053 0070	3,–
A2	320901 0080	4,85	B2	703053 0150	3,25
	3106			7114	

ATORN® Boring bar, positive *SVUC*

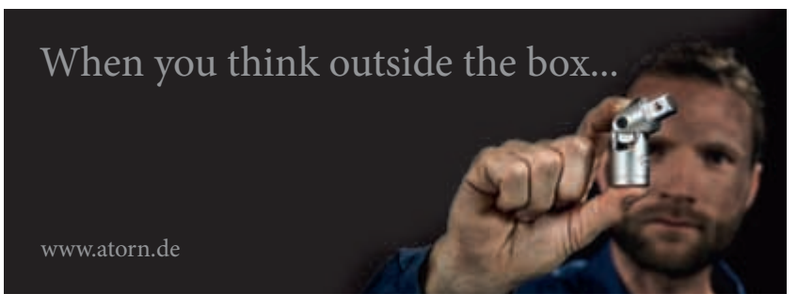
- **SVUC R/L 93°**
- Setting angle 93°, for positive 7° rhombic indexable inserts, 35° point angle
- **Internal coolant supply**
- **Use:** Longitudinal and copy turning
- Solid carbide version available on request



ISO designation	d mm	h mm	l1 mm	f mm	D min. mm	for indexable inserts			Right-hand art.no.	€	Left-hand art.no.	€
A20R-SVUC..11	20	19	200	13	25	VC..1103..	A2	B1	**321527** 0120	124,–	**321528** 0120	124,–
A25R-SVUC..16	25	24	200	17	31.5	VC..1604..	A1	B2	321527 0125	147,–	321528 0125	147,–
									3134		3134	

Spare parts

	Screw art.no.	€		TORX art.no.	€
A1	321701 0101	5,20	B1	703053 0080	3,05
A2	321701 0102	9,50	B2	703053 0150	3,25
	3106			7114	



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ATORN®
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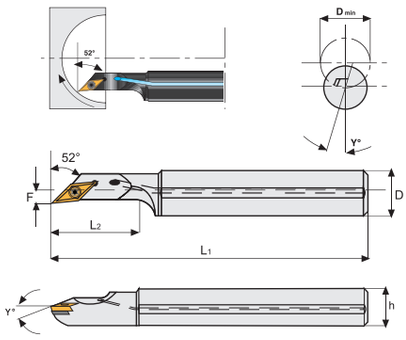
ATORN® Boring bar, positive *SVJC*

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



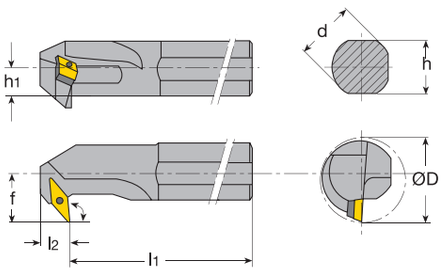
ISO designation	D mm	h mm	Y mm	L1 mm	L2 mm	F mm	D min. mm	suitable indexable inserts			Right-hand art.no.	€	Left-hand art.no.	€
A 16M SVJC..11	16	15	6	150	30	4.6	22	VC..1103...	A1	B1	**321529** 1116	136,–	**321530** 1116	136,–
A 20Q SVJC..11	20	19	5	180	38	4.6	25	VC..1103...	A1	B1	321529 1120	144,–	321530 1120	144,–
A 25R SVJC..16	25	24	4	200	44	4.6	28	VC..1604...	A2	B2	321529 1625	168,–	321530 1625	168,–
											3134		3134	

Spare parts

	Screw art.no.	€		TORX art.no.	€
A1	320901 2513	10,20	B1	703053 0080	3,05
A2	320901 2516	8,50	B2	703053 0150	3,25
	3106			7114	

Boring bar, positive *SVLBC*

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



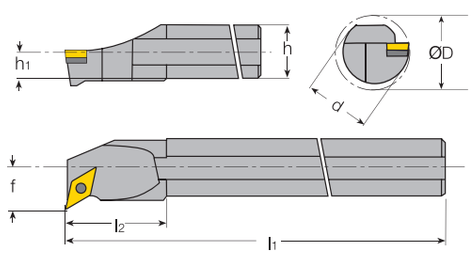
ISO designation	d mm	h mm	h1 mm	l1 mm	l2 mm	f mm	D min. mm	for indexable inserts						Right-hand art.no.	€	Left-hand art.no.	€
S32T-SVLBC..16-D	32	29	14.5	300	20	22	44	VB..1604..	A1	B1	C1	D1	E1	**322213** 1632	290,–	**322214** 1632	290,–
														3105		3105	

Spare parts

	Screw art.no.	€		Screw art.no.	€		Support plate art.no.	€		Offset screwdriver, nickel-plated art.no.	€		TORX art.no.	€
A1	320901 0081	4,85	B1	320901 0090	20,10	C1	320901 0127	9,65	D1	703005 0040	0,38	E1	703053 0150	3,25
	3106			3106			3106			7111			7114	

Boring bar, positive *SVUB*

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



ISO designation	d mm	h mm	h1 mm	l1 mm	l2 mm	f mm	D min. mm	for indexable inserts					Right-hand art.no.	€	Left-hand art.no.	€
S25T-SVUB..16	25	23	11.5	300	40	17	31	VBM.1604..	A1	B1	C1	D1	**321525** 1625	138,–	**321526** 1625	138,–
S32U-SVUB..16	32	30	15	350	50	22	39	VBM.1604..	A1	B1	C1	D1	321525 1632	177,–	321526 1632	177,–
S40V-SVUB..16	40	37	18.5	400	60	27	48	VBM.1604..	A1	B1	C1	D1	321525 1640	235,–	321526 1640	235,–
													3105		3105	

Spare parts

	Screw art.no.	€		Support plate art.no.	€		Screw art.no.	€		TORX art.no.	€
A1	321601 0021	4,58	B1	321601 0027	9,60	C1	321601 0754	3,19	D1	703053 0150	3,25
	3106			3106			3106			7114	

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Negative PSC polygonal holders

ISO designation codes in the INFO section

INFO

PCLN 95°

Page 30-36 — CN.. 1204.. CN.. 1606..

PDJN 93°

Page 30-36 — DN.. 1506..

MWLN 95°

Page 30-36 — WNMG 0804..

PCLN 95°

Page 30-39 — CN.. 1204..

PDUN 93°

Page 30-39 — DN.. 1104.. DN.. 1506..

DDNN 63°

Page 30-37 — DN.. 1506..

PCNN 50°

Page 30-37 — CN.. 1204..

PDNN 62.3°

Page 30-37 — DN.. 1506..

30

Positive PSC polygonal holders

INFO

SCLC 95°

Page 30-38 — CC.. 09T3.. CC.. 1204..

SDJC 93°

Page 30-38 — DC.. 11T3..

SVHC 107°30′

Page 30-38 — VC..1103.. VC..1604..

SCLC 95°

Page 30-40 — CC.. 09T3..

SDUC 93°

Page 30-40 — DC.. 11T3..

SVCN 72.3°

Page 30-43 — VC.. 1604..

PSC polygonal thread holders

INFO

SE 90°

Page 30-40 — 16 ER/L 22 ER/L

SI 90°

Page 30-41 — 16 IR/L 22 IR/L

For internal and external machining

PSC 40, 50 and 63

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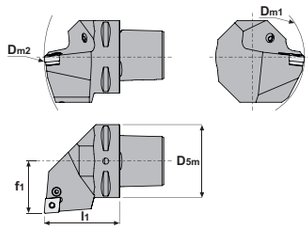
SARA® PCLN negative polygonal turning tool holder

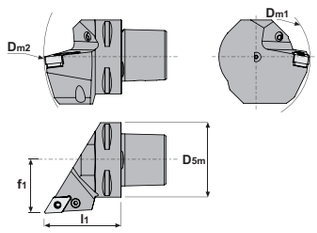
- **PCLN R/L 95°**
- Setting angle 95°, for negative 0° rhombic turning inserts, point angle 80°
- Surface hardness 58 - 60 HRc
- Core strength HV 670 N/mm²
- Case depth 0.8 mm ± 0.2 mm
- Fully burnished and precision-ground
- Taper surface accuracy max. 1 µm



ISO designation	D5 mm	f1 mm	l1 mm	D1 min. mm	D2 min. mm	for index-able inserts	**Right-hand** art.no.	€	**Left-hand** art.no.	€
PSC40 PCLN.. 27050 12	40	27	50	110	140	CN..12	**312001** 0001	195,–	**312002** 0001	195,–
PSC50 PCLN.. 35060 12	50	35	60	110	165	CN..12	312001 0002	215,–	312002 0002	215,–
PSC50 PCLN.. 35060 16	50	35	60	125	165	CN..16	312001 0003	215,–	312002 0003	215,–
PSC63 PCLN.. 45065 12	63	45	65	110	190	CN..12	312001 0004	250,–	312002 0004	250,–
PSC63 PCLN.. 45065 16	63	45	65	125	190	CN..16	312001 0005	250,–	312002 0005	250,–
							3109		3109	

SARA® PDJN negative polygonal turning tool holder

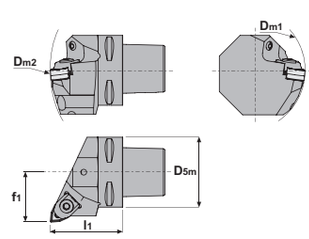
- **PDJN R/L 93°**
- Setting angle 93°, for negative 0° rhombic turning inserts, point angle 55°
- Surface hardness 58 - 60 HRc
- Core strength HV 670 N/mm²
- Case depth 0.8 mm ± 0.2 mm
- Fully burnished and precision-ground
- Taper surface accuracy max. 1 µm



ISO designation	D5 mm	f1 mm	l1 mm	D1 min. mm	D2 min. mm	for index-able inserts	**Right-hand** art.no.	€	**Left-hand** art.no.	€
PSC40 PDJN.. 27055 15	40	27	55	110	145	DN..15	**312003** 0001	195,–	**312004** 0001	195,–
PSC50 PDJN.. 35060 15	50	35	60	110	165	DN..15	312003 0002	215,–	312004 0002	215,–
PSC63 PDJN.. 55080 15	63	55	80	110	190	DN..15	312003 0003	250,–	312004 0003	250,–
							3109		3109	

SARA® MWLN negative polygonal turning tool holder

- **MWLN R/L 95°**
- Setting angle 95°, for negative 0° trigonometric turning inserts,
- 80° point angle
- Surface hardness 58 - 60 HRc
- Core strength HV 670 N/mm²
- Case depth 0.8 mm ± 0.2 mm
- Fully burnished and precision-ground
- Taper surface accuracy max. 1 µm



ISO designation	D5 mm	f1 mm	l1 mm	D1 min. mm	D2 min. mm	for index-able inserts	**Right-hand** art.no.	€	**Left-hand** art.no.	€
PSC40 MWLN.. 27050 08	40	27	50	60	140	WN..08	**312005** 0001	195,–	**312006** 0001	195,–
PSC50 MWLN.. 35060 08	50	35	60	110	165	WN..08	312005 0002	215,–	312006 0002	215,–
PSC63 MWLN.. 45065 08	63	45	65	110	190	WN..08	312005 0003	250,–	312006 0003	250,–
							3109		3109	

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SARA® DDNN negative polygonal turning tool holder

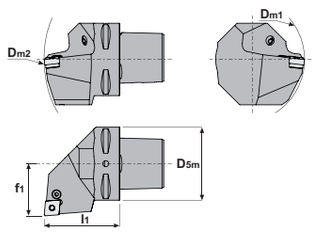
- **DDNN 62.3°**
- Setting angle 62.3°, for negative 0° rhombic turning inserts, point angle 55°
- Surface hardness 58 - 60 HRc
- Core strength HV 670 N/mm²
- Case depth 0.8 mm ± 0.2 mm
- Fully burnished and precision-ground
- Taper surface accuracy max. 1 µm

ISO designation	D5 mm	f1 mm	l1 mm	D2 min. mm	for indexable inserts	**Neutral** art.no.	€
PSC50 DDNNN00060 15	50	0.3	60	165	DN..15	**312009** 0001	215,–
PSC63 DDNNN00065 15	63	0.3	65	190	DN..15	312009 0002	250,–
						3109	

SARA® PCNN negative polygonal turning tool holder

- **PCNN 50°**
- Setting angle 50°, for negative 0° rhombic turning inserts, point angle 80°
- Surface hardness 58 - 60 HRc
- Core strength HV 670 N/mm²
- Case depth 0.8 mm ± 0.2 mm
- Fully burnished and precision-ground
- Taper surface accuracy max. 1 µm

Figure shows example



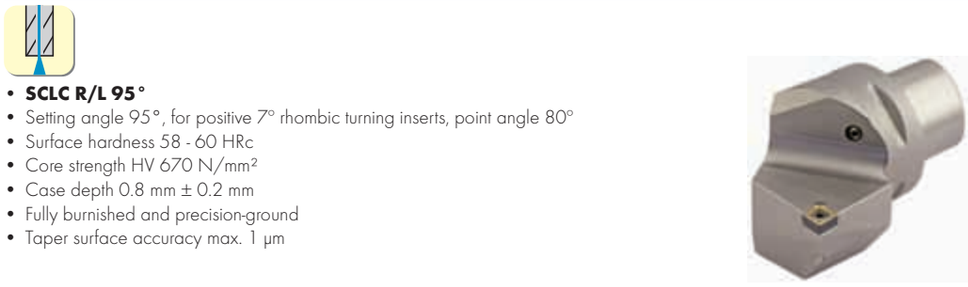
ISO designation	D5 mm	f1 mm	l1 mm	D2 min. mm	for indexable inserts	**Neutral** art.no.	€
PSC63 PCNNN00065 12	63	0.5	100	190	CN..12	**312007** 0001	250,–
						3109	

SARA® PDNN negative polygonal turning tool holder

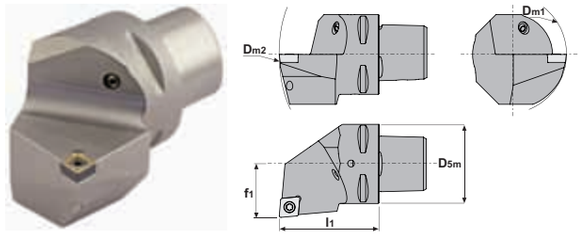
- **PDNN 62.3°**
- Setting angle 62.3°, for negative 0° rhombic turning inserts, point angle 55°
- Surface hardness 58 - 60 HRc
- Core strength HV 670 N/mm²
- Case depth 0.8 mm ± 0.2 mm
- Fully burnished and precision-ground
- Taper surface accuracy max. 1 µm

ISO designation	D5 mm	f1 mm	l1 mm	D2 min. mm	for indexable inserts	**Neutral** art.no.	€
PSC40 PDNNN00055 15	40	0.5	55	140	DN..15	**312008** 0001	195,–
PSC50 PDNNN00060 15	50	0.5	60	165	DN..15	312008 0002	215,–
PSC63 PDNNN00065 15	63	0.5	65	190	DN..15	312008 0003	250,–
						3109	

SARA® SCLC positive polygonal turning tool holder



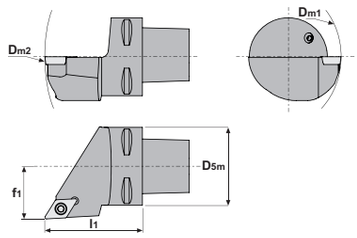
- **SCLC R/L 95°**
- Setting angle 95°, for positive 7° rhombic turning inserts, point angle 80°
- Surface hardness 58 - 60 HRc
- Core strength HV 670 N/mm²
- Case depth 0.8 mm ± 0.2 mm
- Fully burnished and precision-ground
- Taper surface accuracy max. 1 µm



ISO designation	D5 mm	f1 mm	l1 mm	D1 min. mm	D2 min. mm	for index-able inserts	Right-hand art.no.	€	Left-hand art.no.	€
PSC40 SCLC.. 27050 09	40	27	50	80	140	CC..09	**312010** 0001	195,–	**312011** 0001	195,–
PSC50 SCLC.. 35060 09	50	35	60	80	165	CC..09	312010 0002	215,–	312011 0002	215,–
PSC63 SCLC.. 45065 09	63	45	65	80	190	CC..09	312010 0003	250,–	312011 0003	250,–
PSC63 SCLC.. 45065 12	63	45	65	80	190	CC..12	312010 0004	250,–	312011 0004	250,–
							3109		3109	

SARA® SDJC positive polygonal turning tool holder

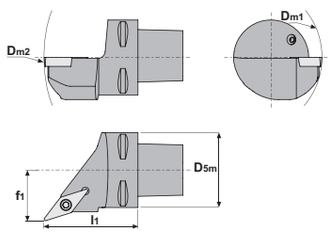
- **SDJC R/L 93°**
- Setting angle 93°, for positive 7° rhombic turning inserts, point angle 55°
- Surface hardness 58 - 60 HRc
- Core strength HV 670 N/mm²
- Case depth 0.8 mm ± 0.2 mm
- Fully burnished and precision-ground
- Taper surface accuracy max. 1 µm



ISO designation	D5 mm	f1 mm	l1 mm	D1 min. mm	D2 min. mm	for index-able inserts	Right-hand art.no.	€	Left-hand art.no.	€
PSC40 SDJC.. 27050 11	40	27	50	110	140	DC..11	**312012** 0001	195,–	**312013** 0001	195,–
PSC50 SDJC.. 35060 11	50	35	60	110	165	DC..11	312012 0002	215,–	312013 0002	215,–
PSC63 SDJC.. 45065 11	63	45	65	110	190	DC..11	312012 0003	250,–	312013 0003	250,–
							3109		3109	

SARA® SVHC positive polygonal turning tool holder

- **SVHC R/L 107° 30´**
- Setting angle 107° 30´, for positive 7° rhombic turning inserts, point angle 35°
- Surface hardness 58 - 60 HRc
- Core strength HV 670 N/mm²
- Case depth 0.8 mm ± 0.2 mm
- Fully burnished and precision-ground
- Taper surface accuracy max. 1 µm



ISO designation	D5 mm	f1 mm	l1 mm	D1 min. mm	D2 min. mm	for index-able inserts	Right-hand art.no.	€	Left-hand art.no.	€
PSC40 SVHC.. 27050 11	40	27	50	80	140	VC..11	**312014** 0001	195,–	**312015** 0001	195,–
PSC50 SVHC.. 35060 11	50	35	60	80	165	VC..11	312014 0002	215,–	312015 0002	215,–
PSC63 SVHC.. 45065 16	63	45	65	80	190	VC..16	312014 0003	250,–	312015 0003	250,–
							3109		3109	

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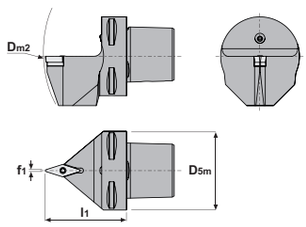
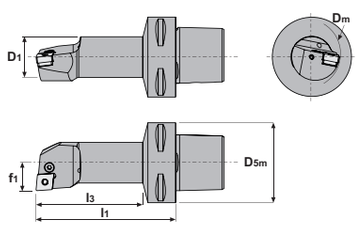
SARA® SVCN positive polygonal turning tool holder



- **SVNC 72.3°**
- Setting angle 72.3°, for positive 7° rhombic turning inserts, point angle 35°
- Surface hardness 58 - 60 HRc
- Core strength HV 670 N/mm²
- Case depth 0.8 mm ± 0.2 mm
- Fully burnished and precision-ground
- Taper surface accuracy max. 1 µm

ISO designation	D5 mm	f1 mm	l1 mm	D2 min. mm	for indexable inserts	**Neutral** art.no.	€
PSC40 SVNC00050 16	40	0.6	50	140	VC..16	**312016** 0001	195,–
PSC63 SVNC00063 16	63	0.6	65	190	VC..16	312016 0002	250,–
						3109	

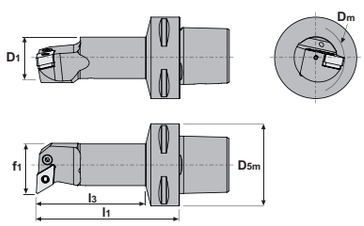
SARA® PCLN negative polygonal boring bars



- **PCLN R/L 95°**
- Setting angle 95°, for negative 0° rhombic turning inserts, point angle 80°
- Surface hardness 58 - 60 HRc
- Core strength HV 670 N/mm²
- Case depth 0.8 mm ± 0.2 mm
- Fully burnished and precision-ground
- Taper surface accuracy max. 1 µm

ISO designation	D5 mm	l3 mm	l1 mm	f1 mm	D min. mm	D1 mm	for index-able inserts	**Right-hand** art.no.	€	**Left-hand** art.no.	€
PSC40 PCLN.. 17090 12	40	69	90	17	32	25	CN..12	**312017** 0001	270,–	**312018** 0001	270,–
PSC50 PCLN.. 17090 12	50	67	90	17	32	25	CN..12	312017 0002	305,–	312018 0002	305,–
PSC63 PCLN.. 17100 12	63	74	100	17	32	25	CN..12	312017 0003	350,–	312018 0003	350,–
								3109		3109	

SARA® PDUN negative polygonal boring bars

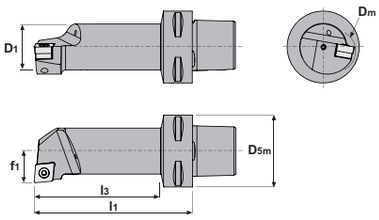


- **PDUN R/L 93°**
- Setting angle 93°, for negative 0° rhombic turning inserts, point angle 55°
- Surface hardness 58 - 60 HRc
- Core strength HV 670 N/mm²
- Case depth 0.8 mm ± 0.2 mm
- Fully burnished and precision-ground
- Taper surface accuracy max. 1 µm

ISO designation	D5 mm	l3 mm	l1 mm	f1 mm	D min. mm	D1 mm	for index-able inserts	**Right-hand** art.no.	€	**Left-hand** art.no.	€
PSC40 PDUN.. 17090 11	40	69	90	17	32	25	DN..11	**312019** 0001	270,–	**312020** 0001	270,–
PSC40 PDUN.. 27080 15	40	60	80	27	50	40	DN..15	312019 0002	270,–	312020 0002	270,–
PSC50 PDUN.. 17090 11	50	67	90	17	32	25	DN..11	312019 0003	305,–	312020 0003	305,–
PSC50 PDUN.. 27140 15	50	119	140	27	50	50	DN..15	312019 0004	305,–	312020 0004	305,–
PSC63 PDUN.. 27140 15	63	140	140	27	50	63	DN..15	312019 0005	350,–	312020 0005	350,–
PSC63 PDUN.. 17100 11	63	74	100	17	32	25	DN..11	312019 0006	350,–	312020 0006	350,–
								3109		3109	

SARA® SCLC positive polygonal boring bars

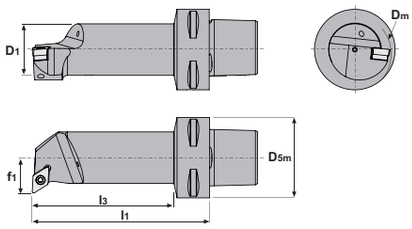
- **SCLC R/L 95°**
- Setting angle 95°, for positive 7° rhombic turning inserts, point angle 80°
- Surface hardness 58 - 60 HRc
- Core strength HV 670 N/mm²
- Case depth 0.8 mm ± 0.2 mm
- Fully burnished and precision-ground
- Taper surface accuracy max. 1 µm



ISO designation	D5 mm	l3 mm	l1 mm	D min. mm	D1 mm	f1 mm	for index-able inserts	Right-hand art.no.	€	Left-hand art.no.	€
PSC40 SCLC.. 11070 09	40	47	70	20	16	17	CC..09	**312021** 0001	270,–	**312022** 0001	270,–
PSC50 SCLC.. 11070 09	50	46	70	20	16	17	CC..09	312021 0002	305,–	312022 0002	305,–
								3109		3109	

SARA® SDUC positive polygonal boring bars

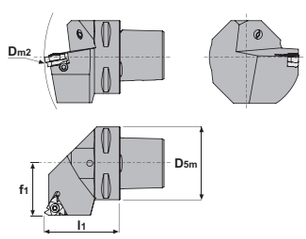
- **SDUC R/L 93°**
- Setting angle 93°, for positive 7° rhombic turning inserts, point angle 55°
- Surface hardness 58 - 60 HRc
- Core strength HV 670 N/mm²
- Case depth 0.8 mm ± 0.2 mm
- Fully burnished and precision-ground
- Taper surface accuracy max. 1 µm



ISO designation	D5 mm	D1 mm	D min. mm	l1 mm	l3 mm	f1 mm	for index-able inserts	Right-hand art.no.	€	Left-hand art.no.	€
PSC40 SDUC.. 17090 11	40	25	32	90	69	17	DC..11	**312023** 0001	270,–	**312024** 0001	270,–
PSC50 SDUC.. 17090 11	50	25	32	90	67	17	DC..11	312023 0002	305,–	312024 0002	305,–
								3109		3109	

SARA® SE90° polygonal thread tool holder

- **SE 90°**
- For ISO thread turning insert types ER16 and ER22, setting angle 90°
- For ISO thread turning insert types EL16 and EL22, setting angle 90°
- Surface hardness 58 - 60 HRc
- Core strength HV 670 N/mm²
- Case depth 0.8 mm ± 0.2 mm
- Fully burnished and precision-ground
- Taper surface accuracy max. 1 µm



ISO designation	D5 mm	f1 mm	l1 mm	D2 min. mm	for indexable inserts	Right-hand art.no.	€	Left-hand art.no.	€
PSC50 SE.. 35060 16	50	35	60	165	EL..16			**312026** 0001	245,–
PSC50 SE.. 35060 16	50	35	60	165	ER..16	**312025** 0001	245,–		
PSC50 SE.. 35060 22	50	35	60	165	EL..22			312026 0002	245,–
PSC50 SE.. 35060 22	50	35	60	165	ER..22	312025 0002	245,–		
PSC63 SE.. 45065 16	63	45	65	190	EL..16			312026 0003	280,–
PSC63 SE.. 45065 16	63	45	65	190	ER..16	312025 0003	280,–		
PSC63 SE.. 45065 22	63	45	65	190	EL..22			312026 0004	280,–
PSC63 SE.. 45065 22	63	45	65	190	ER..22	312025 0004	280,–		
						3109		3109	

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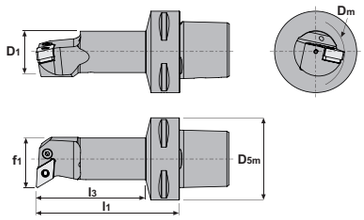
SARA® Polygonal thread boring bar *SI90 °*

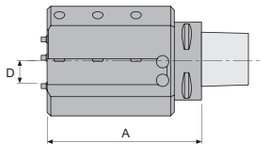
- **SI 90 °**
- For ISO thread turning insert types IR16 and IR22, setting angle 90°
- For ISO thread turning insert types IL16 and IL22, setting angle 90°
- Surface hardness 58 - 60 HRc
- Core strength HV 670 N/mm²
- Case depth 0.8 mm ± 0.2 mm
- Fully burnished and precision-ground
- Taper surface accuracy max. 1 µm



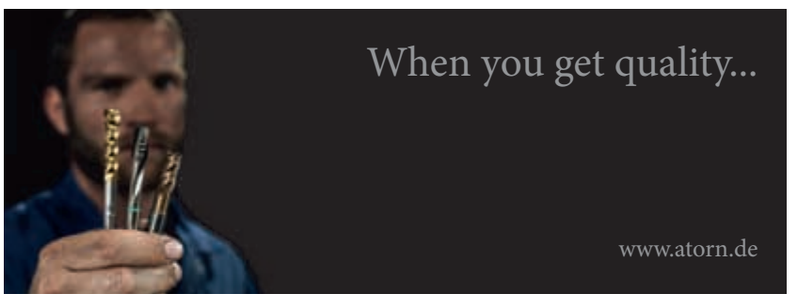
ISO designation	D5 mm	l3 mm	l1 mm	D min. mm	D1 mm	f1 mm	for index-able inserts	**Right-hand** art.no.	€	**Left-hand** art.no.	€
PSC40 SI.. 14060 16	40	38	60	25	18.5	14	IL..16			**312028** 0001	270,–
PSC40 SI.. 14060 16	40	38	60	25	18.5	14	IR..16	**312027** 0001	270,–		
PSC50 SI.. 22090 16	50	69	90	40	32.0	22	IL..16			312028 0002	305,–
PSC50 SI.. 22090 16	50	69	90	40	32.0	22	IR..16	312027 0002	305,–		
PSC50 SI.. 22090 22	50	68	90	40	31.5	22	IL..22			312028 0003	305,–
PSC50 SI.. 22090 22	50	68	90	40	31.5	22	IR..22	312027 0003	305,–		
PSC63 SI.. 22090 16	63	64	90	40	32.0	22	IL..16			312028 0004	350,–
PSC63 SI.. 22090 16	63	64	90	40	32.0	22	IR..16	312027 0004	350,–		
PSC63 SI.. 22090 22	63	64	90	40	31.5	22	IL..22			312028 0005	350,–
PSC63 SI.. 22090 22	63	64	90	40	31.5	22	IR..22	312027 0005	350,–		
								3109		3109	

SARA® *Multi 3-Quadrat* polygonal shank tool holder

- ***Multi 3-Quadrat***
- For clamping ISO tool holders with a cross section of 20/20 mm and 25/25 mm
- Surface hardness 58 - 60 HRc
- Core strength HV 670 N/mm²
- Case depth 0.8 mm ± 0.2 mm
- Fully burnished and precision-ground
- Taper surface accuracy max. 1 µm



ISO designation	D1 mm	D5 mm	L mm	**Right-hand** art.no.	€	**Left-hand** art.no.	€
PSC40 18 520 040 20..	20	40	100	**312040** 0004	689,–	**312041** 0005	689,–
PSC50 18 520 050 20..	20	50	125	312040 0001	689,–	312041 0001	689,–
PSC50 18 520 050 25..	25	50	130	312040 0002	689,–	312041 0002	689,–
PSC63 18 520 063 25..	25	63	130	312040 0003	789,–	312041 0003	789,–
PSC63 18 520 063 20..	20	63	125	312040 0005	789,–	312041 0004	789,–
				3109		3109	



...then it's ATORN.

ATORN®
High quality for great performance

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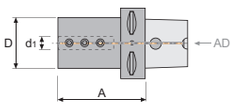
SARA® Boring bar holding fixture *PSC40, PSC50, PSC63*



- **PSC40 / PSC50 / PSC63** boring bar holding fixture
- For holding various ISO boring bars, various shank Ø **h9**
- Surface hardness 58 - 60 HRc
- Core strength HV 670 N/mm²
- Case depth 0.8 mm ± 0.2 mm
- Fully burnished and precision-ground
- Taper surface accuracy max. 1 µm

PSC40

ISO designation	D5 mm	d1 mm	L mm	D mm	art.no.	€
PSC40 18 406 040 08	40	8	50	44	**312029** 0001	290,–
PSC40 18 406 040 10	40	10	50	44	312029 0002	290,–
PSC40 18 406 040 12	40	12	50	44	312029 0003	290,–
PSC40 18 406 040 16	40	16	50	44	312029 0004	290,–
PSC40 18 406 040 20	40	20	50	44	312029 0005	290,–
PSC40 18 406 040 25	40	25	60	50	312029 0006	300,–

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PSC50

ISO designation	D5 mm	d1 mm	L mm	D mm	art.no.	€
PSC50 18 406 050 08	50	8	52	44	**312030** 0001	300,–
PSC50 18 406 050 10	50	10	52	44	312030 0002	300,–
PSC50 18 406 050 12	50	12	52	44	312030 0003	300,–
PSC50 18 406 050 16	50	16	52	44	312030 0004	300,–
PSC50 18 406 050 20	50	20	52	55	312030 0008	300,–
PSC50 18 406 050 25	50	25	85	65	312030 0006	300,–

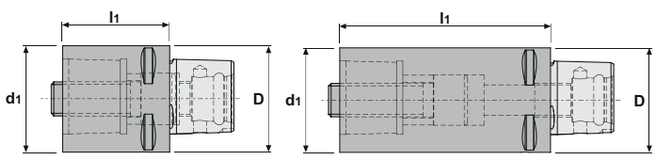
3109

PSC63

ISO designation	D5 mm	d1 mm	L mm	D mm	art.no.	€
PSC63 18 406 063 08	63	8	60	44	**312031** 0001	315,–
PSC63 18 406 063 10	63	10	60	44	312031 0002	315,–
PSC63 18 406 063 12	63	12	60	44	312031 0003	315,–
PSC63 18 406 063 16	63	16	60	44	312031 0004	315,–
PSC63 18 406 063 20	63	20	60	50	312031 0005	315,–
PSC63 18 406 063 25	63	25	60	55	312031 0006	315,–
PSC63 18 406 063 32	63	32	75	55	312031 0007	315,–
PSC63 18 406 063 40	63	40	85	65	312031 0008	315,–

3109

SARA® PSC63 polygonal extension



- **PSC63** extension
- Surface hardness 58 - 60 HRc
- Core strength HV 670 N/mm²
- Case depth 0.8 mm ± 0.2 mm
- Fully burnished and precision-ground
- Taper surface accuracy max. 1 µm

ISO designation	D mm	d1 mm	l1 mm	Shank	art.no.	€
PSC63-PSC63	63	63	50	PSC 63	**312075** 0001	270,–

3109

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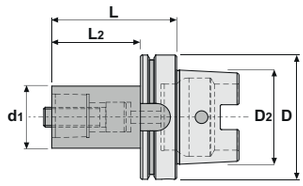
SARA® HSK63 to PSC40 / PSC50 polygonal reducer

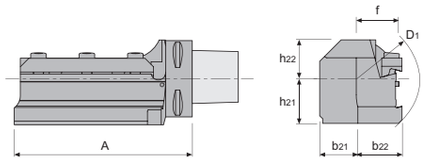
- **PSC63** extension
- Surface hardness 58 - 60 HRc
- Core strength HV 670 N/mm²
- Case depth 0.8 mm ± 0.2 mm
- Fully burnished and precision-ground
- Taper surface accuracy max. 1 µm



D mm	L mm	L2 mm	Shank	Shank design interior	art.no.	€
63	80	54	HSK 63	PSC 40	**312070** 0001	365,–
63	90	64	HSK 63	PSC 50	312070 0002	365,–
					3109	

SARA® Polygonal recessing blade holder *UNI*

- ***UNI* R/L** recessing blade holder
- For holding recessing blade types **AH 101** and **AH 106, height 26 mm and 32 mm**
- Surface hardness 58 - 60 HRc
- Core strength HV 670 N/mm²
- Case depth 0.8 mm ± 0.2 mm
- Fully burnished and precision-ground
- Taper surface accuracy max. 1 µm



ISO designation	D mm	L mm	f mm	h mm	Right-hand art.no.	€	Left-hand art.no.	€
PSC50 18 540 050 26	50	95	26	26	**312050** 0001	375,–	**312051** 0001	375,–
PSC63 18 540 063 32	63	147	32	32	312050 0002	435,–	312051 0002	435,–
					3109		3109	

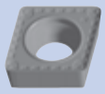
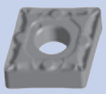
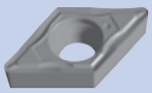
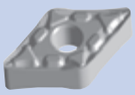
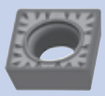
Safety in the workplace

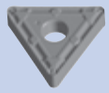
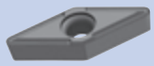
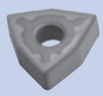
Please protect your eyes, ears and respiratory system!

Overview of geometries of indexable cutting inserts

ISO designation codes in the INFO section

INFO

	**CC...**	ATORN®	from page 30-94
		SARATURN	from page 30-56
	**CN...**	ATORN®	from page 30-95
		SARATURN	from page 30-59
	**DC...**	ATORN®	from page 30-97
		SARATURN	from page 30-65
	**DN...**	ATORN®	from page 30-98
		SARATURN	from page 30-68
	**SC...**	ATORN®	from page 30-100
		SARATURN	from page 30-75
	SN...	ATORN®	from page 30-100
		SARATURN	from page 30-76
	TC...	ATORN®	from page 30-101
		SARATURN	from page 30-80

	**TN...**	ATORN®	from page 30-101
		SARATURN	from page 30-82
	**VB...**	ATORN®	from page 30-102
		SARATURN	from page 30-85
	VC...	ATORN®	from page 30-102
		SARATURN	from page 30-85
	VN...	SARATURN	from page 30-87
	**WN...**	ATORN®	from page 30-104
	Machining aluminium	ATORN®	from page 30-105
		ALULine	from page 30-93
	CBN and PKD		from page 30-107

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ISO P

In the ISO-P range, general structural steel and unalloyed steel have up to 110 HB (Brinell hardness) and a carbon content of up to 0.55%. There is also low-alloy steel up to 180 HB and high-alloy steel from 200 HB – 400 HB and materials with a hardness of up to max. 48 HRc (Rockwell hardness).
The new turning grades with multilayer CVD layers are particularly suitable for cutting ISO-P materials.

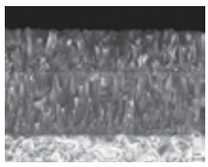
The **SC25PT** type is most suitable for entry-level machining. Thanks to its balance between toughness and wear resistance, which are both in the mid-range, it is the first choice for machining light to medium cuts at medium cutting speeds.
The **SC15PT** type is highly wear-resistant. It is only suitable for smooth cuts and is less tough. With significantly interrupted cuts or heavy roughing cuts, the tough **SC35PT** type should be used.

The **SC20UT** and **SC40UT** types have a thinner CVD coating and therefore a precisely defined cutting edge. They are therefore very well suited to use on conventional machines.

The cutting materials are complemented in the ISO-P area by the **ST10UT** CERMET type. They are especially suitable for long-chipping steel materials (usually low carbon content < 0.25%) with a tendency to difficult chip breaking properties.

SC15PT

- HC-P15
  HC-M10
  HC-K25
- Wear-resistant type highly efficient and productive



Toughness
1 2 3 4 5 6 7 8 9 10

Wear resistance
1 2 3 4 5 6 7 8 9 10

Composition
Co 5.8%, composite carbides 6.4% WC balance

Grain size
1 – 2 µm

Hardness
HV 1550

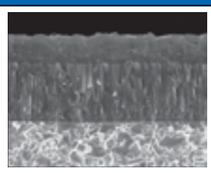
Coating
CVD, Ti(Cn)+Al_2O_3 18.5 µm

Applications

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	○	–

SC25PT

- HC-P25
  HC-M20
  HC-K30
- Universal steel type efficient and productive



Toughness
1 2 3 4 5 6 7 8 9 10

Wear resistance
1 2 3 4 5 6 7 8 9 10

Composition
Co 7.0%, composite carbides 8.0% WC balance

Grain size
1 – 2 µm

Hardness
HV 1450

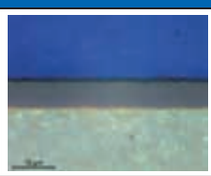
Coating
CVD, Ti(Cn)+Al_2O_3 15 µm

Applications

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	●

SC35PT

- HC-P35
  HC-M30
  HC-K35
- Very tough type, for difficult conditions of use



Toughness
1 2 3 4 5 6 7 8 9 10

Wear resistance
1 2 3 4 5 6 7 8 9 10

Composition
Co 9.6%, composite carbides 6.8% WC rest

Grain size
1 – 2 µm

Hardness
HV 1460

Coating
CVD, Ti(Cn)+Al_2O_3 13 µm

Applications

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
○	●	●

SC20UT

- HC-P20
  HC-M20
  HC-K30

Toughness
1 2 3 4 5 6 7 8 9 10

Wear resistance
1 2 3 4 5 6 7 8 9 10

Composition
Co 7.0%, composite carbides 8.0% WC balance

Grain size
1 – 2 µm

Hardness
HV 1450

Coating
CVD, Ti(Cn)+Al_2O_3 13 µm

Applications

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	○	–

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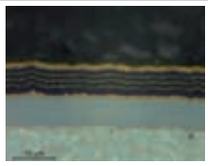
SC40UT

- HC-P40
  HC-M35



Composition
Co 5.8%, composite carbides 6.4% WC balance

Grain size
1 - 2 µm

Hardness
HV 1300

Coating
CVD, Ti(Cn)+Al_2O_3 13.0 µm

Toughness
1 2 3 4 5 6 7 8 9 10

Wear resistance
1 2 3 4 5 6 7 8 9 10

Applications

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	○	○

ST10UT

- HT-P15
  HT-M10
  HT-K10
- **CERMET**

Composition
Co/Ni 12.2%, WC 15%,
TaNbC 10.0%, TiCn balance

Hardness
HV 1620

Toughness
1 2 3 4 5 6 7 8 9 10

Wear resistance
1 2 3 4 5 6 7 8 9 10

Applications

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	–	–

ISO M

Indexable cutting inserts in the ISO-M area are mainly used in machining ferritic and martensitic stainless steel and austenitic stainless, usually acid-resistant steel (Ni content of over 20%). So-called duplex steel has a two-phase structure and consists of ferrite and austenite. Higher-alloyed duplex materials are also called super-duplex or hyper-duplex.

The new PVD-coated SP20MT, SP25MT and SP35MT turning types are ideal for ISO-M materials.

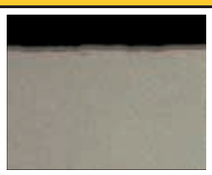
The **SP25MT** type is the universal type for stainless steel machining. With its extremely smooth PVD layer, the adhesion tendency when machining Cr-Ni steel is reduced massively.
In the secondary application, low-alloy structural steel can be cut with this type at moderate cutting speeds. The good toughness of the substrate rounds off this type.

The **SP20MT** type is used in finishing. It has a slightly more heat-resistant substrate, which allows higher cutting speeds than with the SP25MT.
The toughness is reduced as a result.

The **SP35MT** type complements the new turning types available for ISO-M materials with selected geometries. It tends to be used in machining processes with lower cutting speeds or difficult cutting conditions.

SP20MT

- HC-M20
  HC-K20
- Special substrate for stainless steel



Composition
Co 10.0%, composite carbides 2.0% WC balance

Grain size
1 µm

Hardness
HV 1560

Coating
PVD, TiAlN, 2 - 5 µm

Toughness
1 2 3 4 5 6 7 8 9 10

Wear resistance
1 2 3 4 5 6 7 8 9 10

Applications

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	–	–

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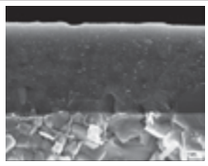
SP25MT

- HC-P35
  HC-M25
- for high cutting speeds, high process reliability



Toughness
1 2 3 4 5 6 7 8 9 10

Wear resistance
1 2 3 4 5 6 7 8 9 10

Composition
Co 9.6%, composite carbides 7.8%, others, WC balance

Grain size
1 - 2 µm

Hardness
HV 1460

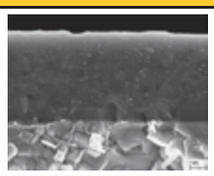
Coating
PVD, TiN / TiAlN, 6 µm

Applications

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	○	–

SP35MT

- HC-P35
  HC-M35
- Universal substrate for stainless steel in difficult conditions of use



Toughness
1 2 3 4 5 6 7 8 9 10

Wear resistance
1 2 3 4 5 6 7 8 9 10

Composition
Co 8.0%, composite carbides 4.2% WC balance

Grain size
1.5 - 3 µm

Hardness
HV 1330

Coating
PVD, TiN / TiAlN, 6 µm

Applications

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
○	●	●

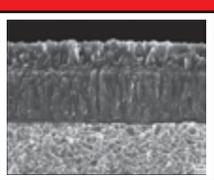
ISO K

Indexable cutting inserts for the ISO-K area are mainly used for cast iron that can be forged (GG) and spheroidal graphite iron (GGG), as well as for cast iron with vermicular graphite and bainitic cast iron with spheroidal graphite iron.

The new **SC20KT** turning type with its multilayer CVD layer was specially designed for machining cast iron materials. It has very good wear resistance with medium toughness.

SC20KT

- HC-P10
  HC-K20
- Heat-resistant universal type for cast iron machining



Toughness
1 2 3 4 5 6 7 8 9 10

Wear resistance
1 2 3 4 5 6 7 8 9 10

Composition
Co 6.0%, TaC 2.0% WC balance

Grain size
1 µm

Hardness
HV 1630

Coating
CVD, Ti(C,N)+Al_2O_3, 15.5 µm

Applications

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	○

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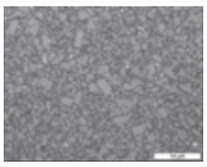
ISO N

Indexable cutting inserts for the ISO-N area are mainly used in machining aluminium and aluminium alloys (cast and forgeable alloys) with an Si content <13%.

Non-metallic materials such as thermosets and fibre-reinforced plastics can also be machined with this turning type. The new SW16NT and SP16NT SARATURN types have their main areas of application here.
The **SW16NT** type is an uncoated carbide type with polished cutting surfaces and is ideally suited for use with ISO-N materials because of the carbide composition.
The **SP16NT** type has a special PVD coating. This guarantees additional protection and higher wear resistance in the case of ISO-N materials with abrasive fillers. Because of the coating, it is very well suited for use with austenitic quenched ISO-M material.

SW16NT

- HW-K15
- Designed for machining aluminium, high heat-resistance, low adhesion tendency



Toughness
1 2 3 4 5 6 7 8 9 10

Wear resistance
1 2 3 4 5 6 7 8 9 10

Composition
Co 6.0%, WC balance

Grain size
1 µm

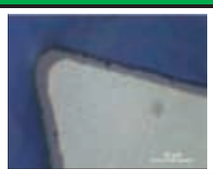
Hardness
HV 1630

Applications

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	○

SP16NT

- HW-K15
- Designed for machining aluminium, high heat-resistance, low adhesion tendency



Toughness
1 2 3 4 5 6 7 8 9 10

Wear resistance
1 2 3 4 5 6 7 8 9 10

Composition
Co 6.0%, WC balance

Grain size
1 µm

Hardness
HV 1630

Coating
PVD, TiN/TiAlN, 6 µm

Applications

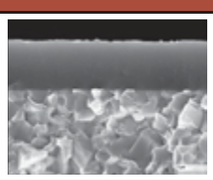
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	○

ISO S

Indexable cutting inserts for the ISO-S area are mainly used in machining highly heat-resistant alloys based on nickel-iron and cobalt. Titanium in its pure form or in alpha and beta alloys complete this ISO-S area. These materials which are extremely difficult to machine require a machining strategy adapted to the component which also depends on the machine.
The new **SP10ST** and **SP15ST** turning types with their PVD coating have been designed for use in these areas. The main application areas are light to medium cuts with a maximum of slight interruptions.

SP10ST

- HC-M15
  HC-S15
- Especially for chrome-nickel steel, suitable for titanium machining



Toughness
1 2 3 4 5 6 7 8 9 10

Wear resistance
1 2 3 4 5 6 7 8 9 10

Composition
Co 6.0%, WC balance

Grain size
8 µm

Hardness
HV 1820

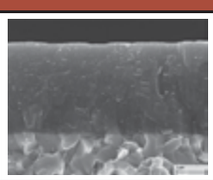
Coating
PVD (Ti, Al) N, 4 µm

Applications

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	○	–

SP15ST

- HC-M15
  HC-S15
- Especially for chrome-nickel steel, suitable for titanium machining



Toughness
1 2 3 4 5 6 7 8 9 10

Wear resistance
1 2 3 4 5 6 7 8 9 10

Composition
Co 6.0%, WC balance

Grain size
8 µm

Hardness
HV 1820

Coating
PVD TiN + (Ti, Al) N + TiN, 4 µm

Applications

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	○	–

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SARATURN Overview of positive chip breakers

The new chip breakers from the SARATURN range for positive indexable cutting inserts (5° and 7°)

The newly calculated chip breakers for individual use have been adapted to users' needs. Guaranteeing optimal chip breaking properties in daily use was the priority here.

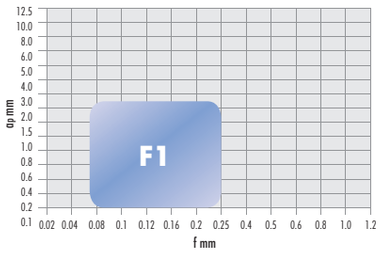
Adapted cutting edge preparation and enhanced surface treatment make the geometries even more efficient and more soft cutting. This is evident both in daily use and in series production as a result of an extended service life and lower machine loads. The latest insights in the development and modern cutting strategies of the individual ISO classes P, M, K, S and N were applied in the development of the chip breaker.

The benefits to the customer in terms of effectiveness, process reliability and material removal rate are the result. Elegant solutions are available for fine and ultra-fine finishing, medium machining and light roughing for positive geometries.
The best possible chip control even with small cutting depths and feeds, very good chip breaking properties, even with exotic materials with a significantly reduced tendency to form burs and the best possible surface quality are provided by the new SARATURN.

Chip breaker F1

ap	f
0.1 – 2.5 mm	0.07 - 0.25 mm/rev

- Long service life
- Optimised chip breaker for best possible chip control
- Soft chipping



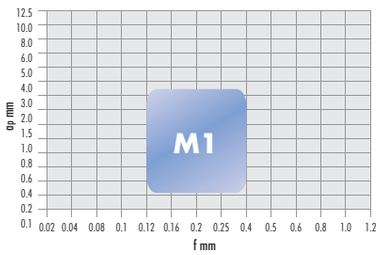
ISO P positive chip breaker

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	○	–

Chip breaker M1

ap	f
0.25 – 3.5 mm	0.12 - 0.4 mm/rev

- Long service life
- Optimised chip breaker prevents crack formation and is temperature-resistant
- Universal application



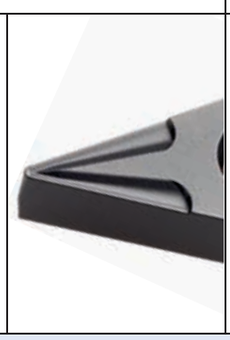
ISO P positive chip breaker

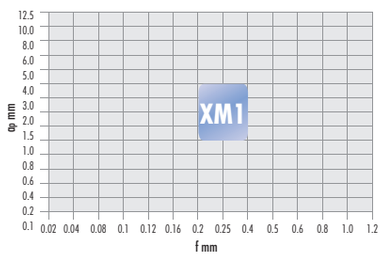
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	○	–

Chip breaker XM1

ap	f
1.0 – 4.0 mm	0.2 - 0.4 mm/rev

- Long service life
- Optimised chip breaker prevents crack formation and is temperature-resistant
- Universal application





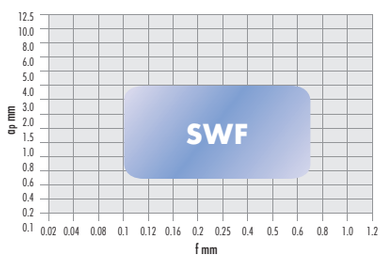
ISO P positive chip breaker

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	–

Chip breaker SWF

ap	f
0.5 – 4.0 mm	0.1 - 0.7 mm/rev

- Maximum surface quality
- Double feed possible with the same Ra
- Soft cutting
- Also for non-rusting materials



ISO P positive/negative chip breaker

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	–

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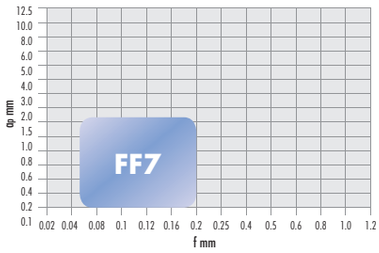
Chip breaker FF7, CERMET design

ap	f
0.1 – 1.65 mm	0.05 – 0.2 mm/rev

- Long service life
- Optimised chip breaker prevents crack formation and is temperature-resistant
- For best surface qualities

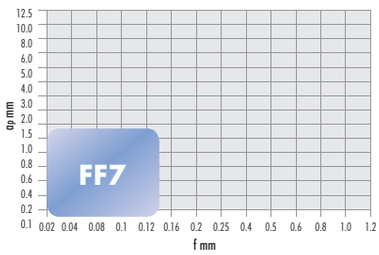


ISO P positive chip breaker / ISO M positive chip breaker		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	–	–

Chip breaker FF7, stainless steel design

ap	f
0.05 – 1.35 mm	0.02 - 0.14 mm/rev

- Special chip breaker for chrome-nickel steel and titanium machining
- "Sharp" chip breaker
- Soft chipping
- Extremely good chip control

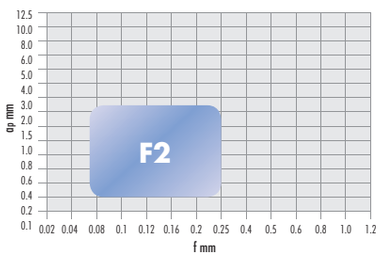


ISO M positive chip breaker		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	–	–

Chip breaker F2

ap	f
0.2 – 2.5 mm	0.07 - 0.25 mm/rev

- Long service life
- Optimised chip breaker for best possible chip control in stainless steel
- Soft chipping

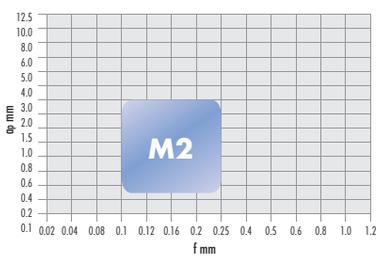


ISO M positive chip breaker		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	–	–

Chip breaker M2

ap	f
0.3 – 3.0 mm	0.1 - 0.25 mm/rev

- Long service life
- Optimised chip breaker prevents crack formation and is temperature-resistant
- Universal application

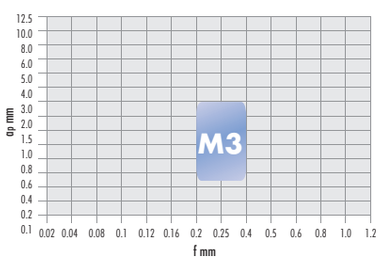


ISO M positive chip breaker		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	○	○

Chip breaker M3

ap	f
0.5 – 3.0 mm	0.2 - 0.4 mm/rev

- Long service life
- Optimised chip breaker prevents crack formation and is temperature-resistant
- Universal application



ISO K positive chip breaker		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	○	○

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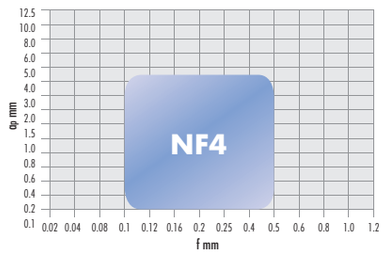
Chip breaker NF4

ap	f
0.1 – 4.5 mm	0.1 - 0.5 mm/rev

- Chip breaker for aluminium machining
- Also suitable for plastics and non-ferrous metals
- High rake angle
- Also suitable for austenitic quenched steel up to a chip depth of 0.4 mm



ISO N positive chip breaker

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	●

SARATURN Overview of negative chip breakers

INFO

The new chip breakers from the SARATURN range for negative indexable cutting inserts (0°)

The newly calculated chip breakers for individual use have been adapted to users' needs. The guarantee of optimised chip breaking properties in daily use was the priority here.

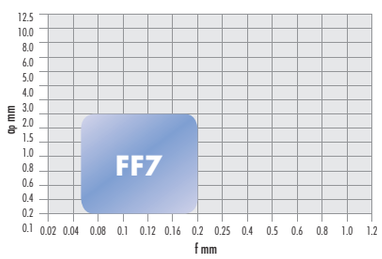
Adapted cutting edge preparation and enhanced surface treatment make the geometries even more efficient and more soft cutting. This is evident both in daily use and in series production as a result of an extended service life and lower machine loads. The latest insights in the development and modern cutting strategies of the individual ISO classes P, M, K, S and N were applied in the development of the chip breaker.

The benefits to the customer in terms of effectiveness, process reliability and material removal rate are the result. Elegant solutions are available for fine and ultra-fine finishing, medium machining and light roughing for negative geometries.
The best possible chip control even with small cutting depths and feeds, very good chip breaking properties, even with exotic materials with a significantly reduced tendency to form burs and the best possible surface quality are provided by the new SARATURN.

Chip breaker FF7, CERMET design

ap	f
0.1 – 2.0 mm	0.05 – 0.2 mm/rev

- Long service life
- Optimised chip breaker prevents crack formation and is temperature-resistant
- For best surface qualities



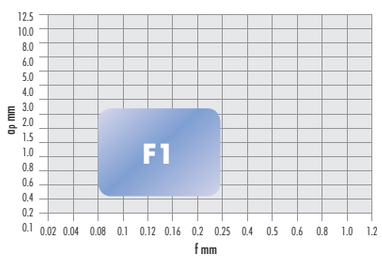
ISO P negative chip breaker

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	–	–

Chip breaker F1

ap	f
0.25 – 2.4 mm	0.08 - 0.24 mm/rev

- Long service life
- Optimised chip breaker for best possible chip control
- Soft chipping



ISO P negative chip breaker

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	–

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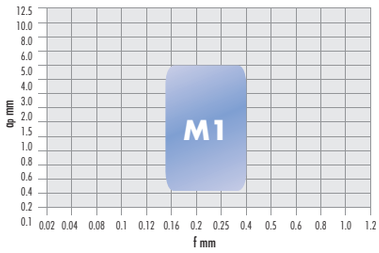
Chip breaker M1

ap	f
0.25 – 5 mm	0.15 - 0.4 mm/rev

- Long service life
- Optimised chip breaker prevents crack formation and is temperature-resistant
- Universal application



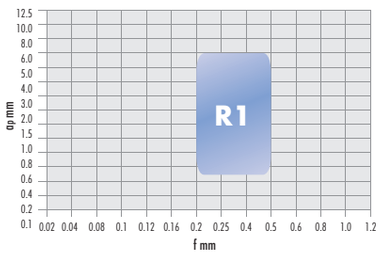
ISO P negative chip breaker

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	○	–

Chip breaker R1

ap	f
0.5 – 6 mm	0.2 - 0.5 mm/rev

- Optimised chip breaker prevents crack formation and is temperature-resistant
- Improved cutting edge stability, prevents notching effect and notch impact
- Stabilised contact surfaces



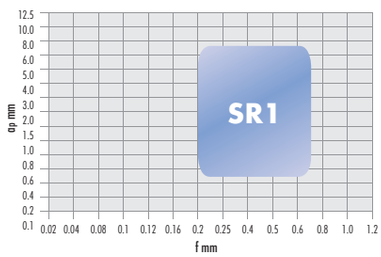
ISO P negative chip breaker

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	○	○

Chip breaker SR1

ap	f
0.5 – 7.5 mm	0.2 - 0.7 mm/rev

- Optimised chip breaker prevents crack formation and is temperature-resistant
- Improved cutting edge stability, prevents notching effect and notch impact



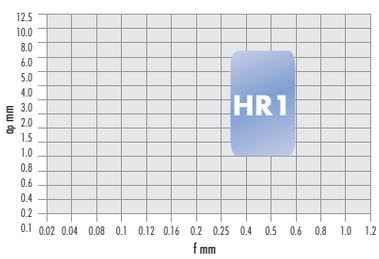
ISO P negative chip breaker

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	○

Chip breaker HR1

ap	f
0.8 – 7.0 mm	0.3 - 0.6 mm/rev

- One-sided chip breaker
- Maximum machining reliability
- Chip breaker for difficult cuts
- Increased cutting force, temperature and vibration tendency



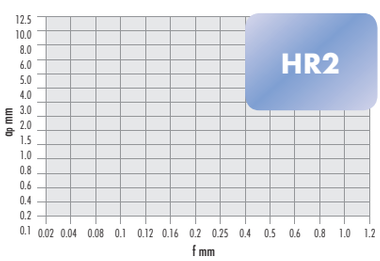
ISO P negative chip breaker

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	●

Chip breaker HR 2

ap	f
2.5 – 13 mm	0.4 – 1.3 mm/rev

- One-sided chip breaker
- Maximum machining reliability
- Chip breaker for difficult cuts
- Increased cutting force, temperature and vibration tendency



ISO P negative chip breaker

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	●

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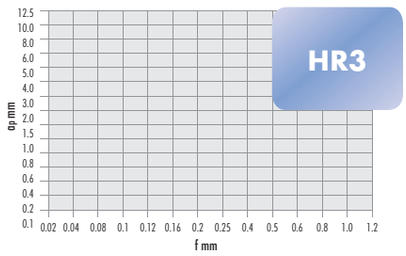
Chip breaker HR3

ap	f
2.0 – 13 mm	0.5 – 1.5 mm/rev

- One-sided chip breaker
- Maximum machining reliability
- Chip breaker for difficult cuts
- Increased cutting force, temperature and vibration tendency



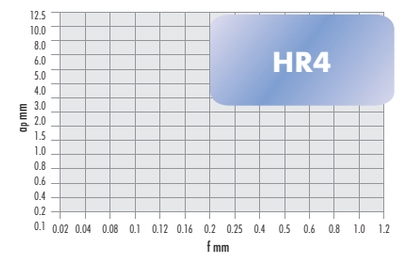
ISO P negative chip breaker

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	●

Chip breaker HR4

ap	f
2.5 – 12 mm	0.2 – 1.3 mm/rev

- One-sided chip breaker
- Maximum machining reliability
- Chip breaker for difficult cuts
- Reduced cutting force, temperature and vibration tendency



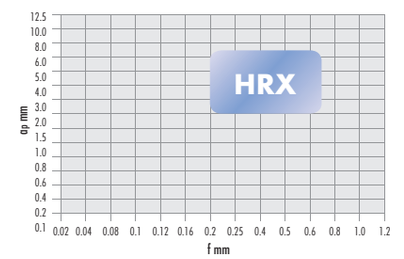
ISO P negative chip breaker

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	●

Chip breaker HRX

ap	f
2.0 – 7.0 mm	0.2 - 0.7 mm/rev

- One-sided chip breaker
- Maximum machining reliability
- Increased cutting force, temperature and vibration tendency



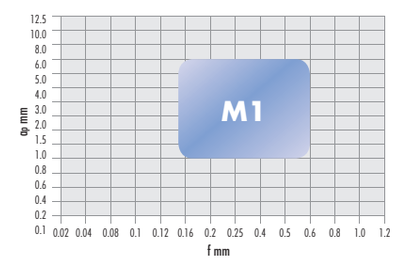
ISO P negative chip breaker

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	●

Chip breaker M1

ap	f
0.8 – 6 mm	0.15 – 0.6 mm/rev

- Long service life
- Optimised chip breaker prevents crack formation and is temperature-resistant
- Universal application



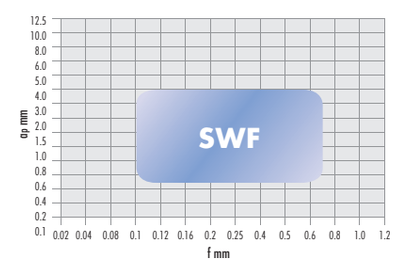
ISO P negative chip breaker

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
○	●	●

Chip breaker SWF

ap	f
0.5 – 4.0 mm	0.1 - 0.7 mm/rev

- Maximum surface quality
- Double feed possible with the same Ra
- Soft cutting
- Also for non-rusting materials



ISO P positive/negative chip breaker

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	–

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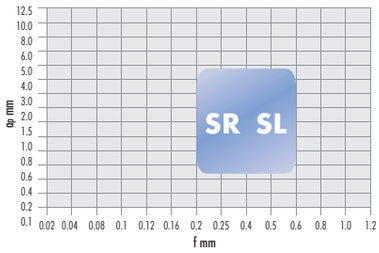
Chip breaker SR and SL

ap	f
0.5 – 4.8 mm	0.2 – 0.6 mm/rev

- Soft chipping
- "Sharp" cutting edge
- Universal application
- Established chip level

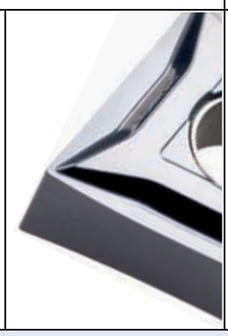


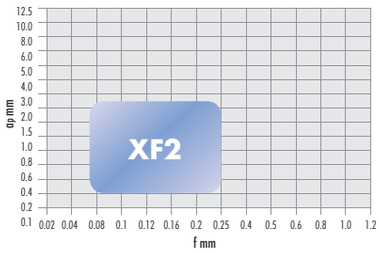
ISO P negative chip breaker / ISO M negative chip breaker		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	–

Chip breaker XF2

ap	f
0.2 – 2.5 mm	0.07 - 0.25 mm/rev

- Long service life
- Optimised chip breaker prevents crack formation and is temperature-resistant
- For best surface qualities



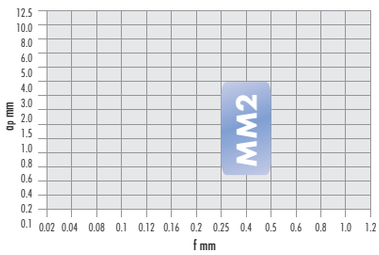


ISO M negative chip breaker		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	–	–

Chip breaker MM2

ap	f
0.5 – 4.0 mm	0.25 – 0.5 mm/rev

- Specially developed for low cutting forces
- Optimised chip breaker to prevent burr formation
- For best surface qualities

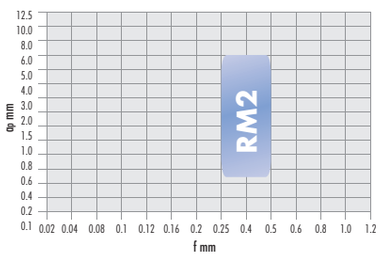


ISO M negative chip breaker		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	–

Chip breaker RM2

ap	f
0.5 – 6.0 mm	0.25 – 0.5 mm/rev

- Specially developed for low cutting forces
- Optimised chip breaker to prevent burr formation
- For best surface qualities
- For light to medium roughing

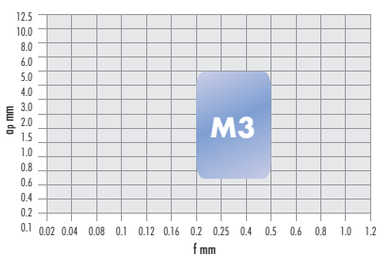


ISO M negative chip breaker		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	–

Chip breaker M3

ap	f
0.5 – 5.0 mm	0.2 - 0.5 mm/rev

- Long service life
- Optimised chip breaker prevents crack formation and is temperature-resistant
- Universal application



ISO K negative chip breaker		
Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	○

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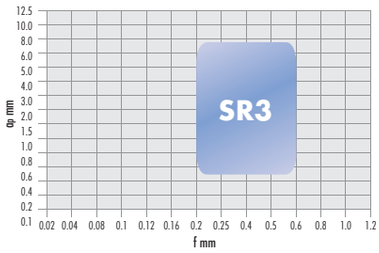
Chip breaker SR3

ap	f
0.5 - 7.5 mm	0.2 - 0.6 mm/rev

- Long service life
- Optimised chip breaker prevents crack formation and is temperature-resistant
- Light to medium roughing work



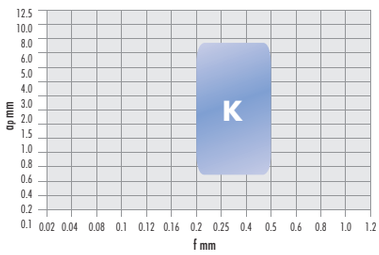
ISO K negative chip breaker

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	○

Chip breaker K

ap	f
0.5 - 7.5 mm	0.2 - 0.5 mm/rev

- Prevents crack formation and is temperature-resistant
- Universal application



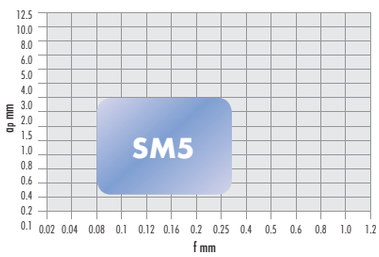
ISO K negative chip breaker

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	●	●

Chip breaker SM5

ap	f
0.25 - 3.0 mm	0.08 - 0.3 mm/rev

- Especially for chrome-nickel steel
- Soft chipping
- "Sharp" cutting edge



ISO S negative chip breaker

Continuous cut	Slightly interrupted cut	Significantly interrupted cut
●	–	–

SARA® TURN

An ace in any application

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CCGT ISO indexable cutting inserts, ground

- **80° rhombic, positive 7°, ground peripherally**
- One-sided chip breaker design
- Suitable for aluminium, plastic and non-ferrous metals
- **SW16NT** uncoated
- **SP16NT** coated, also suitable for finishing **stainless steel** (**austenitic, quenched**)
- **for stainless steel** max. ap = 0.4 mm at Vc max 140 m/min
- **SP16NT** for **titanium Rm 440 Vc 60-120 m/min**
- Minimum ap feed always 63% of the corner radius "r"
- Maximum ap feed 63% of the cutting edge length
- Cutting data recommendations apply for a corner radius **r = 0.4 mm**, if the radius changes, the cutting data must be adjusted

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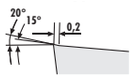
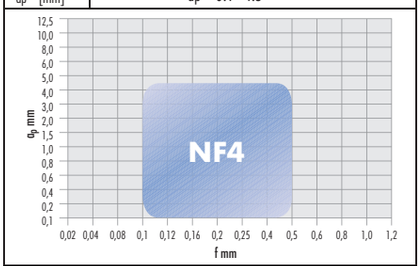
Especially for machining aluminium

Chip breaker *NF4*

F finishing ○	M medium ○	R roughing ○	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Universal application 	CCGT 060201-NF4				○	●	○		SW 16 NT	10	**366601** 0116	7,50
	CCGT 060202-NF4				○	●	○		SW 16 NT	10	366601 0216	7,50
				○	○	●	○		SP 16 NT	10	366601 0417	9,30
	CCGT 060204-NF4				○	●	○		SW 16 NT	10	366601 0316	7,50
			○	○	●	○		SP 16 NT	10	366601 0517	9,30
	CCGT 09T302-NF4				○	●	○		SW 16 NT	10	366601 0616	7,95
			○	○	●	○		SP 16 NT	10	366601 0717	9,70
	CCGT 09T304-NF4				○	●	○		SW 16 NT	10	366601 0816	7,95
			○	○	●	○		SP 16 NT	10	366601 0917	9,70
	CCGT 09T308-NF4				○	●	○		SW 16 NT	10	366601 1016	7,95
			○	○	●	○		SP 16 NT	10	366601 1117	9,70
	CCGT 120404-NF4				○	●	○		SW 16 NT	10	366601 1216	9,30
			○	○	●	○		SP 16 NT	10	366601 1317	11,15
	CCGT 120408-NF4				○	●	○		SW 16 NT	10	366601 1416	9,30
			○	○	●	○		SP 16 NT	10	366601 1517	11,15

3135

ISO	SP 16 NT	SW 16 NT
ISO M stainless steel	Vc = 50 - 140	
ISO K cast iron	Vc = 120 - 200	Vc = 120 - 200
ISO N Al/non-ferrous	Vc = 100 - 3000	Vc = 100 - 2000
ISO S superalloys	Vc = 18 - 45	Vc = 18 - 45
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.1 - 0.5 ap = 0.1 - 4.5	



CCMT - CCGT ISO indexable cutting inserts

- **80° rhombic, positive 7°**
- One-sided chip breaker design
- Chip breaker **FF7 stainless steel design SP20MT** for **titanium** hardness Rm* 400, Vc up to 140 m/min possible
- **CCGT** ground peripherally
- Minimum ap feed always 63% of the corner radius "r"
- Maximum ap feed is 63% of the cutting edge length
- Cutting data recommendations apply for a corner radius **r = 0.4 mm**

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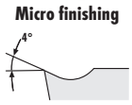
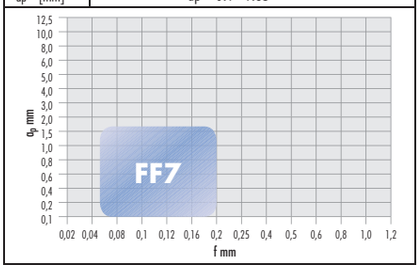
Chip breaker *FF7*, CERMET design

F finishing ●	M medium -	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Micro finishing 	CCMT 060204-FF7			●	○	○				ST 10 UT	10	**366603** 0140	5,40
	CCMT 09T304-FF7			●	○	○				ST 10 UT	10	366603 0240	6,10

3135

ISO	ST 10 UT
ISO P steel	Vc = 160 - 270
ISO M stainless steel	Vc = 130 - 240
ISO K cast iron	Vc = 220 - 350
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.2 ap = 0.1 - 1.65



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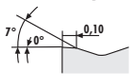
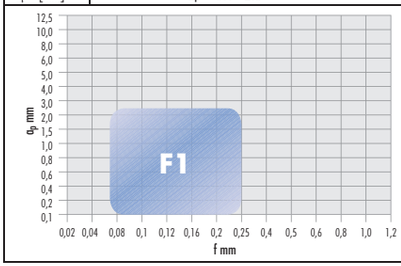
Chip breaker *F1*

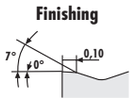
F finishing ●	M medium ○	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Finishing 			CCMT 060202-F1	●	○	○				SC 25 PT	10	**366604** 0125	5,40
			CCMT 060204-F1	●		○				SC 15 PT	10	366604 0215	5,40
				●	○	○				SC 25 PT	10	366604 0325	5,40
			CCMT 09T302-F1	●	○	○				SC 25 PT	10	366604 0425	6,75
			CCMT 09T304-F1	●		○				SC 15 PT	10	366604 0515	6,75
				●	○	○				SC 25 PT	10	366604 0625	6,75
			CCMT 09T308-F1	●		○				SC 15 PT	10	366604 0715	6,75
				●	○	○				SC 25 PT	10	366604 0825	6,75
				●	○					SC 35 PT	10	366604 0915	6,75
			CCMT 120404-F1	●		○				SC 15 PT	10	366604 1015	8,95

3135

ISO	SC 15 PT	SC 25 PT	SC 35 PT
ISO P steel	Vc = 180 - 400	Vc = 100 - 240	Vc = 90 - 190
ISO M stainless steel		Vc = 70 - 200	Vc = 55 - 180
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.07 - 0.25 ap = 0.1 - 2.5		

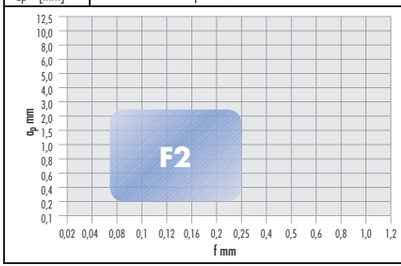


Chip breaker *F2*

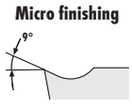
F finishing ●	M medium ○	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Finishing 			CCMT 060202-F2	○	●					SP 25 MT	10	**366605** 0121	5,40
			CCMT 060204-F2	○	●					SP 25 MT	10	366605 0221	5,40
			CCMT 09T302-F2	○	●					SP 25 MT	10	366605 0321	6,75
			CCMT 09T304-F2	○	●					SP 25 MT	10	366605 0421	6,75
			CCMT 09T308-F2	○	●					SP 25 MT	10	366605 0521	6,75

3135

ISO	SP 25 MT
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 60 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.07 - 0.25 ap = 0.2 - 2.5

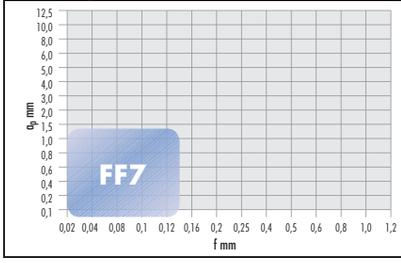


Chip breaker *FF7*, stainless steel design

F finishing ●	M medium -	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Micro finishing 			CCGT 060200-FF7		●	○	○	○		SP 20 MT	10	**366602** 0120	9,30
			CCGT 060201-FF7		●	○	○	○		SP 20 MT	10	366602 0220	9,30
			CCGT 09T300-FF7		●	○	○	○		SP 20 MT	10	366602 0320	9,70
			CCGT 09T301-FF7		●	○	○	○		SP 20 MT	10	366602 0420	9,70

3135

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



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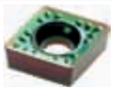
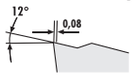
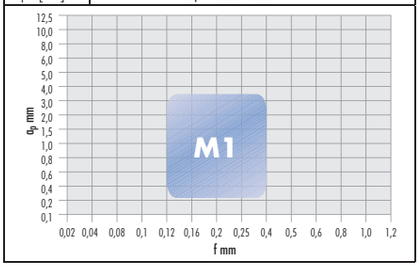
Chip breaker *M1*

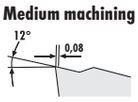
F finishing -	M medium ●	R roughing ○	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Medium machining 			CCMT 060204-M1	●	○	○				SC 15 PT	10	**366606** 0115	5,40
				●	○	○				SC 25 PT	10	366606 0225	5,40
				●	○					SC 35 PT	10	366606 0335	5,40
			CCMT 060208-M1	●	○	○				SC 15 PT	10	366606 0415	5,40
				●	○	○				SC 25 PT	10	366606 0525	5,40
			CCMT 09T304-M1	●		○				SC 15 PT	10	366606 0615	6,75
				●	○	○				SC 25 PT	10	366606 0725	6,75
				●	○					SC 35 PT	10	366606 0835	6,75
			CCMT 09T308-M1	●		○				SC 15 PT	10	366606 0915	6,75
			CCMT 09T308-M1	●	○	○				SC 25 PT	10	366606 1025	6,75
				●	○					SC 35 PT	10	366606 1135	6,75
			CCMT 120404-M1	●	○	○				SC 25 PT	10	366606 1225	8,95
			CCMT 120408-M1	●	○	○				SC 25 PT	10	366606 1325	8,95
			CCMT 120412-M1	●	○	○				SC 25 PT	10	366606 1425	8,95

3135

ISO	SC 15 PT	SC 25 PT	SC 35 PT
ISO P steel	Vc = 180 - 400	Vc = 100 - 240	Vc = 90 - 200
ISO M stainless steel		Vc = 70 - 210	Vc = 55 - 200
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.4 ap = 0.25 - 3.5		

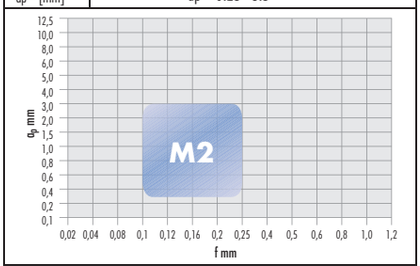


Chip breaker *M2*

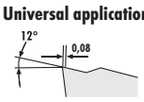
F finishing -	M medium ●	R roughing ○	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Medium machining 			CCMT 060204-M2	○	●					SP 25 MT	10	**366607** 0121	5,40
			CCMT 060208-M2	○	●					SP 25 MT	10	366607 0221	5,40
			CCMT 09T304-M2	○	●					SP 25 MT	10	366607 0321	6,75
				○	●					SP 35 MT	10	366607 0422	6,75
			CCMT 09T308-M2	○	●					SP 25 MT	10	366607 0521	6,75
				○	●					SP 35 MT	10	366607 0622	6,75
			CCMT 120404-M2	○	●					SP 25 MT	10	366607 0721	8,95
			CCMT 120408-M2	○	●					SP 25 MT	10	366607 0821	8,95
			CCMT 120412-M2	○	●					SP 25 MT	10	366607 0921	8,95

3135

ISO	SC 25 PT	SP 35 MT
ISO P steel	Vc = 80 - 250	Vc = 90 - 200
ISO M stainless steel	Vc = 40 - 250	Vc = 55 - 200
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.3 ap = 0.25 - 3.5	

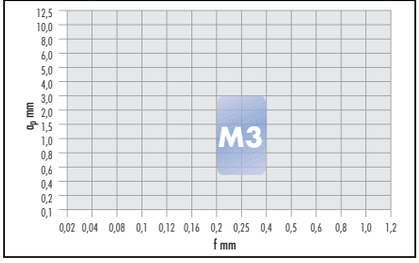


Chip breaker *M3*

F finishiF finishing -	M medium ●	R roughing ○	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Universal application 			CCMT 060204-M3	○		●				SC 20 KT	10	**366608** 0130	5,40
			CCMT 09T304-M3	○		●				SC 20 KT	10	366608 0230	6,75
			CCMT 09T308-M3	○		●				SC 20 KT	10	366608 0330	6,75
			CCMT 120408-M3	○		●				SC 20 KT	10	366608 0430	8,95

3135

ISO	SC 20 KT
ISO P steel	Vc = 150 - 340
ISO K cast iron	Vc = 150 - 550
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.4 ap = 0.5 - 3.0



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CCMX ISO indexable cutting inserts

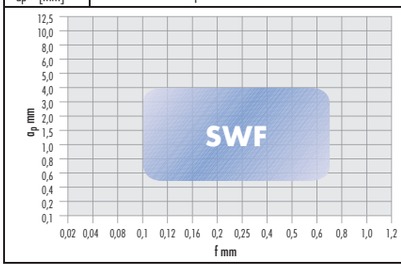
- **80° rhombic, positive 7°**
- One-sided chip breaker design
- Minimum ap feed always 63% of the corner radius "r"
- Special finishing geometry with smoothing effect when used at an angle of 93°
- Double feed achievable at the same Ra value as with conventional geometries
- When using the **SWF**, profile distortions may occur if long tapers and large balls are turned
- Cutting data recommendations apply for a corner radius **r = 0.4 mm**

Chip breaker *SWF* positive

F finishing	M medium	R roughing	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	-	-											
Finishing	CCMX 09T304-SWF		●	○	○					**SC 25 PT**	10	**366708** 0125	8,75
			○	●						**SP 35 MT**	10	366708 0135	8,75
	CCMX 09T308-SWF		●	○	○					**SC 25 PT**	10	366708 0225	8,75
			○	●						**SP 35 MT**	10	366708 0235	8,75

3135

ISO	SC 25 PT	SP 35 MT
ISO P steel	Vc = 100 - 240	Vc = 90 - 200
ISO M stainless steel	Vc = 70 - 210	Vc = 55 - 200
ISO K cast iron	Vc = 130 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.4 ap = 0.3 - 3.0	



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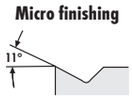
CNGP - CNMA ISO indexable cutting inserts

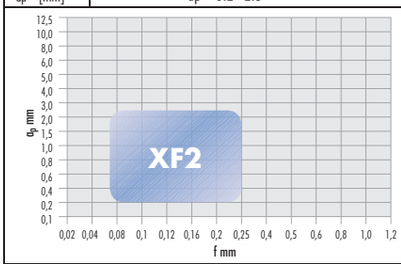
- **80° rhombic, negative 0°**
- Bilateral chip breaker design
- Chip breaker **XF2** for extreme finishing
- **SP20MT** range in **titanium** Vc max 140 m/min for Rm 440
- Minimum ap feed always 63% of the corner radius "r"
- Cutting data recommendations apply for a corner radius **r = 0.4 mm**

Chip breaker *XF2* especially for *stainless steel*

F finishing	M medium	R roughing	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	-	-											
Micro finishing 	CNGP 120402-XF2			●	○	○	○			**SP 20 MT**	10	**366609** 0120	12,50
	CNGP 120404-XF2			●	○	○	○			**SP 20 MT**	10	366609 0220	12,50
	CNGP 120408-XF2			●	○	○	○			**SP 20 MT**	10	366609 0320	12,50
	CNGP 120412-XF2			●	○	○	○			**SP 20 MT**	10	366609 0420	12,50

3135

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

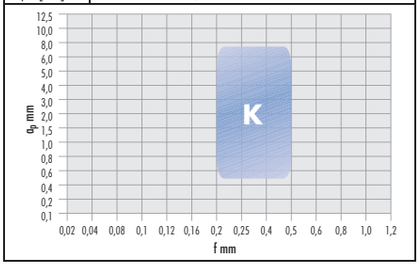


K smooth chip breaker

F finishing	M medium	R roughing	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
-	○	●											
Roughing/medium machining	CNMA 120408-K		○		●					SC 20 KT	10	**366610** 0130	6,95

3135

ISO	SC 20 KT
ISO P steel	Vc = 150 - 340
ISO K cast iron	Vc = 150 - 550
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.5 ap = 0.5 - 7.5



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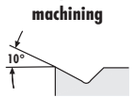
CNMG ISO indexable cutting inserts

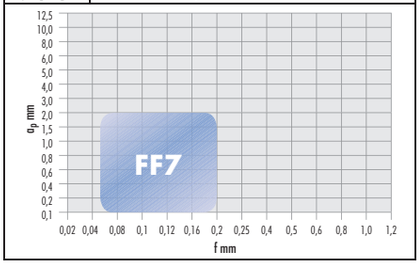
- **80° rhombic, negative 0°**
- Bilateral chip breaker design
- Minimum ap feed always 63% of the corner radius "r"
- Maximum ap feed is 63% of the cutting edge length
- Cutting data recommendations apply for a corner radius **r = 0.4 mm**, for **CNMG 16**... for a corner radius **r = 0.8 mm**, for **CNMG 19**.... for a corner radius **r = 1.2 mm**

Chip breaker *FF7*, CERMET negative design

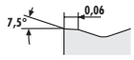
F finishing	M medium	R roughing	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	○	●											
Finishing/medium machining 	CNMG 120404-FF7		●	○	○					ST 10 UT	10	**366612** 0140	6,95
	CNMG 120408-FF7		●	○	○					ST 10 UT	10	366612 0240	6,95

3135

ISO	ST 10 UT
ISO P steel	Vc = 160 - 270
ISO M stainless steel	Vc = 130 - 240
ISO K cast iron	Vc = 220 - 350
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.2 ap = 0.1 - 2.0

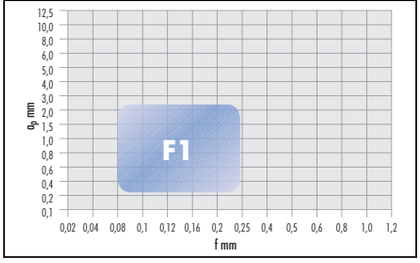


Chip breaker *F1* negative

F finishing	M medium	R roughing	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	○	-											
Finishing 	CNMG 120404-F1		●		○					SC 15 PT	10	**366704** 0115	7,65
			●	○	○					SC 25 PT	10	366704 0225	7,65
	CNMG 120408-F1		●		○					SC 15 PT	10	366704 0315	7,65
			●	○	○					SC 25 PT	10	366704 0425	7,65

3135

ISO	SC 15 PT	SC 25 PT
ISO P steel	Vc = 180 - 400	Vc = 100 - 240
ISO M stainless steel		Vc = 70 - 210
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.07 - 0.25 ap = 0.25 - 2.5	



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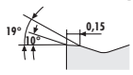
Chip breaker *M1* negative

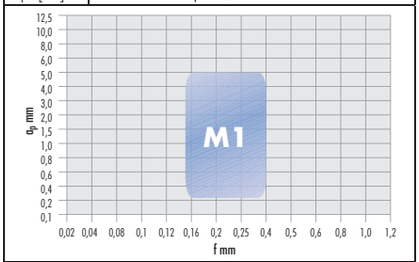
F finishing	M medium	R roughing	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
○	●	○	CNMG 120404-M1	●		○				SC 15 PT	10	**366613** 0115	6,95
				●	○	○				SC 25 PT	10	366613 0225	6,95
			CNMG 120408-M1	●		○				SC 15 PT	10	366613 0315	6,95
				●	○	○				SC 25 PT	10	366613 0425	6,95
				●	○					SC 35 PT	10	366613 0535	6,95
			CNMG 120412-M1	●		○				SC 15 PT	10	366613 0615	6,95
				●	○	○				SC 25 PT	10	366613 0725	6,95
				●	○					SC 35 PT	10	366613 0835	6,95

Medium machining



3135

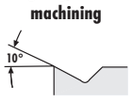
ISO	SC 15 PT	SC 25 PT	SC 35 PT
ISO P steel	Vc = 180 - 400	Vc = 100 - 240	Vc = 90 - 200
ISO M stainless steel		Vc = 70 - 210	Vc = 55 - 200
ISO K cast iron	Vc = 140 - 520	Vc = 130 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.15 - 0.4 ap = 0.25 - 5.0		



Chip breaker *MM2* negative

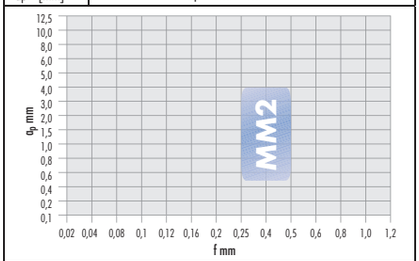
F finishiF finishing	M medium	R roughing	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
-	●	○	CNMG 120408-MM2	○	●					SP 25 MT	10	**366615** 0121	6,95

Roughing/medium machining



3135

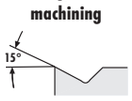
ISO	SP 25 MT
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 40 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.25 - 0.5 ap = 0.5 - 4.0



Chip breaker *SM5* negative, especially for ISO-S

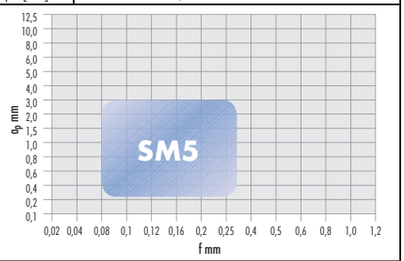
F finishing	M medium	R roughing	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	○	-	CNMG 120404-SM5		○			●		SP 10 ST	10	**366611** 0232	6,95
					○			●		SP 15 ST	10	366611 0131	6,95
			CNMG 120408-SM5		○			●		SP 10 ST	10	366611 0332	6,95
					○			●		SP 15 ST	10	366611 0231	6,95

Finishing/medium machining



3135

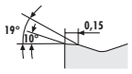
ISO	SP 10 ST	SP 15 ST
ISO M stainless steel	Vc = 60 - 230	Vc = 50 - 220
ISO S superalloys	Vc = 30 - 120	Vc = 30 - 120
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.08 - 0.3 ap = 0.25 - 3.0	



Chip breaker *M3* negative ISO K

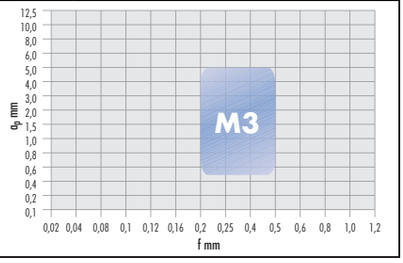
F finishing	M medium	R roughing	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
-	●	○	CNMG 120408-M3	○		●				SC 20 KT	10	**366617** 0130	6,95
			CNMG 120412-M3	○		●				SC 20 KT	10	366617 0230	6,95

Roughing/medium machining



3135

ISO	SC 20 KT
ISO P steel	Vc = 150 - 340
ISO K cast iron	Vc = 150 - 550
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.5 ap = 0.5 - 5.0



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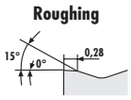
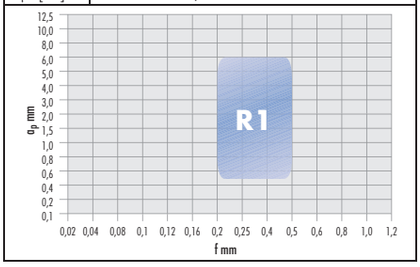
Chip breaker *R1* negative

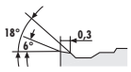
F finishing -	M medium ○	R roughing ●	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Roughing 	CNMG 120408-R1			●	○	○				SC 15 PT	10	**366618** 0115	6,95
				●	○	○				SC 25 PT	10	366618 0225	6,95
	CNMG 120412-R1			●	○	○				SC 25 PT	10	366618 0325	6,95

3135

ISO	SC 15 PT	SC 25 PT
ISO P steel	Vc = 180 - 400	Vc = 100 - 240
ISO M stainless steel		Vc = 70 - 210
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.5 ap = 0.5 - 6.0	

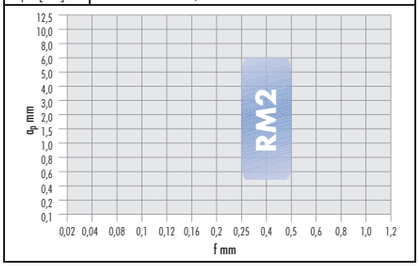


Chip breaker *RM2* negative

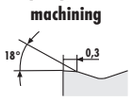
F finishing -	M medium ○	R roughing ●	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Roughing/medium machining 	CNMG 120408-RM2			○	●					SP 25 MT	10	**366616** 0121	6,95
	CNMG 120412-RM2			○	●					SP 25 MT	10	366616 0221	6,95

3135

ISO	SP 25 MT
ISO P steel	Vc = 80 - 250
ISO M stainless steel	Vc = 40 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.5 ap = 0.5 - 6.0

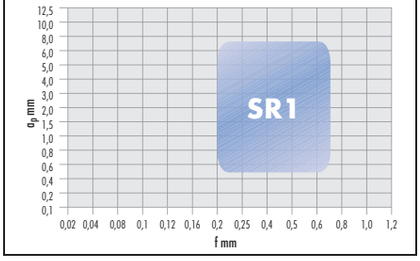


Chip breaker *SR3* negative

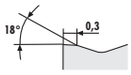
F finishing -	M medium ○	R roughing ●	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Roughing/medium machining 	CNMG 160608-SR1			●	○					SC 35 PT	10	**366620** 0335	12,95
	CNMG 160612-SR1			●	○	○				SC 25 PT	10	366620 0525	12,95
				●	○					SC 35 PT	10	366620 0635	12,95
	CNMG 190612-SR1			●	○	○				SC 25 PT	10	366620 0825	17,95
				●	○					SC 35 PT	10	366620 0935	17,95
	CNMG 190616-SR1			●	○	○				SC 25 PT	10	366620 1125	17,95
				●	○					SC 35 PT	10	366620 1235	17,95

3135

ISO	SC 25 PT	SC 35 PT
ISO P steel	Vc = 100 - 240	Vc = 90 - 200
ISO M stainless steel	Vc = 70 - 210	Vc = 55 - 200
ISO K cast iron	Vc = 120 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.7 ap = 0.5 - 7.5	

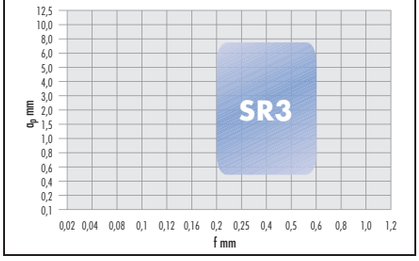


Chip breaker *SR3* negative for ISO K

F finishing -	M medium ○	R roughing ●	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Roughing/medium machining 	CNMG 120408-SR3			○		●				SC 20 KT	10	**366614** 0130	6,95
	CNMG 120412-SR3			○		●				SC 20 KT	10	366614 0230	6,95
	CNMG 160608-SR3			○		●				SC 20 KT	10	366614 0330	12,95
	CNMG 160612-SR3			○		●				SC 20 KT	10	366614 0430	12,95
	CNMG 190612-SR3			○		●				SC 20 KT	10	366614 0530	17,95

3135

ISO	SC 20 KT
ISO P steel	Vc = 150 - 340
ISO K cast iron	Vc = 150 - 550
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.6 ap = 0.5 - 7.5



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CNMM ISO indexable cutting inserts

- **80° rhombic, negative 0°**
- One-sided chip breaker design
- Minimum ap feed always 63% of the corner radius "r"
- Maximum ap feed is 63% of the cutting edge length
- Cutting data recommendations apply for a corner radius **r = 0.8 mm**

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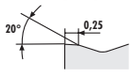
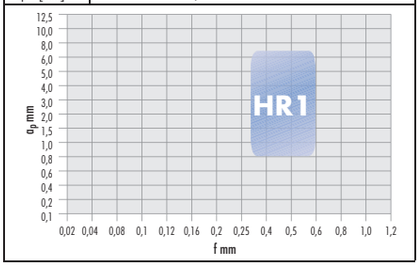
Chip breaker *HR1*

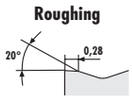
F finishing -	M medium ○	R roughing ●	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Roughing 	CNMM 120408-HR1		●	○	○					**SC 15 PT**	10	**366703** 0115	6,95
			●	○	○					**SC 25 PT**	10	366703 0225	6,95
			●	○						**SC 35 PT**	10	366703 0335	6,95

3135

ISO	SC 15 PT	SC 25 PT	SC 35 PT
ISO P steel	Vc = 180 - 400	Vc = 100 - 240	Vc = 90 - 200
ISO M stainless steel		Vc = 70 - 210	Vc = 55 - 200
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.3 - 0.6 ap = 0.8 - 7.0		

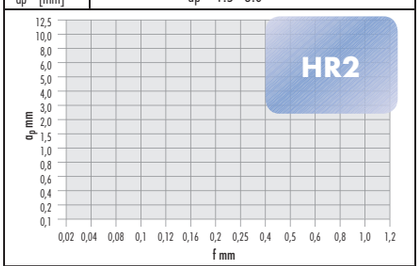


Chip breaker *HR2* negative up to 16 mm

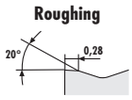
F finishing -	M medium ○	R roughing ●	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Roughing 	CNMM 120412-HR2		●	○	○					**SC 15 PT**	10	**366619** 0415	6,95
			●	○	○					**SC 25 PT**	10	366619 0525	6,95
			●	○						**SC 35 PT**	10	366619 0635	6,95
	CNMM 120416-HR2		●	○	○					**SC 25 PT**	10	366619 0825	6,95
			●	○						**SC 35 PT**	10	366619 0935	6,95
	CNMM 160612-HR2		●		○					**SC 15 PT**	10	366619 1315	12,20
			●	○	○					**SC 25 PT**	10	366619 1425	12,20
			●	○						**SC 35 PT**	10	366619 1535	12,20

3135

ISO	SC 15 PT	SC 25 PT	SC 35 PT
ISO P steel	Vc = 180 - 400	Vc = 100 - 240	Vc = 90 - 200
ISO M stainless steel		Vc = 70 - 210	Vc = 55 - 200
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.3 - 0.7 ap = 1.5 - 8.0		

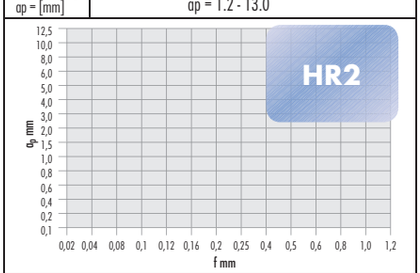


Chip breaker *HR2* negative from 19 mm

F finishing -	M medium -	R roughing ●	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Roughing 	CNMM 190612-HR2		●		○					**SC 15 PT**	10	**366621** 0115	17,95
			●	○	○					**SC 25 PT**	10	366621 0225	17,95
	CNMM 190616-HR2		●	○	○					**SC 25 PT**	10	366621 0525	17,95
	CNMM 250924-HR2		●	○	○					**SC 25 PT**	5	366621 1125	34,95

3135

ISO	SC 15 PT	SC 25 PT
ISO P steel	Vc = 180 - 400	Vc = 100 - 240
ISO M stainless steel		Vc = 70 - 210
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.4 - 1.1 ap = 1.2 - 13.0	



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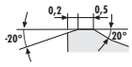
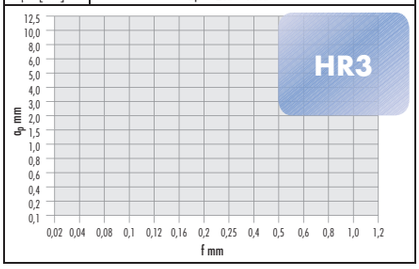
Chip breaker *HR3* negative from 19 mm

F finishing -	M medium -	R roughing ●	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Roughing 	CNMM 190616-HR3			●	○	○				**SC 25 PT**	10	**366622** 0125	17,95
	CNMM 190624-HR3			●	○	○				**SC 25 PT**	10	366622 0225	17,95
	CNMM 250924-HR3			●	○	○				**SC 25 PT**	10	366622 0325	34,95
	CNMM 250932-HR2			●	○	○				**SC 25 PT**	5	366622 0425	34,95

3135

ISO	SC 25 PT
ISO P steel	Vc = 100 - 240
ISO M stainless steel	Vc = 70 - 210
ISO K cast iron	Vc = 120 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.5 - 1.5 ap = 2.0 - 13.0



CNMX ISO indexable cutting inserts

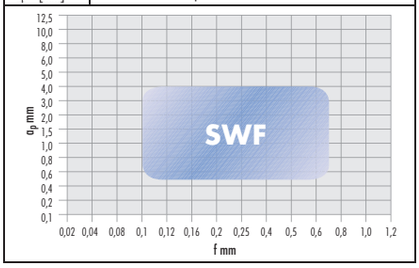
- **80° rhombic, negative 0°**
- One-sided chip breaker design
- Minimum ap feed always 63% of the corner radius "r"
- Special finishing geometry with smoothing effect when used at an angle of 93°
- When using the **SWF**, profile distortions may occur if long tapers and large balls are turned
- Double feed achievable at the same Ra value as with conventional geometries
- Cutting data recommendations apply for a corner radius **r = 0.4 mm**

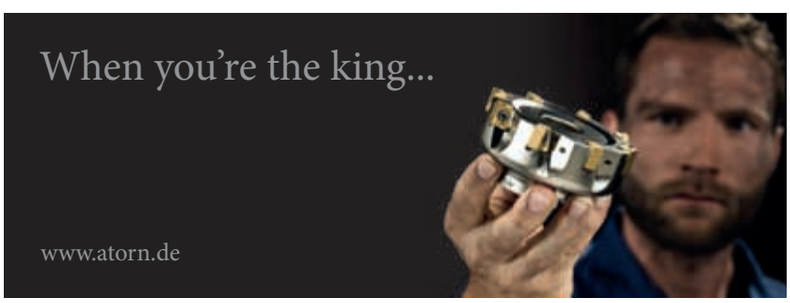
Chip breaker *SWF* negative

F finishing ●	M medium ○	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Finishing	CNMX 120404-SWF			●		○				**SC 15 PT**	10	**366705** 0115	7,65
	CNMX 120408-SWF			●		○				**SC 15 PT**	10	366705 0215	7,65

3135

ISO	SC 15 PT
ISO P steel	Vc = 180 - 400
ISO K cast iron	Vc = 140 - 520
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.1 - 0.6 ap = 0.5 - 4.0





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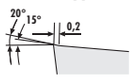
DCGT ISO indexable cutting inserts, ground

- **55° rhombic, positive 7°, ground peripherally**
- One-sided chip breaker design
- Suitable for aluminium, plastic and non-ferrous metals
- **SW16NT** uncoated
- **SP16NT** coated, also suitable for finishing **stainless steel** (**austenitic, quenched**)
- for **stainless steel** max. ap = 0.4 mm at Vc max 140 m/min
- **SP16NT** for **titanium** Rm* 440 **Vc 60-120 m/min**
- Minimum ap feed always 63% of the corner radius "r"
- Maximum ap feed is 63% of the cutting edge length
- Cutting data recommendations apply for a corner radius **r = 0.4 mm**

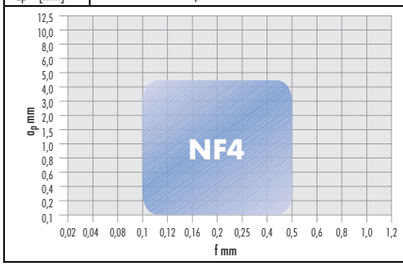
Especially for machining aluminium

Chip breaker *NF4*

F finishing ○	M medium ○	R roughing ○	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Universal application 	DCGT 070201-NF4				○	●	○			SW 16 NT	10	**366623** 0116	7,50
	DCGT 070202-NF4				○	●	○			SW 16 NT	10	366623 0216	7,50
			○		○	●	○			SP 16 NT	10	366623 0317	8,95
	DCGT 070204-NF4				○	●	○			SW 16 NT	10	366623 0416	7,50
			○		○	●	○			SP 16 NT	10	366623 0517	8,95
	DCGT 070208-NF4				○	●	○			SW 16 NT	10	366623 0616	7,50
	DCGT 11T302-NF4				○	●	○			SW 16 NT	10	366623 0716	8,95
			○		○	●	○			SP 16 NT	10	366623 0817	10,20
	DCGT 11T304-NF4				○	●	○			SW 16 NT	10	366623 0916	8,95
			○		○	●	○			SP 16 NT	10	366623 1017	10,20
	DCGT 11T308-NF4				○	●	○			SW 16 NT	10	366623 1116	8,95
			○		○	●	○			SP 16 NT	10	366623 1217	10,20

3135

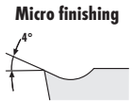
ISO	SP 16 NT	SW 16 NT
ISO M stainless steel	Vc = 50 - 140	
ISO K cast iron	Vc = 120 - 200	Vc = 120 - 200
ISO N Al/non-ferrous	Vc = 100 - 3000	Vc = 100 - 2000
ISO S superalloys	Vc = 18 - 120	Vc = 18 - 45
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.1 - 0.5 ap = 0.1 - 4.5	



DCGT - *DCMT* ISO indexable cutting inserts

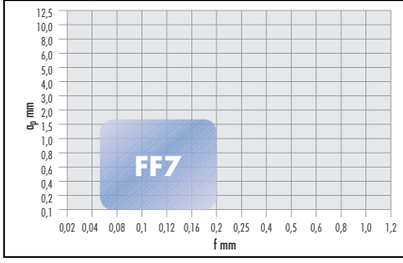
- **55° rhombic, positive 7°**
- One-sided chip breaker design
- Chip breaker **FF7 stainless steel design SP20MT** for **titanium** hardness Rm* 400, Vc up to 140 m/min possible
- **WCGT** ground peripherally
- Minimum ap feed always 63% of the corner radius "r"
- Maximum ap feed is 63% of the cutting edge length
- Cutting data recommendations apply for a corner radius **r = 0.4 mm**

Chip breaker *FF7*, CERMET design

F finishing ●	M medium -	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Micro finishing 	DCMT 070204-FF7			●	○	○				ST 10 UT	10	**366627** 0140	5,70
	DCMT 11T304-FF7			●	○	○				ST 10 UT	10	366627 0240	7,45

3135

ISO	ST 10 UT
ISO P steel	Vc = 160 - 270
ISO M stainless steel	Vc = 130 - 240
ISO K cast iron	Vc = 220 - 350
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.2 ap = 0.1 - 1.65



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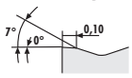
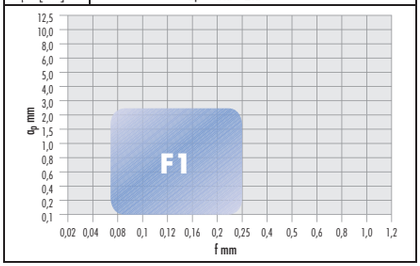
Chip breaker *F1*

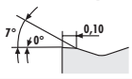
F finishing ●	M medium ○	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Finishing 			DCMT 070202-F1	●	○	○				SC 25 PT	10	**366625** 0125	5,70
			DCMT 070204-F1	●		○				SC 15 PT	10	366625 0415	5,70
				●	○	○				SC 25 PT	10	366625 0225	5,70
			DCMT 11T302-F1	●	○	○				SC 25 PT	10	366625 0725	7,45
			DCMT 11T304-F1	●	○	○				SC 25 PT	10	366625 1025	7,45
			DCMT 11T308-F1	●	○	○				SC 25 PT	10	366625 1325	7,45

3135

ISO	SC 15 PT	SC 25 PT
ISO P steel	Vc = 180 - 400	Vc = 100 - 240
ISO M stainless steel		Vc = 70 - 210
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.07 - 0.25 ap = 0.5 - 2.5	

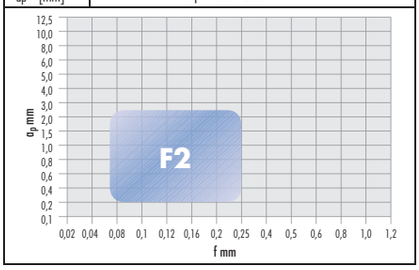


Chip breaker *F2*

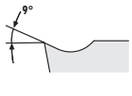
F finishing ●	M medium ○	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Finishing/medium machining 			DCMT 070202-F2	○	●					SP 25 MT	10	**366626** 0125	5,70
			DCMT 070204-F2	○	●					SP 25 MT	10	366626 0225	5,70
			DCMT 11T302-F2	○	●					SP 25 MT	10	366626 0325	7,45
			DCMT 11T304-F2	○	●					SP 25 MT	10	366626 0425	7,45
			DCMT 11T308-F2	○	●					SP 25 MT	10	366626 0525	7,45

3135

ISO	SP 25 MT
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 40 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.07 - 0.25 ap = 0.2 - 2.5

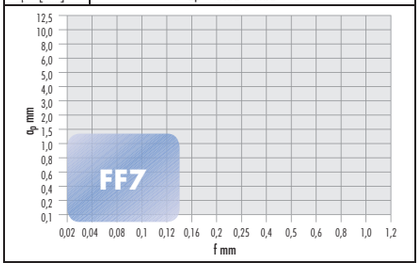


Chip breaker *FF7*, stainless steel design

F finishing ●	M medium -	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Micro finishing 			DCGT 070200-FF7		●	○	○	○		SP 20 MT	10	**366624** 0120	12,20
			DCGT 070201-FF7		●	○	○	○		SP 20 MT	10	366624 0220	12,20
			DCGT 11T300-FF7		●	○	○	○		SP 20 MT	10	366624 0320	12,20
			DCGT 11T301-FF7		●	○	○	○		SP 20 MT	10	366624 0420	12,20

3135

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



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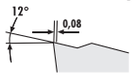
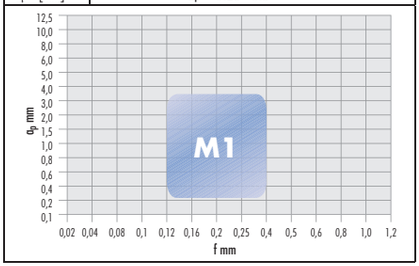
Chip breaker *M1*

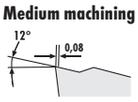
F finishing ○	M medium ●	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Medium machining 	DCMT 070204-M1			●	○	○				SC 25 PT	10	**366630** 0125	5,70
				●	○					SC 35 PT	10	366630 0235	5,70
	DCMT 070208-M1			●	○	○				SC 25 PT	10	366630 0325	5,70
				●	○					SC 35 PT	10	366630 0435	5,70
	DCMT 11T304-M1			●		○				SC 15 PT	10	366630 0515	7,45
				●	○	○				SC 25 PT	10	366630 0625	7,45
				●	○					SC 35 PT	10	366630 0735	7,45
	DCMT 11T308-M1			●		○				SC 15 PT	10	366630 0815	7,45
				●	○	○				SC 25 PT	10	366630 0925	7,45
				●	○					SC 35 PT	10	366630 1035	7,45

3135

ISO	SC 15 PT	SC 25 PT	SC 35 PT
ISO P steel	Vc = 180 - 400	Vc = 100 - 240	Vc = 90 - 200
ISO M stainless steel		Vc = 70 - 210	Vc = 55 - 200
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.4 ap = 0.25 - 3.5		

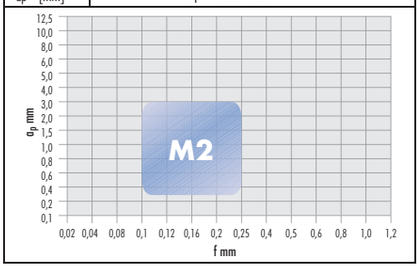


Chip breaker *M2*

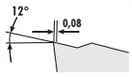
F finishing ○	M medium ●	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Medium machining 	DCMT 070204-M2			○	●					SP 25 MT	10	**366629** 0121	5,70
	DCMT 070208-M2			○	●					SP 25 MT	10	366629 0221	5,70
	DCMT 11T304-M2			○	●					SP 25 MT	10	366629 0321	7,45
	DCMT 11T308-M2			○	●					SP 25 MT	10	366629 0521	7,45

3135

ISO	SP 25 MT
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 40 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.3 ap = 0.25 - 3.5

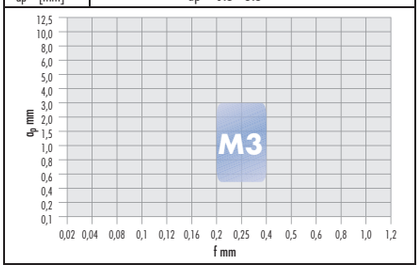


Chip breaker *M3*

F finishing ○	M medium ●	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Medium machining 	DCMT 070204-M3			○		●				SC 20 KT	10	**366628** 0130	5,70
	DCMT 11T304-M3			○		●				SC 20 KT	10	366628 0230	7,45

3135

ISO	SC 20 KT
ISO P steel	Vc = 150 - 340
ISO K cast iron	Vc = 150 - 550
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.4 ap = 0.5 - 3.5



DCMX ISO indexable cutting inserts

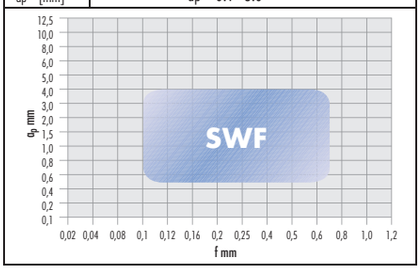
- **55° rhombic, positive 7°**
- One-sided chip breaker design
- Minimum ap feed always 63% of the corner radius "r"
- Special finishing geometry with smoothing effect when used at an angle of 93°
- When using the **SWF**, profile distortions may occur if long tapers and large balls are turned
- Double feed achievable at the same Ra value as with conventional geometries
- Cutting data recommendations apply for a corner radius **r = 0.4 mm**

Chip breaker *SWF*, positive

F finishiF finishing ●	M medium -	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Finishing			DCMX 070204-SWF	●	○	○				**SC 25 PT**	10	**366709** 0125	6,35
			DCMX 11T304-SWF	○	●					**SP 35 MT**	10	366709 0135	8,20
				●	○	○				**SC 25 PT**	10	366709 0225	8,20

3135

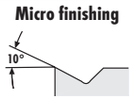
ISO	SC 25 PT	SP 35 MT
ISO P steel	Vc = 100 - 240	Vc = 90 - 200
ISO M stainless steel	Vc = 70 - 210	Vc = 55 - 200
ISO K cast iron	Vc = 120 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.1 - 0.5 ap = 0.1 - 3.0	



DNMG - DNGP ISO indexable cutting inserts

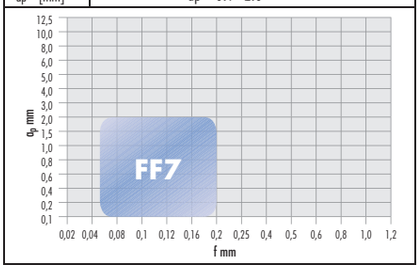
- **55° rhombic, negative 0°**
- Bilateral chip breaker design
- **DNGP** are suitable for **ISO tool holders** for **DNMG ...**
- **Note:** Standard thickness of DNMG/DNGP is 15**06**... When using a DNMG/DNGP 15**04.., the** spacer must be replaced.
- Minimum ap feed always 63% of the corner radius "r"
- Maximum ap feed is 63% of the cutting edge length
- Cutting data recommendations apply for a corner radius **r = 0.4 mm**

Chip breaker *FF7*, CERMET negative design

F finishing ●	M medium -	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Micro finishing 			DNMG 110404-FF7	●	○	○				**ST 10 UT**	10	**366635** 0140	7,75
			DNMG 150604-FF7	●	○	○				**ST 10 UT**	10	366635 0240	11,20

3135

ISO	ST 10 UT
ISO P steel	Vc = 160 - 270
ISO M stainless steel	Vc = 130 - 240
ISO K cast iron	Vc = 220 - 350
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.2 ap = 0.1 - 2.0



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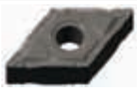
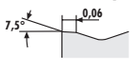
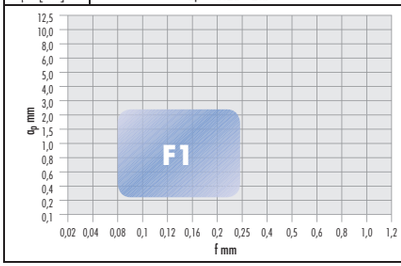
Chip breaker *F1* negative

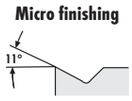
F finishing ●	M medium ○	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Micro finishing 			DNMG 110404-F1	●		○				SC 15 PT	10	**366633** 0115	7,75
				●	○	○				SC 25 PT	10	366633 0225	7,75
			DNMG 150604-F1	●		○				SC 15 PT	10	366633 0315	11,20
			DNMG 150608-F1	●		○				SC 15 PT	10	366633 0415	11,20

3135

ISO	SC 15 PT	SC 25 PT
ISO P steel	Vc = 180 - 400	Vc = 100 - 240
ISO M stainless steel		Vc = 70 - 210
ISO K cast iron	Vc = 140 - 520	Vc = 140 - 520
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.07 - 0.25 ap = 0.25 - 2.5	

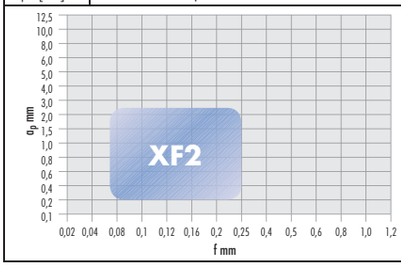


Chip breaker *XF2* negative, especially for stainless steel

F finishing ●	M medium -	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Micro finishing 			DNGP 150602-XF2		●	○	○	○		SP 20 MT	10	**366631** 0220	14,25
			DNGP 150404-XF2		●	○	○	○		SP 20 MT	10	366631 0120	13,85
			DNGP 150604-XF2		●	○	○	○		SP 20 MT	10	366631 0320	14,25
			DNGP 150608-XF2		●	○	○	○		SP 20 MT	10	366631 0420	14,25

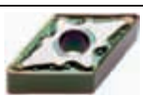
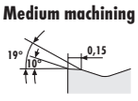
3135

ISO	SP 20 MT
ISO M stainless steel	Vc = 60 - 200
ISO K cast iron	Vc = 120 - 220
ISO N Al/non-ferrous	Vc = 100 - 600
ISO S superalloys	Vc = 15 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.08 - 0.2 ap = 0.14 - 2.5



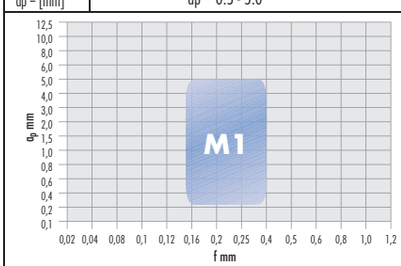
Chip breaker *M1* negative

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

F finishing ○	M medium ●	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Medium machining 			DNMG 110404-M1	●		○				SC 15 PT	10	**366637** 1215	7,75
				●	○	○				SC 25 PT	10	366637 1225	7,75
			DNMG 110408-M1	●		○				SC 15 PT	10	366637 0115	7,75
				●	○	○				SC 25 PT	10	366637 0225	7,75
				●	○					SC 35 PT	10	366637 0335	7,75
			DNMG 150404-M1	●	○	○				SC 25 PT	10	366637 1325	10,95
			DNMG 150408-M1	●	○	○				SC 25 PT	10	366637 1425	10,95
			DNMG 150604-M1	●		○				SC 15 PT	10	366637 0415	11,20
				●	○	○				SC 25 PT	10	366637 0525	11,20
			DNMG 150608-M1	●		○				SC 15 PT	10	366637 0615	11,20
				●	○	○				SC 25 PT	10	366637 0725	11,20
				●	○					SC 35 PT	10	366637 0835	11,20
			DNMG 150612-M1	●		○				SC 15 PT	10	366637 0915	11,20
				●	○	○				SC 25 PT	10	366637 1025	11,20
				●	○					SC 35 PT	10	366637 1135	11,20

3135

ISO	SC 15 PT	SC 25 PT	SC 35 PT
ISO P steel	Vc = 180 - 400	Vc = 100 - 240	Vc = 90 - 200
ISO M stainless steel		Vc = 70 - 210	Vc = 55 - 200
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.5 ap = 0.5 - 5.0		



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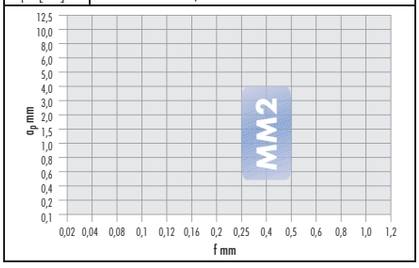
Chip breaker ***MM2*** negative, especially for stainless steel

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

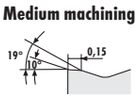
F finishing ○	M medium ●	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Medium machining			DNMG 110404-MM2	○	●					**SP 25 MT**	10	**366634** 0121	7,75
			DNMG 110408-MM2	○	●					**SP 25 MT**	10	366634 0221	7,75
			DNMG 150604-MM2	○	●					**SP 25 MT**	10	366634 0321	11,20
			DNMG 150608-MM2	○	●					**SP 25 MT**	10	366634 0421	11,20

3135

ISO	SP 25 MT
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 40 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.14 - 0.4 ap = 0.25 - 4.0

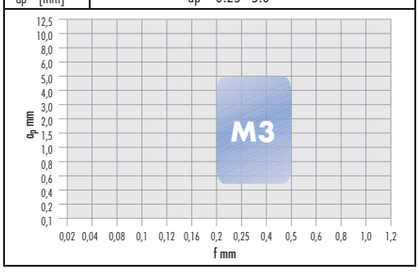


Chip breaker ***M3*** negative

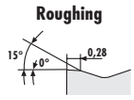
F finishing ○	M medium ●	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Medium machining 			DNMG 150608-M3	○		●				**SC 20 KT**	10	**366632** 0130	11,20
			DNMG 150612-M3	○		●				**SC 20 KT**	10	366632 0230	11,20

3135

ISO	SC 20 KT
ISO P steel	Vc = 150 - 550
ISO K cast iron	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.5 ap = 0.25 - 5.0

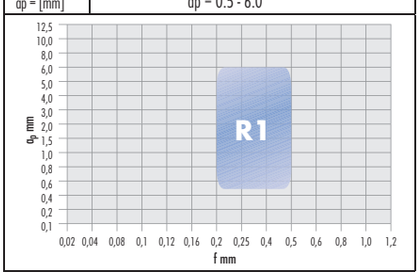


Chip breaker ***R1*** negative

F finishing -	M medium ○	R roughing ●	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Roughing 			DNMG 150608-R1	●		○				**SC 15 PT**	10	**366641** 0115	11,20
				●	○	○				**SC 25 PT**	10	366641 0225	11,20
				●	○					**SC 35 PT**	10	366641 0335	11,20
			DNMG 150612-R1	●		○				**SC 15 PT**	10	366641 0415	11,20
				●	○	○				**SC 25 PT**	10	366641 0525	11,20
				●	○					**SC 35 PT**	10	366641 0635	11,20

3135

ISO	SC 15 PT	SC 25 PT	SC 35 PT
ISO P steel	Vc = 180 - 400	Vc = 100 - 240	Vc = 90 - 200
ISO M stainless steel		Vc = 70 - 210	Vc = 55 - 200
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.15 - 0.5 ap = 0.5 - 6.0		



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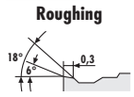
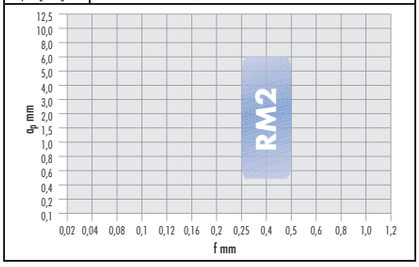
Chip breaker ***RM2*** negative, especially for stainless steel

F finishing -	M medium ○	R roughing ●	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Roughing 	DNMG 150608-RM2			○	●					SP 25 MT	10	**366640** 0121	11,20
	DNMG 150612-RM2			○	●					SP 25 MT	10	366640 0221	11,20

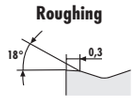
3135

ISO	SC 25 PT
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 40 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.25 - 0.5 ap = 0.5 - 6.0



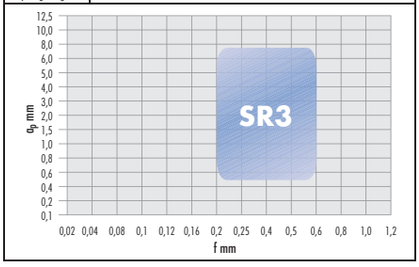
30

Chip breaker ***SR3*** negative

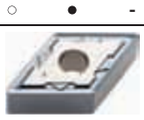
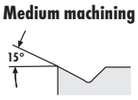
F finishing -	M medium ○	R roughing ●	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Roughing 	DNMG 150608-SR3			○		●				SC 20 KT	10	**366638** 0130	11,20

3135

ISO	SC 20 KT
ISO P steel	Vc = 150 - 340
ISO K cast iron	Vc = 150 - 550
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.18 - 0.5 ap = 1.0 - 6.0

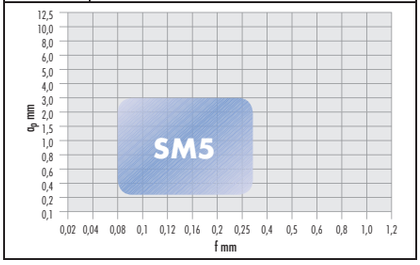


Chip breaker ***SM5*** negative, especially for ***Cr-Ni*** alloys

F finishiF finishing ○	M medium ●	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Medium machining 	DNMG 150608-SM5				○			●		SP 10 ST	10	**366639** 0132	11,20
					○			●		SP 15 ST	10	366639 0231	11,20

3135

ISO	SP 10 ST	SP 15 ST
ISO M stainless steel	Vc = 60 - 230	Vc = 50 - 220
ISO S superalloys	Vc = 30 - 120	Vc = 30 - 120
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.1 to 0.3 ap = 0.4 - 3.0	



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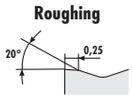
DNMM ISO indexable cutting inserts

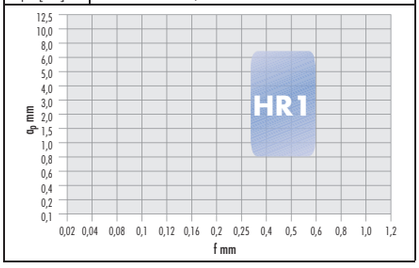
- **55° rhombic, negative 0°**
- One-sided chip breaker design
- Minimum ap feed always 63% of the corner radius "r"
- Maximum ap feed is 63% of the cutting edge length
- The cutting data recommendations apply for a corner radius **r = 0.8 mm**

Chip breaker *HR1* negative

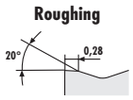
F finishing -	M medium ○	R roughing ●	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Roughing 	DNMM 150608-HR1			●		○				**SC 15 PT**	10	**366642** 0115	11,20
				●	○	○				**SC 25 PT**	10	366642 0225	11,20
				●	○					**SC 35 PT**	10	366642 0335	11,20

3135

ISO	SC 15 PT	SC 25 PT	SC 35 PT
ISO P steel	Vc = 180 - 400	Vc = 100 - 240	Vc = 90 - 200
ISO M stainless steel		Vc = 70 - 210	Vc = 55 - 200
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.3 - 0.7 ap = 0.5 - 7.0		

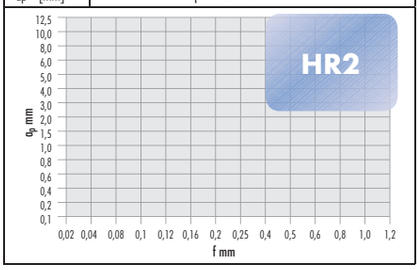


Chip breaker *HR2* negative

F finishing -	M medium ○	R roughing ●	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Roughing 	DNMM 150612-HR2			●		○				**SC 15 PT**	10	**366643** 0115	11,20
				●	○	○				**SC 25 PT**	10	366643 0225	11,20
				●	○					**SC 35 PT**	10	366643 0335	11,20

3135

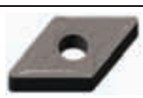
ISO	SC 15 PT	SC 25 PT	SC 35 PT
ISO P steel	Vc = 180 - 400	Vc = 100 - 240	Vc = 90 - 200
ISO M stainless steel		Vc = 70 - 210	Vc = 55 - 200
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.3 - 0.8 ap = 1.5 - 8.0		



DNMX ISO indexable cutting inserts

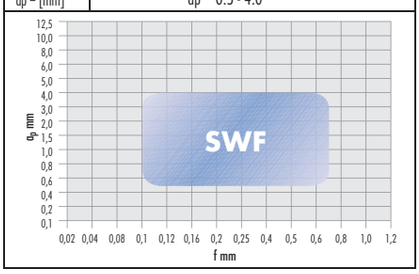
- **55° rhombic, negative 0°**
- Bilateral chip breaker design
- Minimum ap feed always 63% of the corner radius "r"
- Special finishing geometry with smoothing effect when used at an angle of 93°
- When using the **SWF**, profile distortions may occur if long tapers and large balls are turned
- Double feed achievable at the same Ra value as with conventional geometries
- Cutting data recommendations apply for a corner radius **r = 0.4 mm**

Chip breaker *SWF* negative

F finishing ●	M medium -	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Finishing	DNMG 150604-SWF			●		○				**SC 15 PT**	10	**366706** 0115	12,30
	DNMG 150608-SWF			●		○				**SC 15 PT**	10	366706 0225	12,30

3135

ISO	SC 15 PT
ISO P steel	Vc = 180 - 400
ISO K cast iron	Vc = 140 - 520
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.1 - 0.5 ap = 0.5 - 4.0



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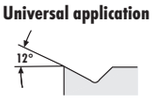
KNUX ISO indexable cutting inserts

- **55° rhombic, negative**
- Secondary applications in ISO **K** and ISO **S**
- One-sided chip breaker design
- Minimum ap feed always 63% of the corner radius "r"
- Maximum ap feed is 63% of the cutting edge length
- Easy-action operating principle of chip breaker
- Cutting data recommendations apply for a corner radius **r = 0.4 mm**

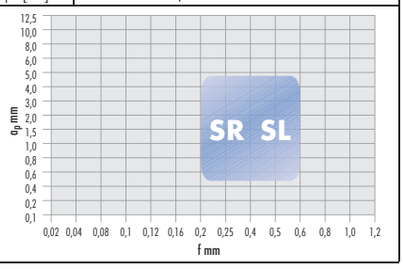
Chip breaker *SR* right-hand version

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

F finishiF finishing ○	M medium ●	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Universal application 			KNUX 160405-SR	●	○	○				**SC 25 PT**	10	**366645** 0125	10,20
			KNUX 160410-SR	●	○	○				**SC 25 PT**	10	366645 0225	10,20
			KNUX 160405-SR	●	○					**SC 20 UT**	10	366645 0350	10,20
				●	○					**SC 40 UT**	10	366645 0455	10,20

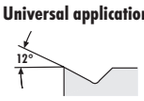
3135

ISO	SC 20 UT	SC 25 PT	SC 40 UT
ISO P steel	Vc = 90 - 200	Vc = 100 - 240	Vc = 90 - 180
ISO M stainless steel	Vc = 90 - 180	Vc = 70 - 210	Vc = 50 - 160
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.6 ap = 0.5 - 4.8		



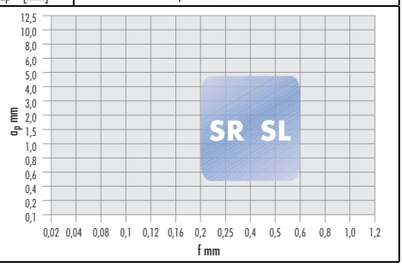
Chip breaker *SL* left-hand version

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

F finishiF finishing ○	M medium ●	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Universal application 			KNUX 160405-SL	●	○	○				**SC 25 PT**	10	**366644** 0125	10,20
			KNUX 160410-SL	●	○	○				**SC 25 PT**	10	366644 0225	10,20
			KNUX 160405-SL	●	○					**SC 20 UT**	10	366644 0350	10,20
				●	○					**SC 40 UT**	10	366644 0455	10,20

3135

ISO	SC 20 UT	SC 25 PT	SC 40 UT
ISO P steel	Vc = 90 - 200	Vc = 100 - 240	Vc = 90 - 180
ISO M stainless steel	Vc = 90 - 180	Vc = 70 - 210	Vc = 50 - 160
ISO K cast iron		Vc = 130 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.6 ap = 0.5 - 4.8		



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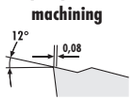
RCMT ISO indexable cutting inserts

- **360° round, positive 7°**
- 2 chip breakers available **M1** and **HRX**
- One-sided chip breaker design
- Maximum ap feed is 50% of the indexable cutting insert diameter

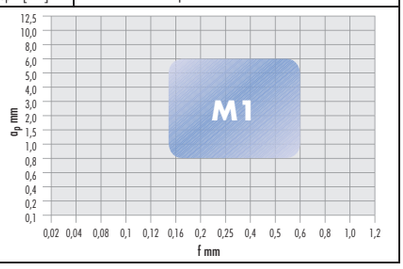
Chip breaker *M1*

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

F finishing -	M medium ○	R roughing ○	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Roughing/medium machining 	RCMT 0803MO-M1	●	○					**SC 35 PT**	10	**366646** 0135	4,90
	RCMT 1003MO-M1	●	○					**SC 35 PT**	10	366646 0235	5,70
	RCMT 1204MO-M1	●	○					**SC 35 PT**	10	366646 0335	8,–

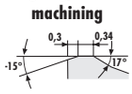
3135

ISO	SC 35 PT
ISO P steel	Vc = 90 - 200
ISO M stainless steel	Vc = 55 - 200
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.15 - 0.6 ap = 0.8 - 6.0



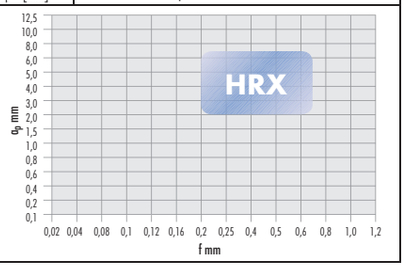
Chip breaker *HRX*

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

F finishing -	M medium ○	R roughing ●	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Roughing/medium machining 	RCMT 1604MO-HRX	●	○	○				**SC 25 PT**	10	**366647** 0125	13,90
	RCMT 2006MO-HRX	●	○	○				**SC 25 PT**	10	366647 0225	19,10
	RCMT 1604MO-HRX	●	○					**SC 35 PT**	10	366647 0335	13,90
	RCMT 2006MO-HRX	●	○					**SC 35 PT**	10	366647 0435	19,10

3135

ISO	SC 25 PT	SC 35 PT
ISO P steel	Vc = 100 - 240	Vc = 90 - 200
ISO M stainless steel	Vc = 70 - 210	Vc = 55 - 200
ISO K cast iron	Vc = 130 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.7 ap = 2.0 - 7.0	



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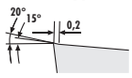
SCGT ISO indexable cutting inserts, ground

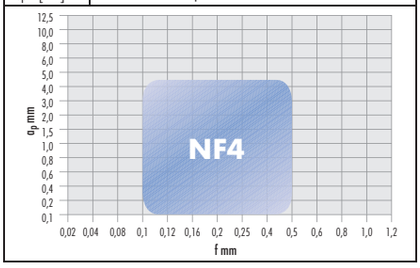
- **90° square positive 7°, ground peripherally**
- One-sided chip breaker design
- Suitable for aluminium, plastic and non-ferrous metals
- **SW16NT** uncoated
- **SP16NT**coated, also suitable for finishing **stainless steel** (**austenitic, quenched**) for **stainless steel** max. ap = 0.4 mm at Vc max 140 m/min
- **SP16NT** for **titanium Rm 440*** Vc 60-120 m/min
- Minimum ap feed always 63% of the corner radius "r"
- Cutting data recommendations apply for a corner radius **r = 0.4 mm**

Chip breaker *NF4*

F finishing	M medium	R roughing	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
○	○	○											
Universal application 	SCGT 09T304-NF4				○	○	●	○		**SW 16 NT**	10	**366648** 0116	8,50
					○	○	●	○		**SP 16 NT**	10	366648 0217	10,60
	SCGT 09T308-NF4					○	●	○		**SW 16 NT**	10	366648 0316	8,50
					○	○	●	○		**SP 16 NT**	10	366648 0417	10,60
	SCGT 120408-NF4				○	○	●	○		**SP 16 NT**	10	366648 0617	10,60

3135

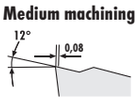
ISO	SP 16 NT	SW 16 NT
ISO M stainless steel	Vc = 50 - 140	
ISO K cast iron		
ISO N Al/non-ferrous	Vc = 100 - 2000	Vc = 100 - 2000
ISO S superalloys	Vc = 18 - 120	Vc = 18 - 48
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.1 - 0.5 ap = 0.25 - 6.0	



SCMT ISO indexable cutting inserts

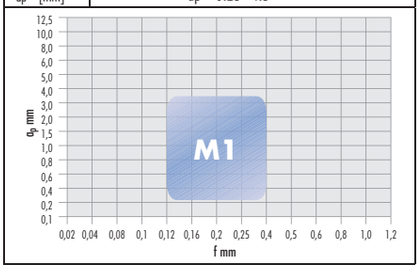
- **90° square positive 7°**
- One-sided chip breaker design
- Minimum ap feed always 63% of the corner radius "r"
- Maximum ap feed is 63% of the cutting edge length
- Cutting data recommendations apply for a corner radius **r = 0.4 mm**

Chip breaker *M1*

F finishing	M medium	R roughing	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
-	●	○											
Medium machining 	SCMT 09T304-M1			●	○	○				**SC 25 PT**	10	**366649** 0125	8,–
	SCMT 09T308-M1			●	○	○				**SC 25 PT**	10	366649 0225	8,–
				●	○					**SC 35 PT**	10	366649 0335	8,–
	SCMT 120404-M1			●		○				**SC 15 PT**	10	366649 0415	9,25
	SCMT120404-M1			●	○	○				**SC 25 PT**	10	366649 0525	9,25
	SCMT 120408-M1			●	○	○				**SC 25 PT**	10	366649 0625	9,25
				●	○					**SC 35 PT**	10	366649 0735	9,25
	SCMT 120412-M1			●	○	○				**SC 25 PT**	10	366649 0825	9,25
				●	○					**SC 35 PT**	10	366649 0935	9,25

3135

ISO	SC 15 PT	SC 25 PT	SC 35 PT
ISO P steel	Vc = 180 - 400	Vc = 100 - 240	Vc = 90 - 190
ISO M stainless steel		Vc = 70 - 210	Vc = 55 - 200
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.4 ap = 0.25 - 4.5		



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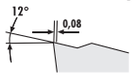
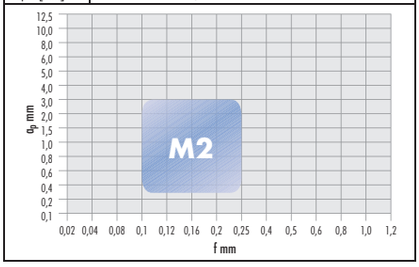
Chip breaker *M2*, especially for stainless steel

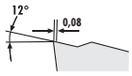
F finishing -	M medium ●	R roughing ○	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Medium machining 			SCMT 09T304-M2	○	●					SP 25 MT	10	**366650** 0121	8,–
			SCMT 09T308-M2	○	●					SP 25 MT	10	366650 0221	8,–
			SCMT 120404-M2	○	●					SP 25 MT	10	366650 0321	9,25
			SCMT 120408-M2	○	●					SP 25 MT	10	366650 0421	9,25
			SCMT 120412-M2	○	●					SP 25 MT	10	366650 0521	9,25

3135

ISO	SC 25 PT
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 40 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.4 ap = 0.25 - 3.5

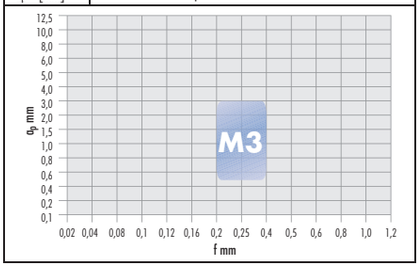


Chip breaker *M3*

F finishing -	M medium ●	R roughing ○	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Medium machining 			SCMT 09T308-M3	○		●				SC 20 KT	10	**366651** 0130	8,–
			SCMT 120408-M3	○		●				SC 20 KT	10	366651 0230	9,25

3135

ISO	SC 20 KT
ISO P steel	Vc = 150 - 340
ISO K cast iron	Vc = 150 - 550
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.15 - 0.5 ap = 0.5 - 5.0



SNMA - SNMG ISO indexable cutting inserts

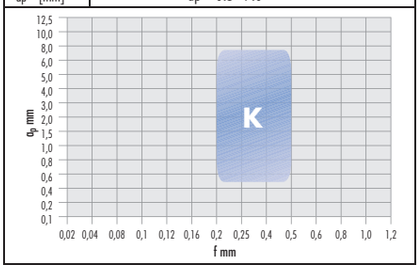
- **90° square negative 0°**
- Bilateral chip breaker design **SNMG**
- Without chip breaker **SNMA**
- Minimum ap feed always 63% of the corner radius "r"
- Maximum ap feed is 63% of the cutting edge length
- Cutting data recommendations apply for a corner radius **r = 0.4 mm**

Chip breaker *K* negative

F finishing -	M medium ○	R roughing ●	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Roughing			SNMA 120408-K	○		●				SC 20 KT	10	**366652** 0130	8,10

3135

ISO	SC 20 KT
ISO P steel	Vc = 150 - 340
ISO K cast iron	Vc = 150 - 550
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.5 ap = 0.5 - 7.0



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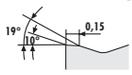
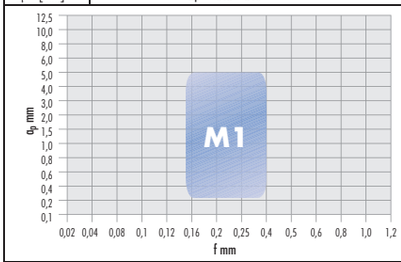
Chip breaker ***M1*** negative

F finishing -	M medium ●	R roughing ○	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
			SNMG 120408-M1	●		○				**SC 15 PT**	10	**366655** 0435	8,10
				●	○	○				**SC 25 PT**	10	366655 0225	8,10
				●	○					**SC 35 PT**	10	366655 0235	8,10
Medium machining			SNMG 120412-M1	●		○				**SC 15 PT**	10	366655 0115	8,10
				●	○	○				**SC 25 PT**	10	366655 0325	8,10
				●	○					**SC 35 PT**	10	366655 0535	8,10

3135

ISO	SC 15 PT	SC 25 PT	SC 35 PT
ISO P steel	Vc = 180 - 400	Vc = 100 - 240	Vc = 90 - 200
ISO M stainless steel		Vc = 70 - 210	Vc = 55 - 200
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.18 - 0.4 ap = 0.5 - 5.0		

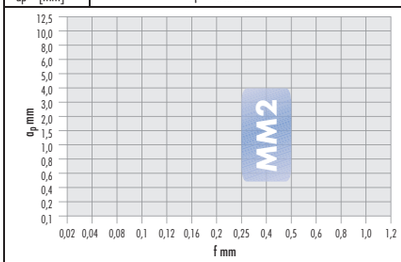


Chip breaker ***MM2*** negative, especially for stainless steel

F finishing -	M medium ●	R roughing ○	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
			SNMG 120408-MM2	○	●					**SP 25 MT**	10	**366656** 0121	8,10
Medium machining													

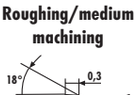
3135

ISO	SC 25 PT
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 40 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.18 - 0.4 ap = 0.5 - 5.0



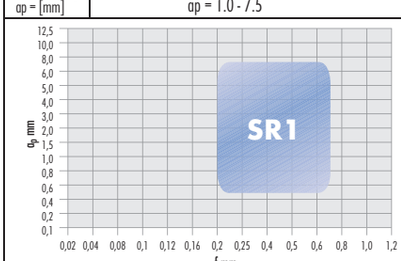
Chip breaker ***SR1*** negative

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

F finishiF finishing -	M medium ○	R roughing ●	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
			SNMG 150612-SR1	●	○	○				**SC 25 PT**	10	**366658** 0125	12,85
				●	○					**SC 35 PT**	10	366658 0235	12,85
			SNMG 190612-SR1	●	○	○				**SC 25 PT**	10	366658 0325	17,95
Roughing/medium machining				●	○					**SC 35 PT**	10	366658 0435	17,95
													

3135

ISO	SC 25 PT	SC 35 PT
ISO P steel	Vc = 100 - 240	Vc = 90 - 200
ISO M stainless steel	Vc = 70 - 210	Vc = 55 - 200
ISO K cast iron	Vc = 120 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.7 ap = 1.0 - 7.5	



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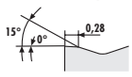
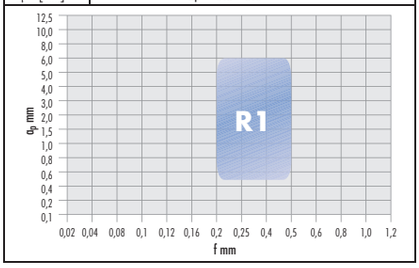
Chip breaker *R1* negative

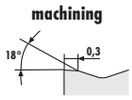
F finishing -	M medium ○	R roughing ●	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Roughing/medium machining 	SNMG 120408-R1			●	○	○				SC 25 PT	10	**366657** 0125	8,10

3135

ISO	SC 25 PT
ISO P steel	Vc = 100 - 240
ISO M stainless steel	Vc = 70 - 210
ISO K cast iron	Vc = 120 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.5 ap = 0.5 - 6.0

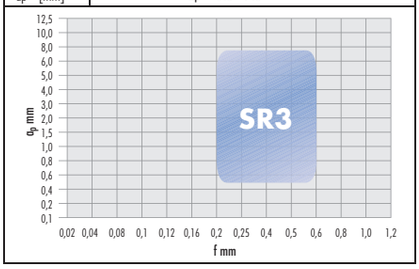


Chip breaker *SR3* negative

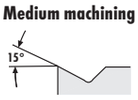
F finishing -	M medium ○	R roughing ●	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Roughing/medium machining 	SNMG 120408-SR3			○		●				SC 20 KT	10	**366653** 0130	8,10

3135

ISO	SC 20 KT
ISO P steel	Vc = 150 - 340
ISO K cast iron	Vc = 150 - 550
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.6 ap = 0.5 - 7.5

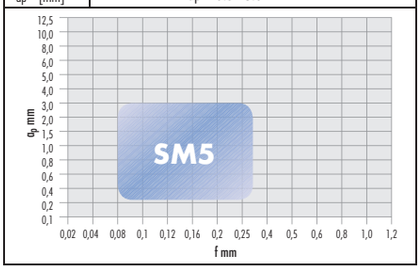


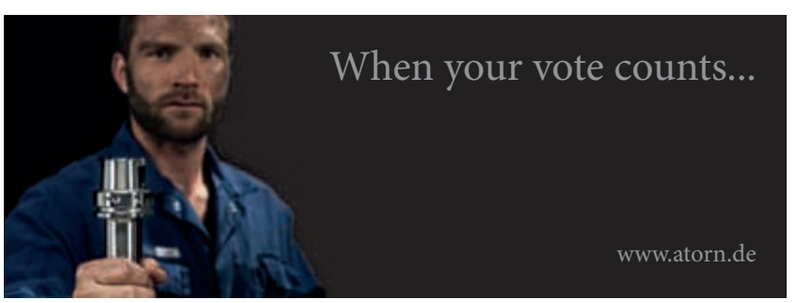
Chip breaker *SM5* negative, especially for ISO S

F finishing -	M medium ●	R roughing ○	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Medium machining 	SNMG 120408-SM5			○		●				SP 10 ST	10	**366654** 0132	8,10
				○		●				SP 15 ST	10	366654 0231	8,10

3135

ISO	SP 10 ST	SP 15 ST
ISO M stainless steel	Vc = 60 - 230	Vc = 50 - 220
ISO S superalloys	Vc = 30 - 120	Vc = 30 - 120
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.1 to 0.3 ap = 0.5 - 3.0	





...suggestions are heard.

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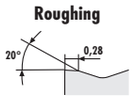
SNMM ISO indexable cutting inserts

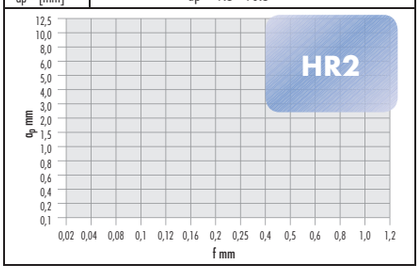
- **90° square negative 0°**
- One-sided chip breaker design, starting values in the diagram for SNMM 1906..
- For **HR2** f = 0.3-1.2 mm/rev. ap = 1.5-16.00 mm for SNMM 2509...
- For **HR3** f = 0.5-1.5 mm/rev. ap = 2.5-18.00 mm for SNMM 2509...
- For **HR4** f = 0.2-1.3 mm/rev. ap = 2.5-12.00 mm for SNMM 1906 For SNMM 2509 ap up to 19.00 possible..

Chip breaker *HR2* negative

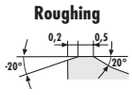
F finishing -	M medium ○	R roughing ●	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Roughing 			SNMM 190612-HR2	●	○	○				SC 25 PT	10	**366659** 0125	17,95
			SNMM 190616-HR2	●	○	○				SC 25 PT	10	366659 0225	17,95
			SNMM 250724-HR2	●	○	○				SC 25 PT	5	366659 0325	34,95
			SNMM 250924-HR2	●	○	○				SC 25 PT	5	366659 0425	38,50

3135

ISO	SC 25 PT
ISO P steel	Vc = 100 - 240
ISO M stainless steel	Vc = 70 - 210
ISO K cast iron	Vc = 120 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.3 - 0.8 ap = 1.5 - 10.5

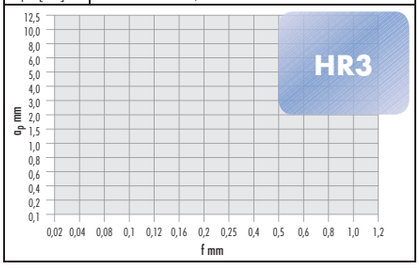


Chip breaker *HR3* negative

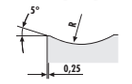
F finishiF finishing -	M medium -	R roughing ●	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Roughing 			SNMM 190616-HR3	●	○	○				SC 25 PT	10	**366660** 0125	17,95
			SNMM 190624-HR3	●	○	○				SC 25 PT	10	366660 0225	17,95
			SNMM 250924-HR3	●	○	○				SC 25 PT	5	366660 0325	38,50
			SNMM 250932-HR3	●	○	○				SC 25 PT	5	366660 0425	38,50

3135

ISO	SC 25 PT
ISO P steel	Vc = 100 - 240
ISO M stainless steel	Vc = 70 - 210
ISO K cast iron	Vc = 120 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.3 - 1.4 ap = 2.5 - 13.0

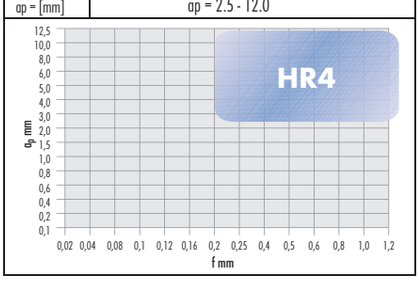


Chip breaker *HR4* negative

F finishing -	M medium -	R roughing ●	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Roughing 			SNMM 190616-HR4	●	○	○				SC 25 PT	10	**366661** 0125	17,95
			SNMM 250924-HR4	●	○	○				SC 25 PT	5	366661 0225	38,50

3135

ISO	SC 25 PT
ISO P steel	Vc = 70 - 210
ISO M stainless steel	Vc = 70 - 210
ISO K cast iron	Vc = 120 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.3 - 1.2 ap = 2.5 - 12.0



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TCGT ISO indexable cutting inserts, ground

- **60° triangular, positive 7°, ground peripherally**
- One-sided chip breaker design
- Suitable for aluminium, plastic and non-ferrous metals
- **SW16NT uncoated**
- **SP16NT** coated, also suitable for finishing **stainless steel** (**austenitic, quenched**)
- for **stainless steel** max. ap = 0.4 mm at Vc max 140 m/min
- **SP16NT** for **titanium** Rm 440* Vc 60 - 120 m/min
- Minimum ap feed always 63% of the corner radius "r"
- Maximum feed is 40% of the cutting edge length
- Cutting data recommendations apply for a corner radius **r = 0.4 mm**

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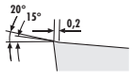
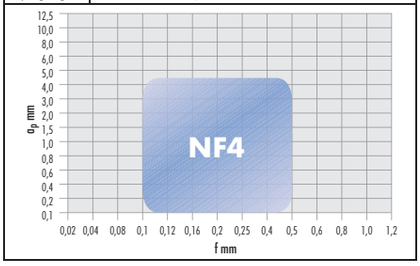
Chip breaker *NF4*

F finishing ○	M medium ○	R roughing ○	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Universal application 	TCGT 110204-NF4				○	●	○			**SW 16 NT**	10	**366662** 0116	7,95
					○	●	○			**SP 16 NT**	10	366662 0217	10,40
	TCGT 16T304-NF4				○	●	○			**SW 16 NT**	10	366662 0316	9,60
	TCGT 16T308-NF4				○	●	○			**SW 16 NT**	10	366662 0416	9,60

3135

ISO	SP 16 NT	SW 16 NT
ISO M stainless steel	Vc = 50 - 140	
ISO K cast iron	Vc = 120 - 200	Vc = 120 - 200
ISO N Al/non-ferrous	Vc = 100 - 2000	Vc = 100 - 2000
ISO S superalloys	Vc = 60 - 120	Vc = 18 - 45
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.1 - 0.4 ap = 0.1 - 4.5	



TCMT ISO indexable cutting inserts

- **60° triangular, positive 7°**
- One-sided chip breaker design
- Minimum ap feed always 63% of the corner radius "r"
- Maximum ap feed is 40% of the cutting edge length
- Cutting data recommendations apply for a corner radius **r = 0.4 mm**

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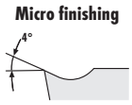
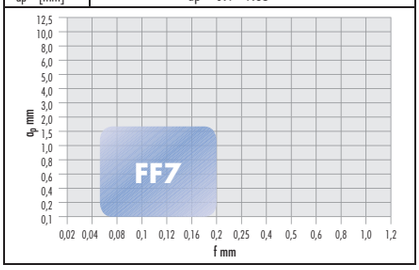
Chip breaker *FF7*, CERMET design

F finishing ●	M medium -	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Micro finishing 	TCMT 110202-FF7			●	○	○				**ST 10 UT**	10	**366666** 0140	9,25
	TCMT 110204-FF7			●	○	○				**ST 10 UT**	10	366666 0240	5,70

3135

ISO	ST 10 UT
ISO P steel	Vc = 160 - 300
ISO M stainless steel	Vc = 130 - 240
ISO K cast iron	Vc = 220 - 350
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.2 ap = 0.1 - 1.65



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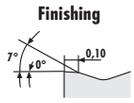
Chip breaker *F2*

F finishing	M medium	R roughing
●	○	-

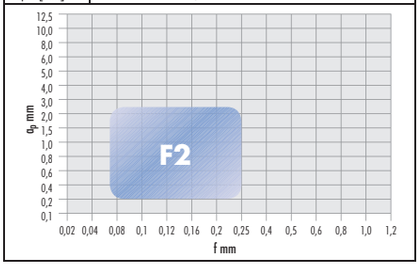
Finishing



SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
TCMT 110204-F2	○	●					**SP 25 MT**	10	**366667** 0121	5,70

3135

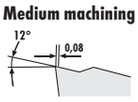
ISO	SP 25 MT
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 40 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.08 - 0.2 ap = 0.25 - 3.0



Chip breaker *M1*

F finishing	M medium	R roughing
-	●	○

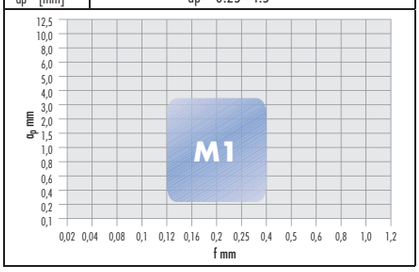
Medium machining



SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
TCMT 090204-M1	●	○	○				**SC 25 PT**	10	**366665** 0025	5,70
TCMT 110204-M1	●		○				**SC 15 PT**	10	366665 0115	5,70
	●	○	○				**SC 25 PT**	10	366665 0225	5,70
	●	○					**SC 35 PT**	10	366665 0325	5,70
TCMT 110208-M1	●	○	○				**SC 25 PT**	10	366665 0425	5,70
	●	○					**SC 35 PT**	10	366665 0535	5,70
TCMT 16T304-M1	●	○	○				**SC 25 PT**	10	366665 0625	7,20
	●	○					**SC 35 PT**	10	366665 0735	7,20
TCMT 16T308-M1	●	○	○				**SC 25 PT**	10	366665 0825	7,20
	●	○					**SC 35 PT**	10	366665 0935	7,20
TCMT 16T312-M1	●	○	○				**SC 25 PT**	10	366665 1025	7,20

3135

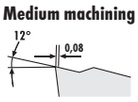
ISO	SC 15 PT	SC 25 PT	SC 35 PT
ISO P steel	Vc = 180 - 400	Vc = 100 - 240	Vc = 90 - 200
ISO M stainless steel		Vc = 70 - 210	Vc = 55 - 200
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.4 ap = 0.25 - 4.5		



Chip breaker *M2*

F finishing	M medium	R roughing
-	●	○

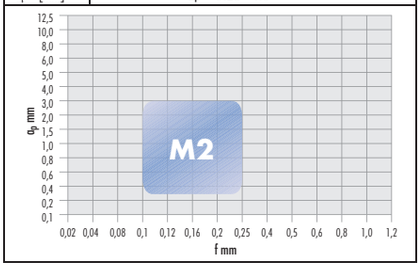
Medium machining



SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
TCMT 090204-M2	○	●					**SP 25 MT**	10	**366664** 0121	5,70
TCMT 110204-M2	○	●					**SP 25 MT**	10	366664 0122	5,70
	○	●					**SP 35 MT**	10	366664 0222	5,70
TCMT 110208-M2	○	●					**SP 25 MT**	10	366664 0321	5,70
	○	●					**SP 35 MT**	10	366664 0322	5,70
TCMT 16T304-M2	○	●					**SP 25 MT**	10	366664 0421	7,20
TCMT 16T308-M2	○	●					**SP 25 MT**	10	366664 0621	7,20
TCMT 16T312-M2	○	●					**SP 25 MT**	10	366664 0721	7,20

3135

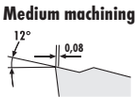
ISO	SC 25 PT	SP 35 MT
ISO P steel	Vc = 60 - 250	Vc = 90 - 200
ISO M stainless steel	Vc = 40 - 250	Vc = 55 - 200
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.4 ap = 0.25 - 4.0	



Chip breaker *M3*

F finishing	M medium	R roughing
-	●	○

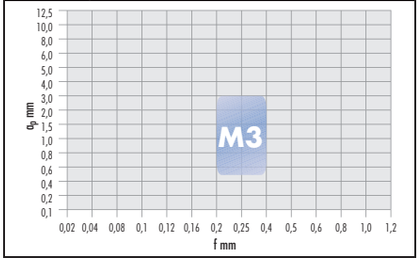
Medium machining



SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
TCMT 090204-M3	○		●				**SC 20 KT**	10	**366663** 0130	5,70
TCMT 110204-M3	○		●				**SC 20 KT**	10	366663 0230	5,70
TCMT 110208-M3	○		●				**SC 20 KT**	10	366663 0330	5,70
TCMT 16T304-M3	○		●				**SC 20 KT**	10	366663 0430	7,20
TCMT 16T308-M3	○		●				**SC 20 KT**	10	366663 0530	7,20

3135

ISO	SC 20 KT
ISO P steel	Vc = 150 - 350
ISO K cast iron	Vc = 150 - 550
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.18 - 0.5 ap = 0.25 - 4.0



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TNMA ISO indexable cutting inserts

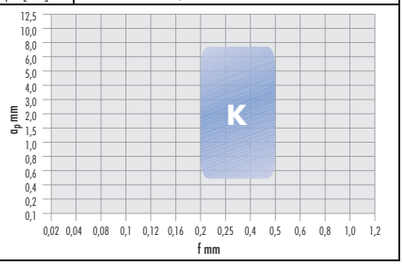
- **60° triangular, negative 0°**
- Without chip breaker version
- Cutting data recommendations apply for a corner radius **r = 0.4 mm**

Chip breaker *K*
- **60° triangular, negative 0°**
- **Without chip breaker version**

F finishing -	M medium ○	R roughing ●	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Roughing			TNMA 160408-K	○		●				SC 20 KT	10	**366668** 0130	8,–

3135

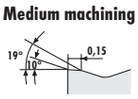
ISO	SC 20 KT
ISO P steel	Vc = 150 - 340
ISO K cast iron	Vc = 150 - 550
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.5 ap = 0.5 - 7.0



TNMG ISO indexable cutting inserts

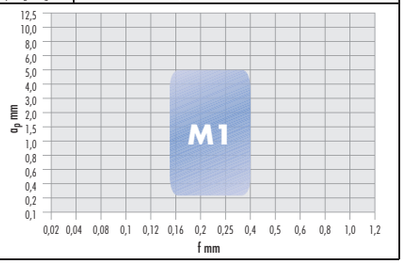
- **60° triangular, negative 0°**
- Bilateral chip breaker design
- Minimum ap feed always 63% of the corner radius "r"
- Maximum ap feed is 50% of the cutting edge length
- Cutting data recommendations apply for a corner radius **r = 0.4 mm**

Chip breaker *M1* negative

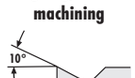
F finishing -	M medium ●	R roughing ○	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Medium machining 			TNMG 160404-M1	●		○				SC 15 PT	10	**366670** 0115	8,–
				●	○	○				SC 25 PT	10	366670 0225	8,–
			TNMG 160408-M1	●		○				SC 15 PT	10	366670 0415	8,–
				●	○	○				SC 25 PT	10	366670 0525	8,–
				●	○					SC 35 PT	10	366670 0635	8,–
			TNMG 160412-M1	●		○				SC 15 PT	10	366670 0715	8,–
				●	○	○				SC 25 PT	10	366670 0825	8,–
			TNMG 220404-M1	●	○	○				SC 25 PT	10	366670 0925	11,–
			TNMG 220408-M1	●	○	○				SC 25 PT	10	366670 1025	11,–

3135

ISO	SC 15 PT	SC 25 PT	SC 35 PT
ISO P steel	Vc = 180 - 400	Vc = 100 - 240	Vc = 90 - 200
ISO M stainless steel		Vc = 70 - 210	Vc = 55 - 200
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.4 ap = 0.25 - 4.5		

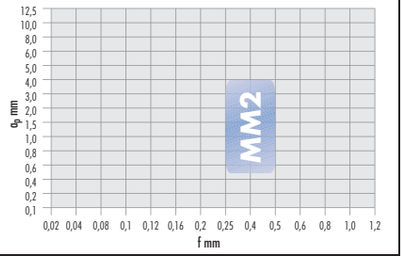


Chip breaker *MM2* negative

F finishing -	M medium ●	R roughing ○	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Roughing/medium machining 			TNMG 160404-MM2	○	●					SP 25 MT	10	**366669** 0121	8,–
			TNMG 160408-MM2	○	●					SP 25 MT	10	366669 0221	8,–

3135

ISO	SC 25 PT
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 40 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.18 - 0.4 ap = 0.5 - 5.0



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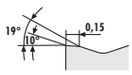
Chip breaker *M3* negative

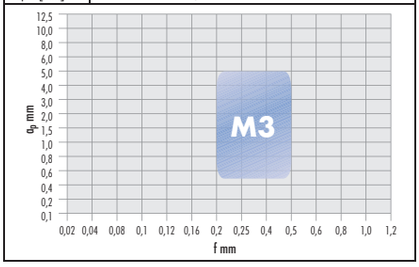
F finishing -	M medium ●	R roughing ○	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
			TNMG 160408-M3	○		●				**SC 20 KT**	10	**366673** 0130	8,–
			TNMG 160612-M3	○		●				**SC 20 KT**	10	366673 0230	8,–
			TNMG 220408-M3	○		●				**SC 20 KT**	10	366673 0330	11,–

Roughing/medium machining



3135

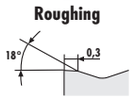
ISO	SC 20 KT
ISO P steel	Vc = 150 - 340
ISO K cast iron	Vc = 150 - 550
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.5 ap = 0.25 - 4.0



Chip breaker *SR1* negative

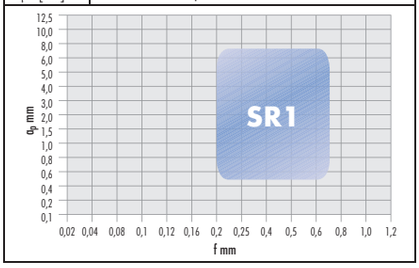
F finishing -	M medium ○	R roughing ●	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
			TNMG 220408-SR1	●	○	○				**SC 25 PT**	10	**366676** 0125	11,–

Roughing



3135

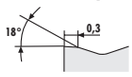
ISO	SC 25 PT
ISO P steel	Vc = 100 - 240
ISO M stainless steel	Vc = 70 - 210
ISO K cast iron	Vc = 130 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.18 - 0.5 ap = 0.5 - 5.0



Chip breaker *SR3* negative

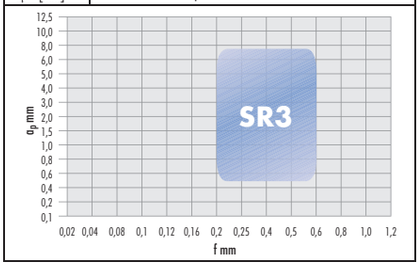
F finishing -	M medium ○	R roughing ●	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
			TNMG 160408-SR3	○		●				**SC 20 KT**	10	**366671** 0130	8,–

Roughing/medium machining



3135

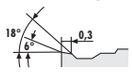
ISO	SC 20 KT
ISO P steel	Vc = 150 - 340
ISO K cast iron	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.18 - 0.5 ap = 0.5 - 6.0



Chip breaker *RM2* negative

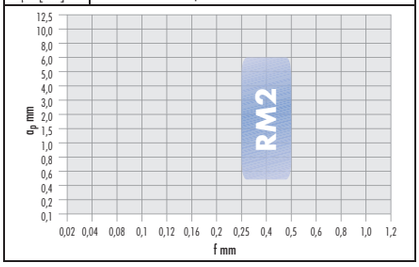
F finishing -	M medium ○	R roughing ●	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
			TNMG 160408-RM2	○	●					**SP 25 MT**	10	**366675** 0221	8,–
			TNMG 160412-RM2	○	●					**SP 25 MT**	10	366675 0121	8,–

Roughing/medium machining



3135

ISO	SC 25 PT
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 40 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.6 ap = 0.5 - 6.0



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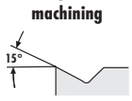
Chip breaker ***SM5*** negative

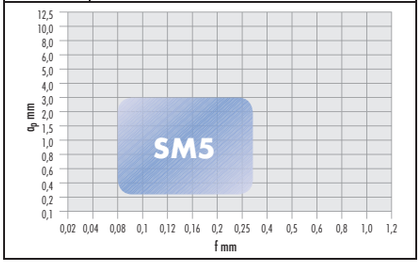
F finishing	M medium	R roughing	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
○	●	-	TNMG 160408-SM5		○			●		**SP 10 ST**	10	**366672** 0132	8,–
					○			●		**SP 15 ST**	10	366672 0231	8,–

Finishing/medium machining



3135

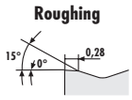
ISO	SP 10 ST	SP 15 ST
ISO M stainless steel	Vc = 60 - 230	Vc = 50 - 220
ISO S superalloys	Vc = 30 - 120	Vc = 30 - 120
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.1 to 0.3 ap = 0.5 - 3.0	



Chip breaker ***R1*** negative

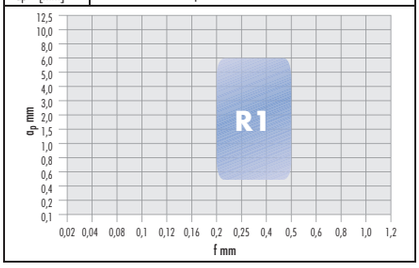
F finishing	M medium	R roughing	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
-	○	●	TNMG 160408-R1	●	○	○				**SC 25 PT**	10	**366674** 0125	8,–
			TNMG 160412-R1	●	○	○				**SC 25 PT**	10	366674 0325	8,–

Roughing



3135

ISO	SC 25 PT
ISO P steel	Vc = 100 - 240
ISO M stainless steel	Vc = 70 - 210
ISO K cast iron	Vc = 120 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.5 ap = 0.5 - 6.0



VCGT ISO indexable cutting inserts, ground

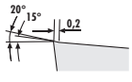
- **55° rhombic, positive 7°**
- One-sided chip breaker design
- Suitable for aluminium, plastic and non-ferrous metals
- **SW16NT** uncoated
- **SP16NT** coated, also suitable for finishing **stainless steel** (**austenitic, quenched**)
- for **stainless steel** max. ap = 0.4 mm at Vc max 140 m/min
- **SP16NT** for **titanium** Rm* 440 Vc 60 - 120 m/min
- Minimum ap feed always 63% of the corner radius "r"
- Maximum ap feed is 35% of the cutting edge length
- Cutting data recommendations apply for a corner radius **r = 0.4 mm**

Especially for machining aluminium

Chip breaker ***NF4***

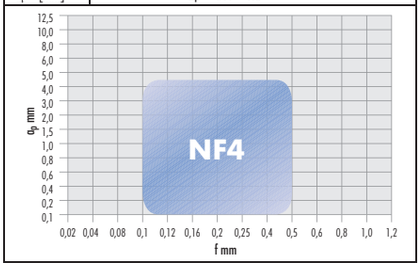
F finishing	M medium	R roughing	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
○	○	○	VCGT 110302-NF4			○	●	○		**SW 16 NT**	10	**366680** 0116	10,–
					○	○	●	○		**SP 16 NT**	10	366680 0317	12,10
			VCGT 110304-NF4		○	○	●	○		**SP 16 NT**	10	366680 0417	12,10
						○	●	○		**SW 16 NT**	10	366680 0216	10,30
			VCGT 130302-NF4			○	●	○		**SW 16 NT**	10	366680 0616	10,60
			VCGT 130304-NF4			○	●	○		**SW 16 NT**	10	366680 0516	10,60
			VCGT 160404-NF4			○	●	○		**SW 16 NT**	10	366680 0717	12,50
					○	○	●	○		**SP 16 NT**	10	366680 0917	14,10
			VCGT 160408-NF4			○	●	○		**SW 16 NT**	10	366680 1017	12,50
					○	○	●	○		**SP 16 NT**	10	366680 1217	14,10
			VCGT 160412-NF4		○	○	●	○		**SP 16 NT**	10	366680 1317	14,10
			VCGT 220530-NF4		○	○	●	○		**SP 16 NT**	10	366680 1417	16,95

Universal application



3135

ISO	SP 16 NT	SW 16 NT
ISO M stainless steel	Vc = 50 - 140	
ISO K cast iron	Vc = 120 - 200	Vc = 120 - 200
ISO N Al/non-ferrous	Vc = 100 - 3000	Vc = 100 - 2000
ISO S superalloys	Vc = 18 - 120	Vc = 18 - 45
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.1 - 0.5 ap = 0.1 - 4.5	



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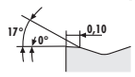
VBMT ISO indexable cutting inserts

- **55° rhombic, positive 5°**
- One-sided chip breaker design
- Minimum ap feed always 63% of the corner radius "r"
- Maximum ap feed is 30% of the cutting edge length
- Cutting data recommendations apply for a corner radius **r = 0.4 mm**

Chip breaker *XM1*

F finishing	M medium	R roughing
-	●	○

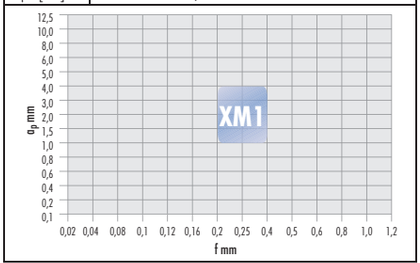
Medium machining



SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
VBMT 160404-XM1	●		○				SC 15 PT	0	**366677** 0115	10,50
	●	○	○				SC 25 PT	10	366677 0125	10,50
VBMT 160408-XM1	●		○				SC 15 PT	0	366677 0215	10,50
	●	○	○				SC 25 PT	10	366677 0225	10,50

3135

ISO	SC 15 PT	SC 25 PT
ISO P steel	Vc = 180 - 400	Vc = 100 - 240
ISO M stainless steel		Vc = 70 - 210
ISO K cast iron	Vc = 140 - 520	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.4 ap = 1.0 - 4.0	



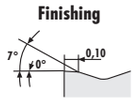
VCGT - VCMT ISO indexable cutting inserts

- **35° rhombic, positive 7°**
- One-sided chip breaker design
- For **FF7** corner radius r = 00 and r = 01 for extreme finishing
- Minimum ap feed always 63% of the corner radius "r"
- Maximum ap feed is 30% of the cutting edge length
- Cutting data recommendations apply for a corner radius **r = 0.4 mm**

Chip breaker *F1*

F finishing	M medium	R roughing
●	○	-

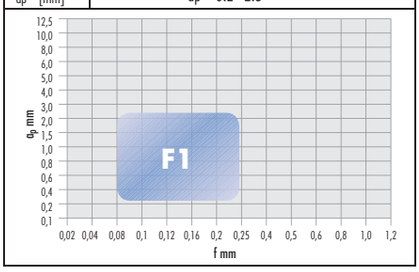
Finishing



SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
VCMT 110302-F1	●	○	○				SC 25 PT	10	**366679** 0125	9,20
VCMT 110304-F1	●	○	○				SC 25 PT	10	366679 0225	9,20
VCMT 160404-F1	●	○	○				SC 25 PT	10	366679 0325	11,50

3135

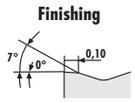
ISO	SC 25 PT
ISO P steel	Vc = 100 - 240
ISO M stainless steel	Vc = 70 - 210
ISO K cast iron	Vc = 120 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.07 - 0.25 ap = 0.2 - 2.5



Chip breaker *F2*

F finishing	M medium	R roughing
●	○	-

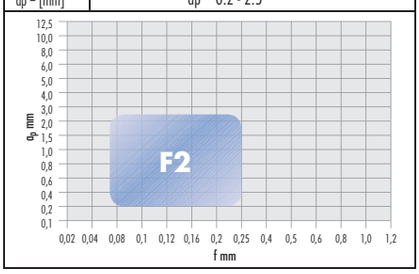
Finishing



SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
VCMT 110302-F2	○	●					SP 25 MT	10	**366681** 0121	9,20
VCMT 110304-F2	○	●					SP 25 MT	10	366681 0221	9,20
VCMT 160604-F2	○	●					SP 25 MT	10	366681 0321	11,50

3135

ISO	SC 25 PT
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 40 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.07 - 0.25 ap = 0.2 - 2.5



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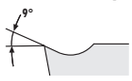
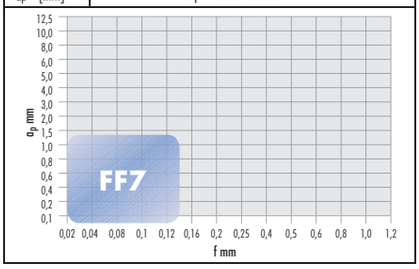
Chip breaker *FF7*, stainless steel design

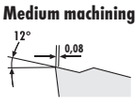
F finishing	M medium	R roughing	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	-	-											
			VCGT 110300-FF7		●	○	○	○		SP 20 MT	10	**366678** 0120	12,10
Micro finishing			VCGT 110301-FF7		●	○	○	○		SP 20 MT	10	366678 0220	12,10
			VCGT 160400-FF7		●	○	○	○		SP 20 MT	10	366678 0320	15,10
			VCGT 160401-FF7		●	○	○	○		SP 20 MT	10	366678 0420	15,10

3135

ISO	SP 20 MT
ISO M stainless steel	Vc = 60 - 200
ISO K cast iron	Vc = 120 - 220
ISO N Al/non-ferrous	Vc = 100 - 600
ISO S superalloys	Vc = 15 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.02 - 0.14 ap = 0.05 - 1.35

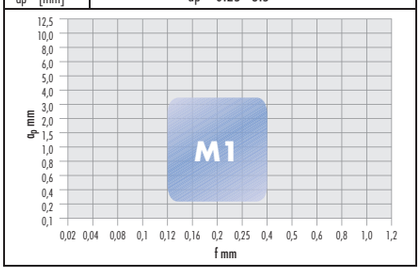


Chip breaker *M1*

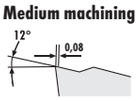
F finishing	M medium	R roughing	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
-	●	-											
			VCMT 110304-M1	●	○	○				SC 25 PT	10	**366682** 0125	9,20
Medium machining				●	○					SC 35 PT	10	366682 0235	9,20
			VCMT 110308-M1	●	○	○				SC 25 PT	10	366682 0325	9,20
				●	○					SC 35 PT	10	366682 0435	9,20
			VCMT 160404-M1	●	○	○				SC 25 PT	10	366682 0525	11,50
				●	○					SC 35 PT	10	366682 0635	11,50
			VCMT 160408-M1	●	○	○				SC 25 PT	10	366682 0725	11,50
				●	○					SC 35 PT	10	366682 0835	11,50

3135

ISO	SC 25 PT	SC 35 PT
ISO P steel	Vc = 100 - 240	Vc = 90 - 200
ISO M stainless steel	Vc = 70 - 210	Vc = 55 - 200
ISO K cast iron	Vc = 120 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.4 ap = 0.25 - 3.5	

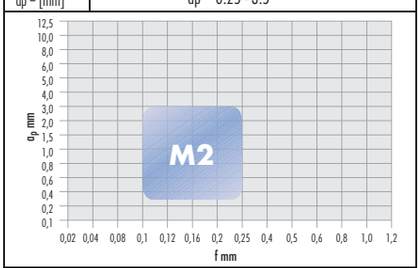


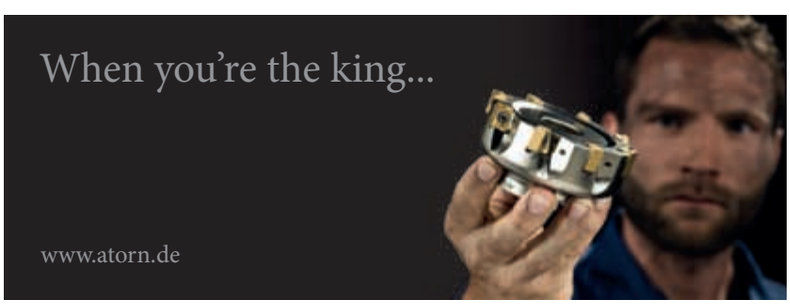
Chip breaker *M2*

F finishing	M medium	R roughing	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
-	●	-											
			VCMT 110304-M2	○	●					SP 25 MT	10	**366683** 0121	9,20
Medium machining				○	●					SP 35 MT	10	366683 0222	9,20
			VCMT 110308-M2	○	●					SP 25 MT	10	366683 0321	9,20
				○	●					SP 35 MT	10	366683 0422	9,20
			VCMT 160404-M2	○	●					SP 25 MT	10	366683 0521	11,50
			VCMT 160408-M2	○	●					SP 25 MT	10	366683 0621	11,50

3135

ISO	SC 25 PT	SP 35 MT
ISO P steel	Vc = 60 - 250	Vc = 90 - 200
ISO M stainless steel	Vc = 40 - 250	Vc = 55 - 200
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.4 ap = 0.25 - 3.5	





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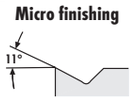
VNGP ISO indexable cutting inserts

- **35° rhombic, negative 0°**
- Bilateral chip breaker design
- **VNGP** are suitable for **ISO tool holder** for **VNMG....**
- Minimum ap feed always 63% of the corner radius "r"
- Maximum ap feed is 30% of the cutting edge length
- Cutting data recommendations apply for a corner radius **r = 0.4 mm**

Chip breaker *XF2* negative

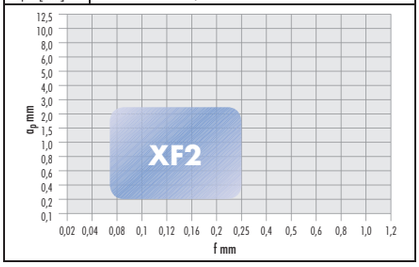
F finishing	M medium	R roughing	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	-	-	VNGP 160402-XF2		●	○	○	○		SP 20 MT	10	**366684** 0120	18,90
			VNGP 160404-XF2		●	○	○	○		SP 20 MT	10	366684 0220	18,90

Micro finishing



3135

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



30

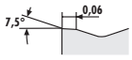
VNMG ISO indexable cutting inserts

- **35° rhombic, negative 0°**
- Bilateral chip breaker design
- Minimum ap feed always 63% of the corner radius "r"
- Maximum ap feed is 30% of the cutting edge length
- Cutting data recommendations apply for a corner radius **r = 0.4 mm**

Chip breaker *F1* negative

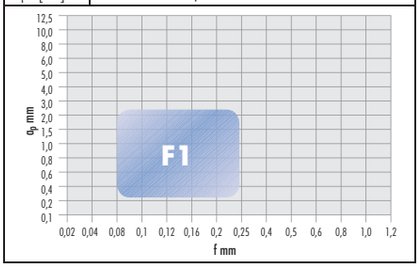
F finishing	M medium	R roughing	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	○	-	VNMG 160404-F1	●		○				SC 15 PT	10	**366686** 0115	12,35

Finishing



3135

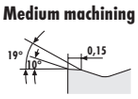
ISO	SC 15 PT
ISO P steel	Vc = 180 - 400
ISO K cast iron	Vc = 140 - 520
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.07 - 0.25 ap = 0.2 - 2.5



Chip breaker *M1* negative

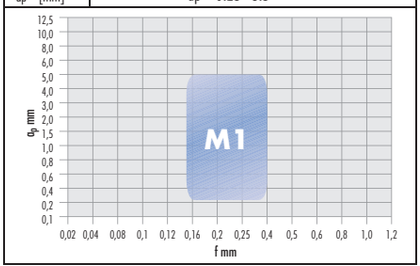
F finishing	M medium	R roughing	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
○	●	-	VNMG 160404-M1	●		○				SC 15 PT	10	**366685** 0115	12,35
			VNMG 160408-M1	●		○				SC 15 PT	10	366685 0415	12,35
			VNMG 160404-M1	●	○	○				SC 25 PT	10	366685 0225	12,35
			VNMG 160408-M1	●	○	○				SC 25 PT	10	366685 0525	12,35

Medium machining



3135

ISO	SC 15 PT	SC 25 PT
ISO P steel	Vc = 180 - 400	Vc = 180 - 400
ISO M stainless steel		Vc = 70 - 210
ISO K cast iron	Vc = 140 - 520	Vc = 130 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.4 ap = 0.25 - 3.5	



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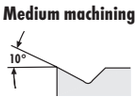
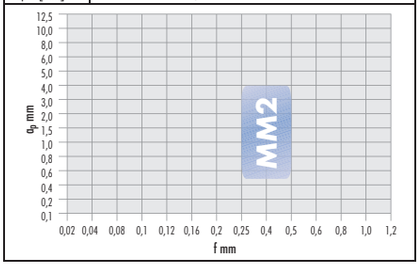
Chip breaker ***MM2*** negative

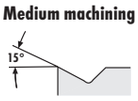
F finishing ○	M medium ●	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Medium machining 			VNMG 160408-MM2	○	●					**SP 25 MT**	10	**366688** 0121	12,35

3135

ISO	SC 25 PT
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 40 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.14 - 0.4 ap = 0.25 - 4.0

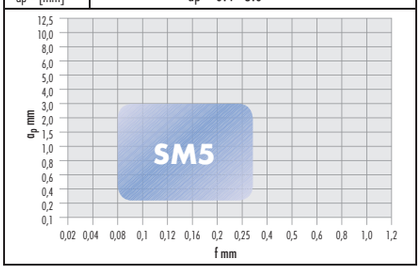


Chip breaker ***SM5*** negative

F finishing ○	M medium ●	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Medium machining 			VNMG 160408-SM5		○			●		**SP 10 ST**	10	**366687** 0132	12,35
					○			●		**SP 15 ST**	10	366687 0231	12,35

3135

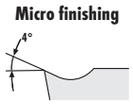
ISO	SP 10 ST	SP 15 ST
ISO M stainless steel	Vc = 60 - 230	Vc = 60 - 220
ISO S superalloys	Vc = 30 - 120	Vc = 30 - 120
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.1 to 0.3 ap = 0.4 - 3.0	



WCGT - WCMT ISO indexable cutting inserts

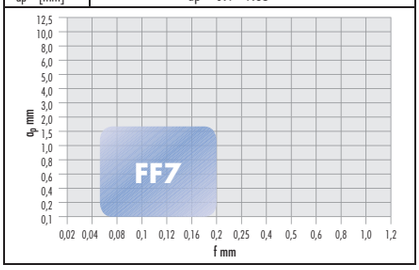
- **80° trigonometric, positive 7°**
- One-sided chip breaker design
- **WCGT** ground peripherally
- Minimum ap feed always 63% of the corner radius "r"
- Maximum ap feed is 63% of the cutting edge length
- Cutting data recommendations apply for a corner radius **r = 0.4 mm**

Chip breaker ***FF7***, CERMET design

F finishing ●	M medium -	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Micro finishing 			WCGT 040204-FF7	●	○	○				**ST 10 UT**	10	**366689** 0140	11,–

3135

ISO	ST 10 UT
ISO P steel	Vc = 160 - 270
ISO M stainless steel	Vc = 130 - 240
ISO K cast iron	Vc = 220 - 350
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.2 ap = 0.1 - 1.65



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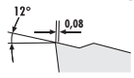
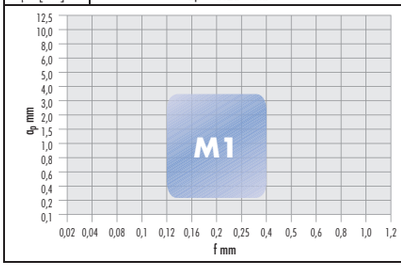
Chip breaker *M1*

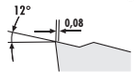
F finishing -	M medium ●	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Medium machining 			WCMT 040204-M1	●	○	○				SC 25 PT	10	**366690** 0125	6,85
			WCMT 040208-M1	●	○	○				SC 25 PT	10	366690 0225	6,85
			WCMT 06T304-M1	●	○	○				SC 25 PT	10	366690 0325	8,25
			WCMT 06T308-M1	●	○	○				SC 25 PT	10	366690 0425	8,25
			WCMT 080404-M1	●	○	○				SC 25 PT	10	366690 0525	9,65
			WCMT 080408-M1	●	○	○				SC 25 PT	10	366690 0625	9,65
			WCMT 080412-M1	●	○	○				SC 25 PT	10	366690 0725	9,65

3135

ISO	SC 25 PT
ISO P steel	Vc = 100 - 240
ISO M stainless steel	Vc = 70 - 210
ISO K cast iron	Vc = 120 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.4 ap = 0.25 - 3.5

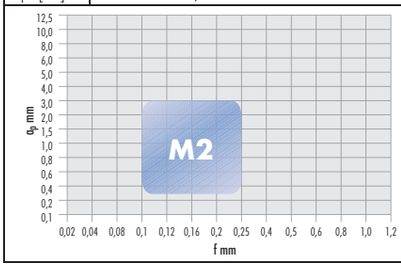


Chip breaker *M2*

F finishing -	M medium ●	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Medium machining 			WCMT 040204-M2	○	●					SP 25 MT	10	**366691** 0121	6,85
			WCMT 040208-M2	○	●					SP 25 MT	10	366691 0221	6,85
			WCMT 06T304-M2	○	●					SP 25 MT	10	366691 0321	8,25
			WCMT 06T308-M2	○	●					SP 25 MT	10	366691 0421	8,25
			WCMT 080404-M2	○	●					SP 25 MT	10	366691 0521	9,65
			WCMT 080408-M2	○	●					SP 25 MT	10	366691 0621	9,65
			WCMT 080412-M2	○	●					SP 25 MT	10	366691 0721	9,65

3135

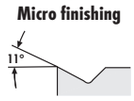
ISO	SC 25 PT
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 40 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.4 ap = 0.25 - 3.5



WNMA - WNGP ISO indexable cutting inserts

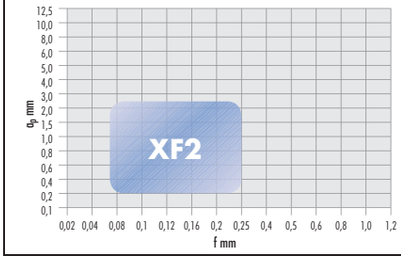
- **80° trigonometric, negative 0°**
- Bilateral chip breaker design **WNGP**
- Without chip breaker design **WNMA**
- **WNGP** and **WNMA** are suitable for **ISO tool holder** for **WNMG....**
- Chip breaker **XF2** especially for **stainless steel**
- Minimum ap feed always 63% of the corner radius "r"
- Maximum feed from is 63% of the cutting edge length for **WNMA**
- Cutting data recommendations apply for a corner radius **r = 0.4 mm**

Chip breaker *XF2* negative

F finishing ●	M medium -	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Micro finishing 			WNGP 080404-XF2		●	○	○	○		SP 20 MT	10	**366692** 0120	12,10
			WNGP 080408-XF2		●	○	○	○		SP 20 MT	10	366692 0220	12,10

3135

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



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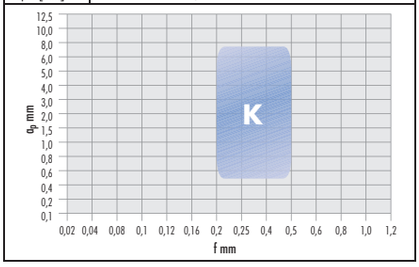
Chip breaker *K* negative

F finishing -	M medium ○	R roughing ●	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
Roughing/medium machining			WNMA 080408-K	○		●				SC 20 KT	10 **366693** 0130	8,75

3135

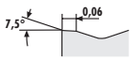
ISO	SC 20 KT
ISO P steel	Vc = 150 - 340
ISO K cast iron	Vc = 150 - 550
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.5 ap = 0.25 - 5.5



WNMG ISO indexable cutting inserts

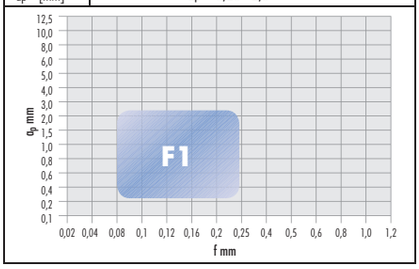
- **80° trigonometric, negative 0°**
- Bilateral chip breaker design
- Minimum ap feed always 63% of the corner radius "r"
- Maximum ap feed is 63% of the cutting edge length
- Cutting data recommendations apply for a corner radius **r = 0.4 mm**

Chip breaker *F1* negative

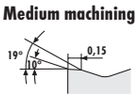
F finishing ●	M medium ○	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
Finishing 			WNMG 060404-F1	●		○				SC 15 PT	10 **366696** 0115	7,20
			WNMG 080404-F1	●		○				SC 15 PT	10 366696 0215	8,75

3135

ISO	SC 15 PT
ISO P steel	Vc = 180 - 400
ISO K cast iron	Vc = 140 - 520
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0,08 - 0,25 ap = 0,25 - 2,5

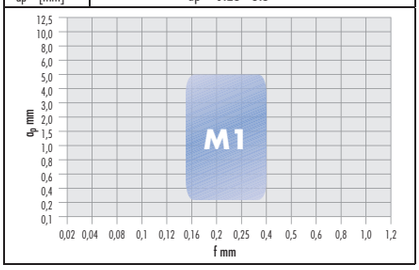


Chip breaker *M1* negative

F finishing -	M medium ●	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
Medium machining 			WNMG 060404-M1	●		○				SC 15 PT	10 **366695** 0115	7,20
				●	○	○				SC 25 PT	10 366695 0225	7,20
			WNMG 060408-M1	●		○				SC 15 PT	10 366695 0415	7,20
				●	○	○				SC 25 PT	10 366695 0525	7,20
			WNMG 080404-M1	●		○				SC 15 PT	10 366695 0715	8,75
				●	○	○				SC 25 PT	10 366695 0825	8,75
			WNMG 080408-M1	●		○				SC 15 PT	10 366695 1015	8,75
				●	○	○				SC 25 PT	10 366695 1125	8,75
				●	○					SC 35 PT	10 366695 1235	8,75
			WNMG 080412-M1	●		○				SC 15 PT	10 366695 1315	8,75
				●	○	○				SC 25 PT	10 366695 1425	8,75
				●	○					SC 35 PT	10 366695 1535	8,75

3135

ISO	SC 15 PT	SC 25 PT	SC 35 PT
ISO P steel	Vc = 180 - 400	Vc = 100 - 240	Vc = 90 - 200
ISO M stainless steel		Vc = 70 - 210	Vc = 55 - 200
ISO K cast iron	Vc = 140 - 520	Vc = 120 - 250	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.4 ap = 0.25 - 3.5		



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Chip breaker ***MM2*** negative

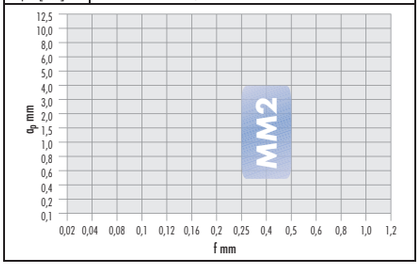
F finishing	M medium	R roughing
-	●	-

Medium machining

SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
WNMG 060404-MM2	○	●					**SP 25 MT**	10	**366694** 0121	7,20
WNMG 060408-MM2	○	●					**SP 25 MT**	10	366694 0221	7,20
WNMG 080404-MM2	○	●					**SP 25 MT**	10	366694 0321	8,75
WNMG 080408-MM2	○	●					**SP 25 MT**	10	366694 0421	8,75
WNMG 080412-MM2	○	●					**SP 25 MT**	10	366694 0521	8,75

3135

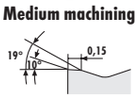
ISO	SC 25 PT
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 40 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.4 ap = 0.25 - 3.5



Chip breaker ***M3*** negative

F finishing	M medium	R roughing
○	●	-

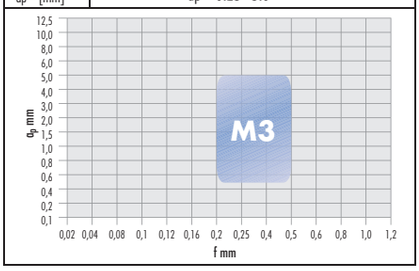
Medium machining



SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
WNMG 080408-M1	○		●				**SC 20 KT**	10	**366701** 0130	8,75
WNMG 080412-M1	○		●				**SC 20 KT**	10	366701 0230	8,75

3135

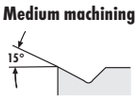
ISO	SC 20 KT
ISO P steel	Vc = 150 - 340
ISO K cast iron	Vc = 150 - 550
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.5 ap = 0.25 - 5.0



Chip breaker ***SM5*** negative

F finishing	M medium	R roughing
○	●	-

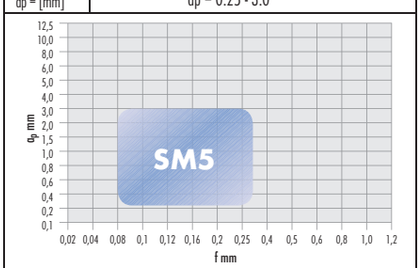
Medium machining



SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
WNMG 080408-SM5		○			●		**SP 10 ST**	10	**366698** 0132	8,75
		○			●		**SP 15 ST**	10	366698 0231	8,75

3135

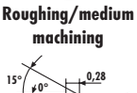
ISO	SP 10 ST	SP 15 ST
ISO M stainless steel	Vc = 60 - 230	Vc = 60 - 220
ISO S superalloys	Vc = 30 - 120	Vc = 30 - 120
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.08 - 0.3 ap = 0.25 - 3.0	



Chip breaker ***R1*** negative

F finishing	M medium	R roughing
-	○	●

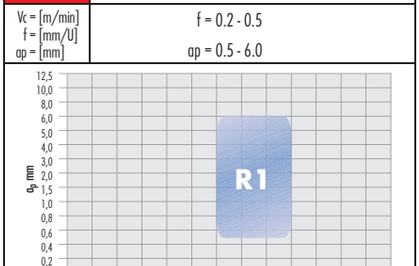
Roughing/medium machining



SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
WNMG 080408-R1	●	○	○				**SC 25 PT**	10	**366702** 0125	8,75
WNMG 080412-R1	●	○	○				**SC 25 PT**	10	366702 0225	8,75

3135

ISO	SC 25 PT
ISO P steel	Vc = 100 - 240
ISO M stainless steel	Vc = 70 - 210
ISO K cast iron	Vc = 120 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.5 ap = 0.5 - 6.0



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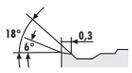
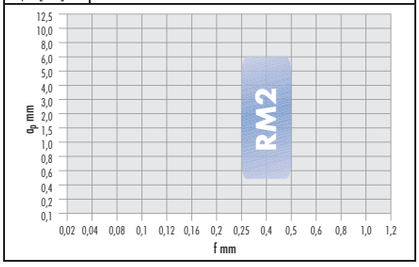
Chip breaker ***RM2*** negative

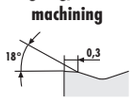
F finishing -	M medium ○	R roughing ●	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Roughing/medium machining 	WNMG 080408-RM2	○	●							**SP 25 MT**	10	**366699** 0121	8,75
	WNMG 080412-RM2	○	●							**SP 25 MT**	10	366699 0321	8,75

3135

ISO	SC 25 PT
ISO P steel	Vc = 60 - 250
ISO M stainless steel	Vc = 40 - 250
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.5 ap = 0.5 - 6.0

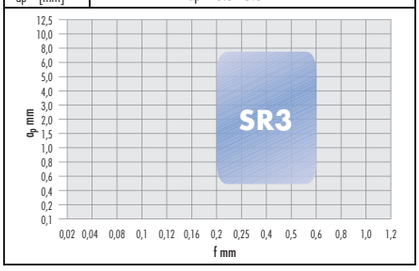


Chip breaker ***SR3*** negative

F finishing -	M medium ○	R roughing ●	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Roughing/medium machining 	WNMG 080408-SR3	○		●						**SC 20 KT**	10	**366697** 0130	8,75

3135

ISO	SC 20 KT
ISO P steel	Vc = 150 - 340
ISO K cast iron	Vc = 150 - 550
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.6 ap = 0.5 - 5.0



WNMX ISO indexable cutting inserts

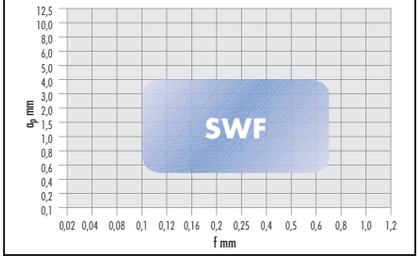
- **80° trigonometric, negative 0°**
- One-sided chip breaker design
- Minimum ap feed always 63% of the corner radius "r"
- Special finishing geometry with smoothing effect when used at an angle of 93°
- When using the **SWF**, profile distortions may occur if long tapers and large balls are turned
- Double feed achievable at the same Ra value as with conventional geometries
- Cutting data recommendations apply for a corner radius r = 1.2 mm

Chip breaker ***SWF*** negative

F finishing ●	M medium ○	R roughing -	SARATURN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Finishing	WNMX 080404-SWF	●		○						**SC 15 PT**	10	**366707** 0115	9,65
	WNMX 080408-SWF	●		○						**SC 15 PT**	10	366707 0215	9,65

3135

ISO	SC 15 PT
ISO P steel	Vc = 180 - 400
ISO K cast iron	Vc = 140 - 520
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.1 - 0.8 ap = 0.5 - 5.0



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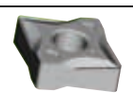
AluLine ISO indexable cutting inserts

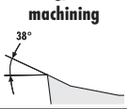
- Excellent chip control and surfaces even with low silicon content
- Excellent toughness and wear characteristics
- **Twice as many cutting edges** per indexable insert compared to positive indexable inserts
- Can be used up to a cutting depth of approx. 5 mm
- Can be used in standard ISO tool holders
- Unit prices when purchased in packs = 10 units per size and quality

CNGG 80° rhombic, negative

F finishing	M medium	R roughing	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	●	-	CNGG 120404-ALU				●			LT 05	10	**340001** 0101	10,60
			CNGG 120408-ALU				●			LT 05	10	340001 0201	10,60

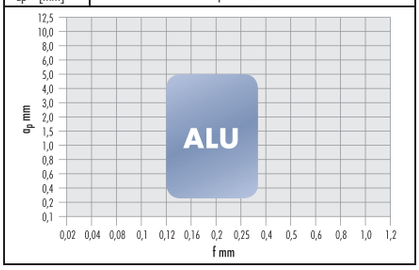


Finishing/medium machining



3107

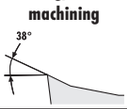
ISO	LT 05
ISO N Al/non-ferrous	Vc = 600 - 1200
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.35 ap = 0.25 - 5.0



DNGG 55° rhombic, negative

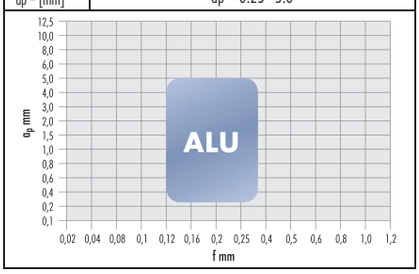
F finishing	M medium	R roughing	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	●	-	DNGG 110404-ALU				●			LT 05	10	**340002** 0101	10,60
			DNGG 110408-ALU				●			LT 05	10	340002 0201	10,60

Finishing/medium machining



3107

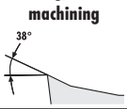
ISO	LT 05
ISO N Al/non-ferrous	Vc = 600 - 1200
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.30 ap = 0.25 - 5.0



TNGG 60° triangular, negative

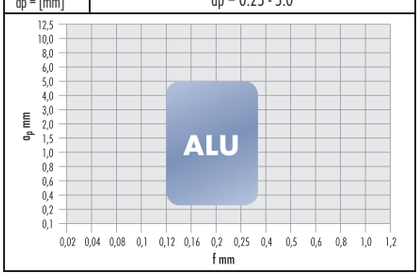
F finishing	M medium	R roughing	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	●	-	TNGG 160404-ALU				●			LT 05	10	**340003** 0101	11,–

Finishing/medium machining



3107

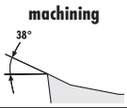
ISO	LT 05
ISO N Al/non-ferrous	Vc = 600 - 1200
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.30 ap = 0.25 - 5.0



VNGG 35° rhombic, negative

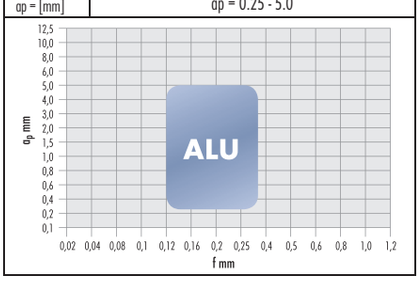
F finishing	M medium	R roughing	ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	●	-	VNGG 160404-ALU				●			LT 05	10	**340004** 0101	12,10
			VNGG 160408-ALU				●			LT 05	10	340004 0201	*12,10*

Finishing/medium machining



3107

ISO	LT 05
ISO N Al/non-ferrous	Vc = 600 - 1200
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.30 ap = 0.25 - 5.0



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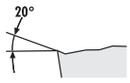
CCMT ISO indexable cutting inserts

- **80° rhombic, positive 7°**

Chip breaker type FP

F finishing	M medium	R roughing
●	-	-

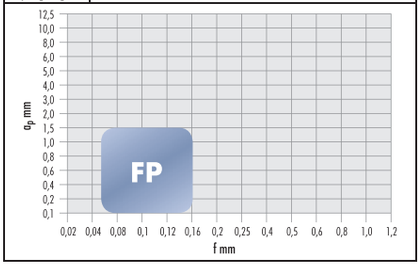
Finishing



ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
CCMT 060202-FP	●		○				**HC 7610**	10	**311101** 0111	6,15
	●		○				**HC 7620**	10	311101 0112	6,15
CCMT 060204-FP	●		○				**HC 7610**	10	311101 0211	6,15
	●		○				**HC 7620**	10	311101 0212	6,15
CCMT 09T302-FP	●		○				**HC 7610**	10	311101 1111	7,70
	●		○				**HC 7620**	10	311101 1112	7,70
CCMT 09T304-FP	●		○				**HC 7610**	10	311101 1211	7,70
	●		○				**HC 7620**	10	311101 1212	7,70
CCMT 09T308-FP	●		○				**HC 7610**	10	311101 1311	7,70
	●		○				**HC 7620**	10	311101 1312	7,70
CCMT 120404-FP	●		○				**HC 7610**	10	311101 2611	10,90
	●		○				**HC 7620**	10	311101 2612	10,90
CCMT 120408-FP	●		○				**HC 7610**	10	311101 2711	10,90
	●		○				**HC 7620**	10	311101 2712	10,90

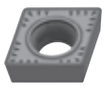
3108

ISO	HC 7610	HC 7620
ISO P steel	Vc = 200 - 380	Vc = 140 - 320
ISO K cast iron	Vc = 180 - 280	Vc = 160 - 260
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.16 ap = 0.1 - 1.5	

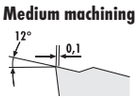


Chip breaker type MP

F finishing	M medium	R roughing
-	●	-



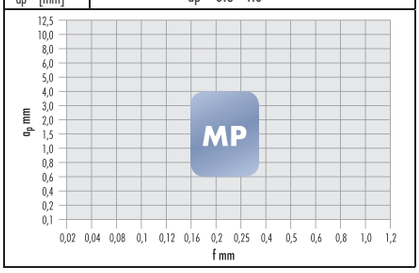
Medium machining



ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
CCMT 060204-MP	●		○				**HC 7610**	10	**311103** 0211	6,15
	●		○				**HC 7620**	10	311103 0212	6,15
	●						**HC 7630**	10	311103 0213	6,15
CCMT 09T304-MP	●		○				**HC 7610**	10	311103 1211	7,70
	●		○				**HC 7620**	10	311103 1212	7,70
	●						**HC 7630**	10	311103 1213	7,70
CCMT 09T308-MP	●		○				**HC 7610**	10	311103 1311	7,70
	●		○				**HC 7620**	10	311103 1312	7,70
	●						**HC 7630**	10	311103 1313	7,70
CCMT 120404-MP	●		○				**HC 7610**	10	311103 2611	*10,90*
	●		○				**HC 7620**	10	311103 2612	10,90
	●						**HC 7630**	10	311103 2613	*10,90*
CCMT 120408-MP	●		○				**HC 7610**	10	311103 2711	10,90
	●		○				**HC 7620**	10	311103 2712	10,90
	●						**HC 7630**	10	311103 2713	10,90

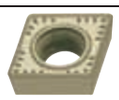
3108

ISO	HC 7610	HC 7620	HC 7630
ISO P steel	Vc = 160 - 340	Vc = 110 - 250	Vc = 80 - 220
ISO K cast iron	Vc = 140 - 240	Vc = 140 - 240	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.16 - 0.35 ap = 0.6 - 4.0		

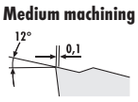


Chip breaker type MP, stainless steel

F finishing	M medium	R roughing
-	●	-



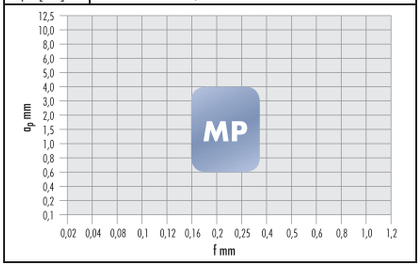
Medium machining



ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
CCMT 060204-MP		●			○		**HC 7520**	10	**310103** 0225	6,25
		●			○		**HC 7530**	10	310103 0226	6,25
CCMT 09T304-MP		●			○		**HC 7520**	10	310103 1225	7,40
		●			○		**HC 7530**	10	310103 1226	7,40
CCMT 09T308-MP		●			○		**HC 7520**	10	310103 1325	7,40
		●			○		**HC 7530**	10	310103 1326	7,40

3108

ISO	HC 7520	HC 7530
ISO M stainless steel	Vc = 80 - 210	Vc = 90 - 160
ISO S superalloys	Vc = 30 - 60	Vc = 20 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.16 - 0.35 ap = 0.6 - 4.0	



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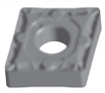
CNMG ISO indexable cutting inserts

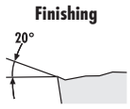
- **80° rhombic, negative 0°**

Chip breaker type FP

F finishing	M medium	R roughing
●	-	-



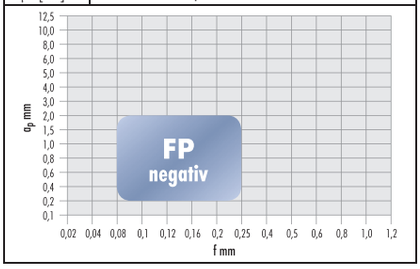
Finishing



ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
CNMG 120404-FP	●		○				**HC 7610**	10 **311151** 2611	9,35
	●		○				**HC 7620**	10 311151 2612	9,35
CNMG 120408-FP	●		○				**HC 7610**	10 311151 2711	9,35
	●		○				**HC 7620**	10 311151 2712	9,35

3108

ISO	HC 7610	HC 7620
ISO P steel	Vc = 220 - 420	Vc = 150 - 350
ISO K cast iron	Vc = 200 - 320	Vc = 170 - 290
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.08 - 0.25 ap = 0.2 - 2.0	

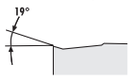


30

Chip breaker type FM

F finishing	M medium	R roughing
●	-	-

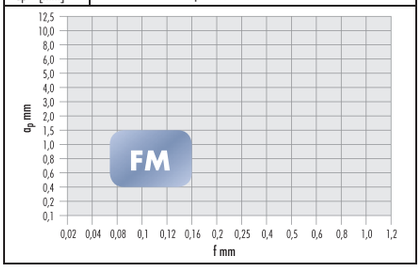
Finishing



ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
CNMG 120404-FM	○	●					**HC 7510**	10 **310153** 2624	9,35
		●			○		**HC 7520**	10 310153 2625	9,35
CNMG 120408-FM	○	●					**HC 7510**	10 310153 2724	9,35
		●			○		**HC 7520**	10 310153 2725	9,35

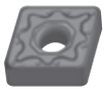
3108

ISO	HC 7510	HC 7520
ISO P steel	Vc = 140 - 320	
ISO M stainless steel	Vc = 175 - 270	Vc = 170 - 260
ISO S superalloys		Vc = 30 - 60
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.07 - 0.16 ap = 0.4 - 1.5	

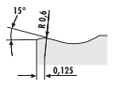


Chip breaker type MP

F finishing	M medium	R roughing
-	●	-



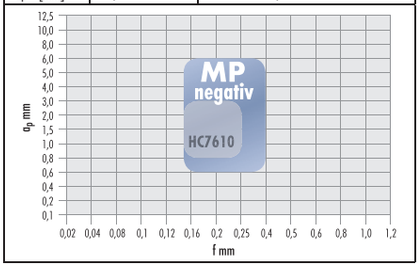
Medium machining



ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
CNMG 120404-MP	●		○				**HC 7620**	10 **311155** 2612	9,35
	●						**HC 7630**	10 311155 2613	9,35
CNMG 120408-MP	●		○				**HC 7610**	10 311155 2711	9,35
	●		○				**HC 7620**	10 311155 2712	9,35
	●						**HC 7630**	10 311155 2713	9,35
CNMG 120412-MP	●		○				**HC 7610**	10 311155 2811	*9,35*
	●		○				**HC 7620**	10 311155 2812	9,35
	●						**HC 7630**	10 311155 2813	*9,35*
CNMG 160608-MP	●		○				**HC 7620**	10 311155 4012	15,30
CNMG 160612-MP	●		○				**HC 7620**	10 311155 4112	15,30

3108

ISO	HC 7610	HC 7620	HC 7630
ISO P steel	Vc = 130 - 290	Vc = 120 - 280	Vc = 80 - 220
ISO K cast iron	Vc = 140 - 240	Vc = 150 - 260	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.15 - 0.25 ap = 0.8 - 3.0	f = 0.18 - 0.4 ap = 0.6 - 6.0	



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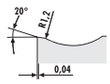
Chip breaker type MM

F finishing -	M medium ●	R roughing -

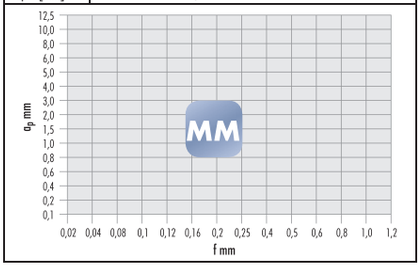
Medium machining



ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
CNMG 120404-MM		●			○		HC 7520	10	**310157** 2625	9,35
		●			○		HC 7530	10	310157 2626	9,35
CNMG 120408-MM		●			○		HC 7520	10	310157 2725	9,35
		●			○		HC 7530	10	310157 2726	9,35
CNMG 120412-MM		●			○		HC 7520	10	310157 2825	9,35
		●			○		HC 7530	10	310157 2826	9,35

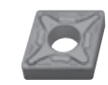
3108

ISO	HC 7520	HC 7530
ISO M stainless steel	Vc = 150 - 240	Vc = 130 - 200
ISO S superalloys	Vc = 30 - 60	Vc = 20 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.15 - 0.25 ap = 0.8 - 3.0	

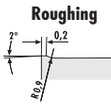


Chip breaker type RP

F finishing -	M medium ●	R roughing -



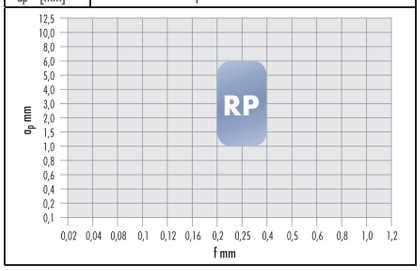
Roughing



ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
CNMG 120408-RP	●		○				HC 7610	10	**311159** 2711	9,35
	●		○				HC 7620	10	311159 2712	9,35
	●						HC 7630	10	311159 2713	9,35
CNMG 120412-RP	●		○				HC 7610	10	311159 2811	9,35
	●		○				HC 7620	10	311159 2812	9,35
	●						HC 7630	10	311159 2813	9,35

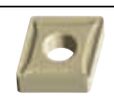
3108

ISO	HC 7610	HC 7620	HC 7630
ISO P steel	Vc = 130 - 290	Vc = 80 - 230	Vc = 60 - 200
ISO K cast iron	Vc = 140 - 240	Vc = 100 - 210	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.20 - 0.40 ap = 1.0 - 6.0		

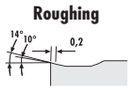


Chip breaker type RM (HC75..)

F finishing -	M medium -	R roughing ●



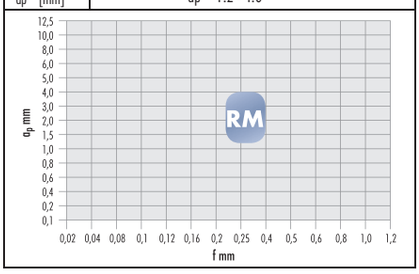
Roughing

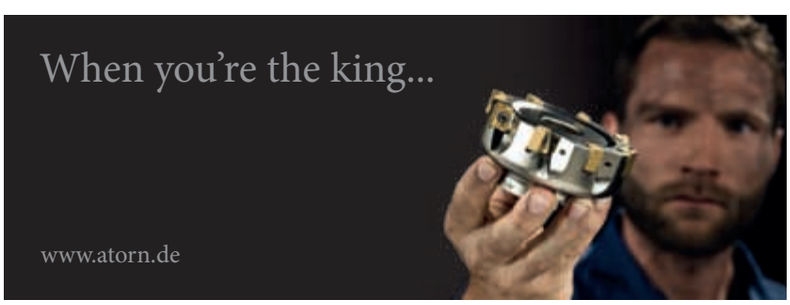


ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
CNMG 120408-RM		●			○		HC 7530	10	**310161** 2726	9,35
CNMG 120412-RM		●			○		HC 7530	10	310161 2826	9,35

3108

ISO	HC 7530
ISO M stainless steel	Vc = 90 - 160
ISO S superalloys	Vc = 20 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.22 - 0.40 ap = 1.2 - 4.0





...dreams come true.

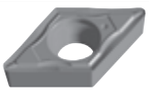
ATORN®
High quality for great performance

DCMT ISO indexable cutting inserts

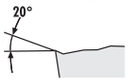
- **55° rhombic, positive 7°**

Chip breaker type FP

F finishing	M medium	R roughing	ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	-	-	DCMT 070202-FP	●		○				**HC 7610**	10	**311201** 0511	6,15
				●		○				**HC 7620**	10	311201 0512	6,15
			DCMT 070204-FP	●		○				**HC 7610**	10	311201 0611	6,15
				●		○				**HC 7620**	10	311201 0612	6,15
			DCMT 11T302-FP	●		○				**HC 7610**	10	311201 1911	8,75
				●		○				**HC 7620**	10	311201 1912	8,75
			DCMT 11T304-FP	●		○				**HC 7610**	10	311201 2011	8,75
				●		○				**HC 7620**	10	311201 2012	8,75
			DCMT 11T308-FP	●		○				**HC 7620**	10	311201 2112	8,75

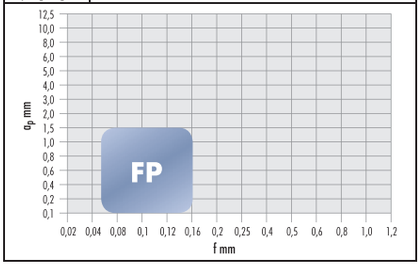


Finishing



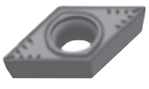
3108

ISO	HC 7610	HC 7620
ISO P steel	Vc = 200 - 380	Vc = 140 - 320
ISO K cast iron	Vc = 180 - 280	Vc = 160 - 260
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.16 ap = 0.1 - 1.5	

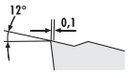


Chip breaker type MP

F finishing	M medium	R roughing	ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
-	●	-	DCMT 070204-MP	●		○				**HC 7610**	10	**311203** 0611	6,15
				●		○				**HC 7620**	10	311203 0612	6,15
				●						**HC 7630**	10	311203 0613	6,15
			DCMT 070208-MP	●		○				**HC 7610**	10	311203 0711	6,15
				●		○				**HC 7620**	10	311203 0712	6,15
				●						**HC 7630**	10	311203 0713	6,15
			DCMT 11T304-MP	●		○				**HC 7620**	10	311203 2012	8,75
				●						**HC 7630**	10	311203 2013	8,75
			DCMT 11T308-MP	●		○				**HC 7620**	10	311203 2112	8,75
				●						**HC 7630**	10	311203 2113	8,75

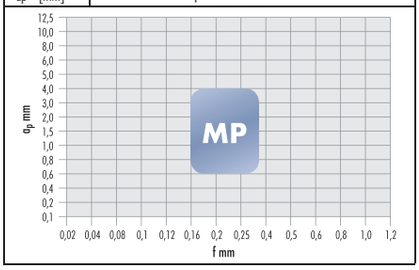


Medium machining



3108

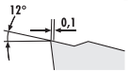
ISO	HC 7610	HC 7620	HC 7630
ISO P steel	Vc = 160 - 340	Vc = 110 - 250	Vc = 80 - 220
ISO K cast iron	Vc = 140 - 240	Vc = 140 - 240	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.16 - 0.30 ap = 0.6 - 4.0		



Chip breaker type MP, stainless steel

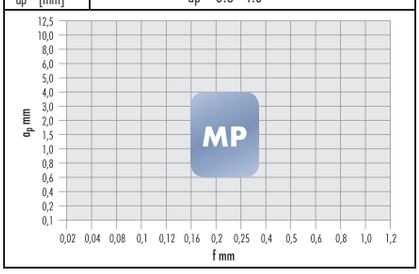
F finishing	M medium	R roughing	ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
-	●	-	DCMT 070204-MP		●			○		**HC 7530**	10	**310203** 0626	6,25
			DCMT 11T304-MP		●			○		**HC 7530**	10	310203 2026	8,75
			DCMT 11T308-MP		●			○		**HC 7530**	10	310203 2126	8,75

Medium machining



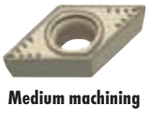
3108

ISO	HC 7530
ISO M stainless steel	Vc = 90 - 160
ISO S superalloys	Vc = 20 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.16 - 0.30 ap = 0.6 - 4.0

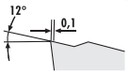


Chip breaker type MS

F finishing	M medium	R roughing	ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
-	●	-	DCMT 070208-MS		●			○		**HC 7220**	10	**311203** 0714	6,55
			DCMT 11T308-MS		●			○		**HC 7220**	10	311203 2114	9,15

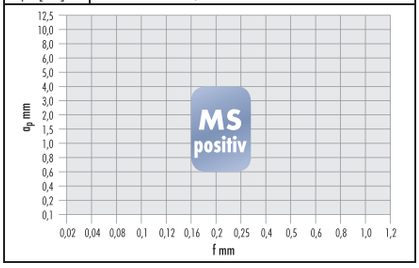


Medium machining



3108

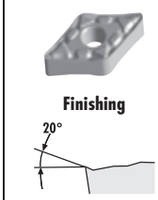
ISO	HC 7220
ISO M stainless steel	Vc = 120 - 190
ISO S superalloys	Vc = 30 - 60
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.16 - 0.3 ap = 0.6 - 4.0



DNMG ISO indexable cutting inserts

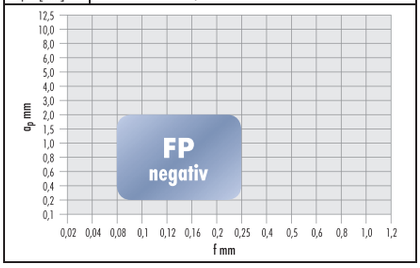
- **55° rhombic, negative 0°**

Chip breaker type FP

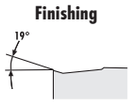
F finishing	M medium	R roughing	ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	-	-											
 Finishing	DNMG 110404-FP		●		○				HC 7620	10	**311251** 2312	10,50
	DNMG 110408-FP		●		○				HC 7610	10	311251 2411	10,50
			●		○				HC 7620	10	311251 2412	10,50
	DNMG 150604-FP		●		○				HC 7610	10	311251 3011	13,75
			●		○				HC 7620	10	311251 3012	13,75
	DNMG 150608-FP		●		○				HC 7620	10	311251 3112	13,75

3108

ISO	HC 7610	HC 7620
ISO P steel	Vc = 150 - 350	Vc = 170 - 290
ISO K cast iron	Vc = 140 - 340	Vc = 180 - 290
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.2 ap = 0.1 - 1.5	

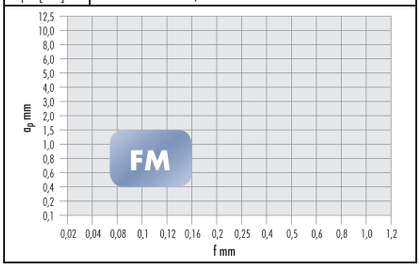


Chip breaker type FM (HC75..)

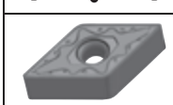
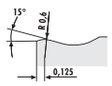
F finishing	M medium	R roughing	ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
●	-	-											
Finishing 	DNMG 110404-FM		○	●			○		HC 7510	10	**310253** 2324	10,–
				●			○		HC 7520	10	310253 2325	10,–

3108

ISO	HC 7510	HC 7520
ISO P steel	Vc = 140 - 320	
ISO M stainless steel	Vc = 175 - 270	Vc = 170 - 260
ISO S superalloys	Vc = 30 - 60	Vc = 20 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.12 ap = 0.2 - 1.0	

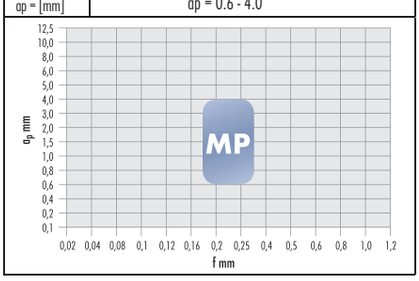


Chip breaker type MP

F finishing	M medium	R roughing	ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
-	●	-											
 Medium machining 	DNMG 110404-MP		●		○				HC 7620	10	**311255** 2312	10,50
			●						HC 7630	10	311255 2313	10,50
	DNMG 110408-MP		●		○				HC 7610	10	311255 2411	10,50
			●		○				HC 7620	10	311255 2412	10,50
			●						HC 7630	10	311255 2413	10,50
	DNMG 150604-MP		●		○				HC 7610	10	311255 3011	13,–
			●		○				HC 7620	10	311255 3012	13,–
			●						HC 7630	10	311255 3013	13,–
	DNMG 150608-MP		●		○				HC 7610	10	311255 3111	13,–
			●		○				HC 7620	10	311255 3112	13,–
			●						HC 7630	10	311255 3113	13,–

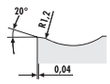
3108

ISO	HC 7610	HC 7620	HC 7630
ISO P steel	Vc = 140 - 340	Vc = 120 - 280	Vc = 80 - 220
ISO K cast iron	Vc = 180 - 290	Vc = 150 - 260	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.18 - 0.35 ap = 0.6 - 4.0		



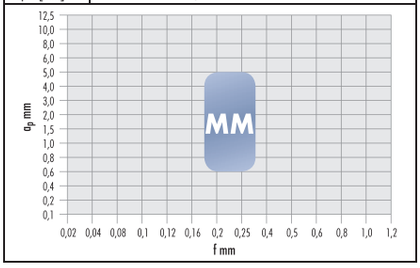
30 Drehen GB 2016.indb 98 26.07.16 12:10

Chip breaker type MM (HC75..)

F finishing -	M medium ●	R roughing -	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Medium machining 	DNMG 110404-MM		●		○			HC 7530	10	**310257** 2326	10,–
	DNMG 110408-MM		●		○			HC 7520	10	310257 2425	10,–
			●		○			HC 7530	10	310257 2426	10,–
	DNMG 150604-MM		●		○			HC 7520	10	310257 3025	13,–
			●		○			HC 7530	10	310257 3026	13,–
	DNMG 150608-MM		●		○			HC 7520	10	310257 3125	13,–

3108

ISO	HC 7520	HC 7530
ISO M stainless steel	Vc = 150 - 240	Vc = 130 - 200
ISO S superalloys	Vc = 30 - 60	Vc = 20 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.18 - 0.35 ap = 0.6 - 5.0	



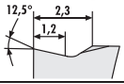
KNUX ISO indexable cutting inserts

30

- **55° rhombic, negative 0°**
- One-sided chip breaker design
- Secondary application in ISO K, ISO S

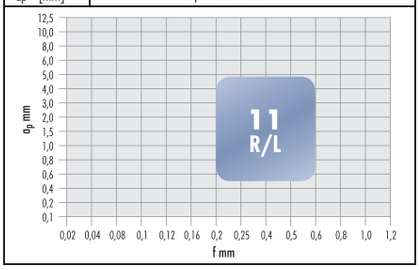
Chip breaker type 11

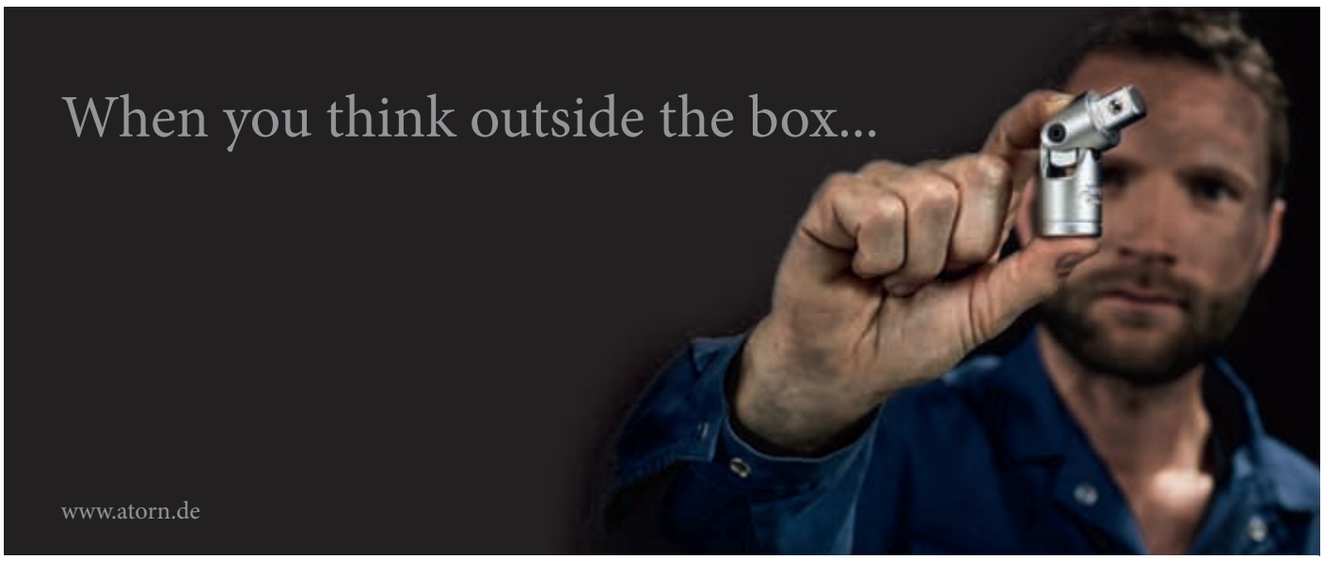
- **Note:**
- RH insert = right-hand tool holder or left-hand boring bar
- LH insert = left hand tool holder or right-hand boring bar

F finishing ●	M medium ●	R roughing -	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Finishing/medium machining 	KNUX 160405-R11		●	○					HC 6640	10	**337302** 8637	10,75
	KNUX 160405-L11		●	○					HC 6640	10	337302 8737	10,75
	KNUX 160410-R11		●	○					HC 6640	10	337302 8837	10,75
	KNUX 160410-L11		●	○					HC 6640	10	337302 8937	10,75

3108

ISO	HC 6640
ISO P steel	Vc = 80 - 240
ISO M stainless steel	Vc = 100 - 180
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.2 - 0.6 ap = 0.5 - 4.8





...new things are created.

ATORN®
High quality for great performance

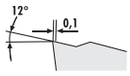
SCMT ISO indexable cutting inserts

• **90° square positive 7°**

Chip breaker type MP

F finishing	M medium	R roughing
-	●	-

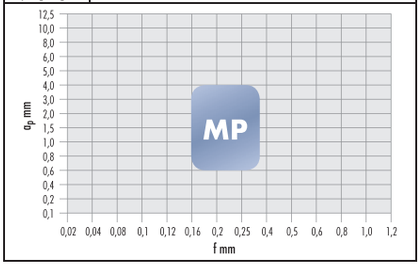
Medium machining



ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
SCMT 09T304-MP	●		○				**HC 7620**	10	**311401** 1212	7,70
	●		○				**HC 7630**	10	311401 1213	7,70
SCMT 09T308-MP	●		○				**HC 7620**	10	311401 1312	7,70
	●		○				**HC 7630**	10	311401 1313	7,70
SCMT 120404-MP	●		○				**HC 7620**	10	311401 2612	10,90
SCMT 120408-MP	●		○				**HC 7620**	10	311401 2712	10,90

3108

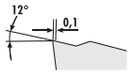
ISO	HC 7620	HC 7630
ISO P steel	Vc = 110 - 250	Vc = 80 - 220
ISO K cast iron	Vc = 140 - 240	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.35 ap = 0.1 - 3.0	



Chip breaker type MP, stainless steel

F finishing	M medium	R roughing
-	●	-

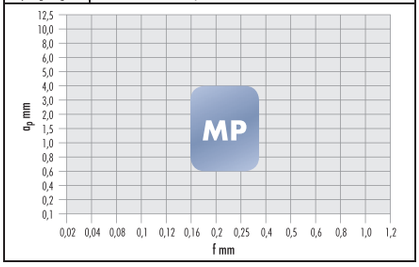
Medium machining



ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
SCMT 09T308-MP		●			○		**HC 7520**	10	**311401** 1322	8,–
SCMT 120408-MP		●			○		**HC 7520**	10	311401 2722	11,35

3108

ISO	HC 7520
ISO M stainless steel	Vc = 80 - 220
ISO S superalloys	Vc = 30 - 60
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.32 ap = 0.5 - 2.5



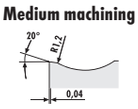
SNMG ISO indexable cutting inserts

• **90° square negative 0°**

Chip breaker type MM

F finishing	M medium	R roughing
-	●	-

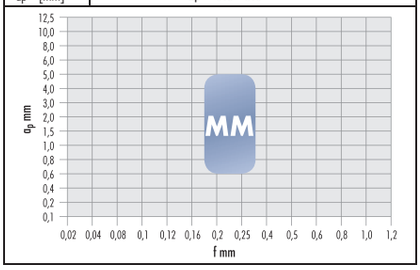
Medium machining



ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
SNMG 120408-MM		●			○		**HC 7520**	10	**310451** 2725	9,35
SNMG 120412-MM		●			○		**HC 7530**	10	310451 2826	9,35

3108

ISO	HC 7520	HC 7530
ISO M stainless steel	Vc = 150 - 240	Vc = 130 - 200
ISO S superalloys	Vc = 30 - 60	Vc = 20 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.15 - 0.25 ap = 0.8 - 3.0	



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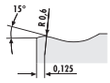
TCMT ISO indexable cutting inserts

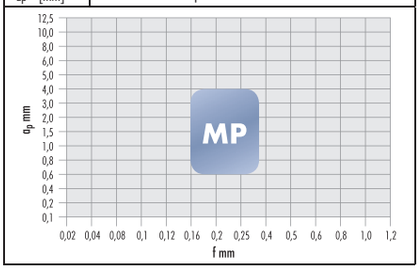
- **60° triangular, positive 7°**

Chip breaker type MP

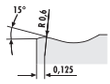
F finishing -	M medium ●	R roughing -	ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Medium machining 	TCMT 110204-MP			●		○				**HC 7610**	10	**311501** 1511	6,15
				●		○				**HC 7620**	10	311501 1512	6,15
				●						**HC 7630**	10	311501 1513	6,15
	TCMT 16T304-MP			●		○				**HC 7610**	10	311501 3411	8,95
				●		○				**HC 7620**	10	311501 3412	8,95
				●						**HC 7630**	10	311501 3413	8,95
	TCMT 16T308-MP			●		○				**HC 7610**	10	311501 3511	8,95
				●		○				**HC 7620**	10	311501 3512	8,95
				●						**HC 7630**	10	311501 3513	8,95

3108

ISO	HC 7610	HC 7620	HC 7630
ISO P steel	Vc = 110 - 250	Vc = 110 - 250	Vc = 110 - 250
ISO K cast iron	Vc = 140 - 240	Vc = 140 - 240	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.25 ap = 0.4 - 3.0		

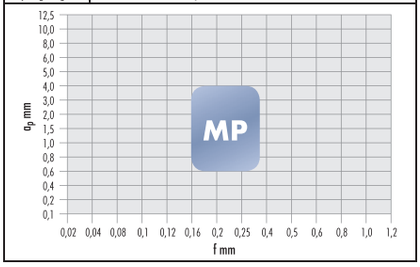


Chip breaker type MP, stainless steel

F finishing -	M medium ●	R roughing -	ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Medium machining 	TCMT 110204-MP				●			○		**HC 7520**	10	**310501** 1525	6,25
					●			○		**HC 7530**	10	310501 1526	6,25
	TCMT 16T304-MP				●			○		**HC 7520**	10	310501 3425	8,95
	TCMT 16T308-MP				●			○		**HC 7520**	10	310501 3525	8,95
					●			○		**HC 7530**	10	310501 3526	8,95

3108

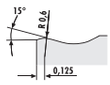
ISO	HC 7520	HC 7530
ISO M stainless steel	Vc = 80 - 210	Vc = 90 - 160
ISO S superalloys	Vc = 30 - 60	Vc = 20 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.25 ap = 0.4 - 3.0	



TNMG ISO indexable cutting inserts

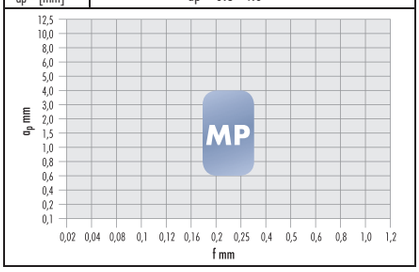
- **60° triangular, negative 0°**

Chip breaker type MP

F finishing -	M medium ●	R roughing -	ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Medium machining 	TNMG 160404-MP			●		○				**HC 7610**	10	**311555** 3711	8,20

3108

ISO	HC 7610
ISO P steel	Vc = 160 - 350
ISO K cast iron	Vc = 140 - 240
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.18 - 0.35 ap = 0.6 - 4.0



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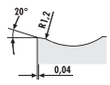
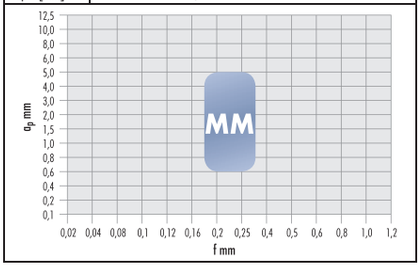
Chip breaker type MM (HC75..)

F finishing -	M medium ●	R roughing -	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Medium machining 	TNMG 160408-MM				●			○		HC 7520	10	**310557** 3825	8,20
					●			○		HC 7530	10	310557 3826	8,20

3108

ISO	HC 7520	HC 7530
ISO M stainless steel	Vc = 150 - 240	Vc = 130 - 200
ISO S superalloys	Vc = 30 - 60	Vc = 20 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.18 - 0.35 ap = 0.6 - 4.0	

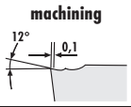


30

VBMT ISO indexable cutting inserts

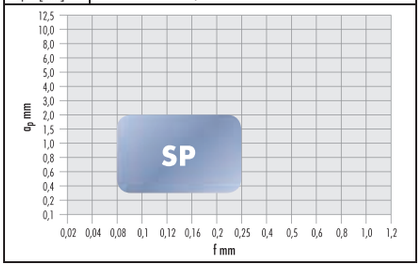
- **35° rhombic, positive 5°**
- Unit prices when purchased in packs = 10 units per size and quality

Chip breaker type SP

F finishing ●	M medium ●	R roughing -	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Finishing/medium machining 	VBMT 160404-SP			●		○				HC 7610	10	**311563** 3711	12,05
				●		○				HC 7620	10	311563 3712	12,05
	VBMT 160408-SP			●		○				HC 7610	10	311563 3811	12,05
				●		○				HC 7620	10	311563 3812	12,05
	VBMT 160412-SP			●		○				HC 7620	10	311563 3912	12,05

3108

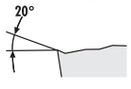
ISO	HC 7610	HC 7620
ISO P steel	Vc = 200 - 380	Vc = 140 - 320
ISO K cast iron	Vc = 180 - 280	Vc = 160 - 260
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.08 - 0.25 ap = 0.3 - 2.0	



VCMT ISO indexable cutting inserts

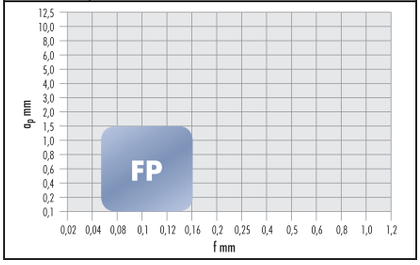
- **35° rhombic, positive 7°**
- Unit prices when purchased in packs = 10 units per size and quality

Chip breaker type FP

F finishing ●	M medium -	R roughing -	ATORN ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Finishing 	VCMT 110302-FP			●		○				HC 7610	10	**311601** 1611	10,40
				●		○				HC 7620	10	311601 1612	10,40
	VCMT 110304-FP			●		○				HC 7610	10	311601 1711	10,40
				●		○				HC 7620	10	311601 1712	10,40
	VCMT 160402-FP			●		○				HC 7610	10	311601 3611	12,05
				●		○				HC 7620	10	311601 3612	12,05
	VCMT 160404-FP			●		○				HC 7610	10	311601 3711	12,05
				●		○				HC 7620	10	311601 3712	12,05

3108

ISO	HC 7610	HC 7620
ISO P steel	Vc = 200 - 380	Vc = 140 - 320
ISO K cast iron	Vc = 180 - 280	Vc = 160 - 260
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.04 - 0.16 ap = 0.1 - 1.5	



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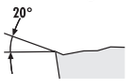
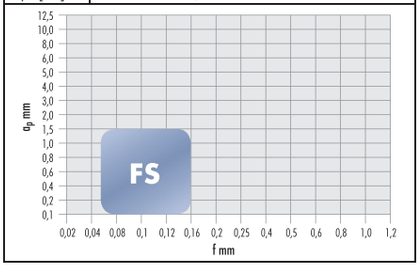
Chip breaker type FS

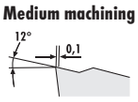
F finishiF finishing ●	M medium -	R roughing -	ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
Finishing 			VCMT 160404-FS		●			○		HC 7220	10 **311601** 3714	12,40

ISO	HC 7220
ISO M stainless steel	Vc = 120 - 190
ISO S superalloys	Vc = 30 - 60
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.16 ap = 0.1 - 1.5

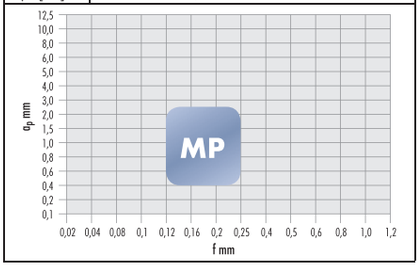


3108

Chip breaker type MP

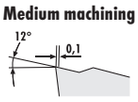
F finishing -	M medium ●	R roughing -	ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
Medium machining 	VCMT 110304-MP		●		○					HC 7610	10 **311603** 1711	10,40
			●		○					HC 7620	10 311603 1712	10,40
			●							HC 7630	10 311603 1713	10,40
	VCMT 110308-MP		●		○					HC 7610	10 311603 1811	10,40
			●		○					HC 7620	10 311603 1812	10,40
			●							HC 7630	10 311603 1813	10,40
	VCMT 160404-MP		●		○					HC 7610	10 311603 3711	12,05
			●		○					HC 7620	10 311603 3712	12,05
			●							HC 7630	10 311603 3713	12,05
	VCMT 160408-MP		●		○					HC 7610	10 311603 3811	12,05
			●		○					HC 7620	10 311603 3812	12,05
			●							HC 7630	10 311603 3813	12,05

ISO	HC 7610	HC 7620	HC 7630
ISO P steel	Vc = 160 - 340	Vc = 110 - 250	Vc = 80 - 220
ISO K cast iron	Vc = 180 - 280	Vc = 140 - 240	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.25 ap = 0.4 - 2.5		

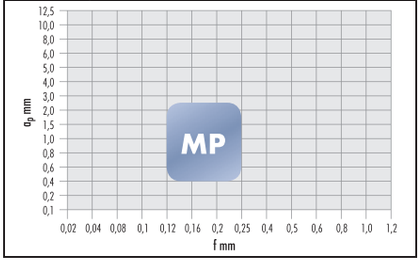


3108

Chip breaker type MP, stainless steel

F finishing -	M medium ●	R roughing -	ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
Medium machining 	VCMT 110304-MP				●			○		HC 7520	10 **310603** 1725	10,40
					●			○		HC 7530	10 310603 1726	10,40
	VCMT 110308-MP				●			○		HC 7520	10 310603 1825	10,40
	VCMT 160404-MP				●			○		HC 7520	10 310603 3725	12,15
					●			○		HC 7530	10 310603 3726	12,15
	VCMT 160408-MP				●			○		HC 7520	10 310603 3825	12,15
					●			○		HC 7530	10 310603 3826	12,15

ISO	HC 7520	HC 7530
ISO M stainless steel	Vc = 80 - 210	Vc = 90 - 160
ISO S superalloys	Vc = 30 - 60	Vc = 20 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.12 - 0.25 ap = 0.4 - 2.5	



3108

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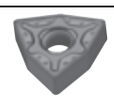
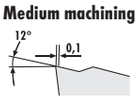
WNMG ISO indexable cutting inserts

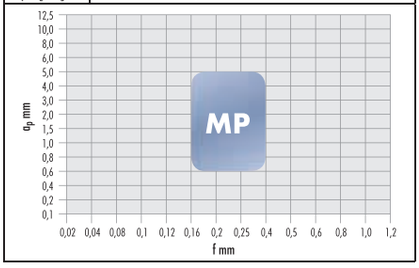
- **80° trigonometric, negative 0°**
- Unit prices when purchased in packs = 10 units per size and quality

Chip breaker type MP

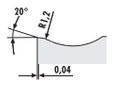
F finishing	M medium	R roughing	ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
-	●	-											
 Medium machining 	WNMG 060404-MP		●		○					**HC 7620**	10	**311755** 0312	8,25
	WNMG 060408-MP		●		○					**HC 7620**	10	311755 0412	8,25
	WNMG 080404-MP		●		○					**HC 7610**	10	311755 0811	10,40
			●		○					**HC 7620**	10	311755 0812	10,40
			●							**HC 7630**	10	311755 0813	10,40
	WNMG 080408-MP		●		○					**HC 7610**	10	311755 0911	10,40
			●		○					**HC 7620**	10	311755 0912	10,40
			●							**HC 7630**	10	311755 0913	10,40
	WNMG 080412-MP		●		○					**HC 7620**	10	311755 1012	10,40

3108

ISO	HC 7610	HC 7620	HC 7630
ISO P steel	Vc = 160 - 350	Vc = 120 - 280	Vc = 80 - 220
ISO K cast iron	Vc = 140 - 240	Vc = 170 - 290	
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.18 - 0.4 ap = 0.6 - 5.0		

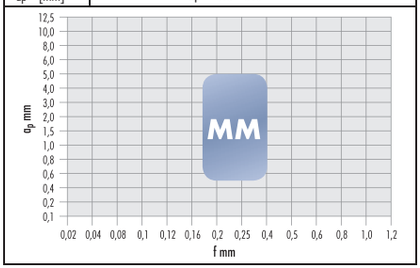


Chip breaker type MM (HC75..)

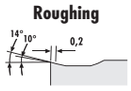
F finishing	M medium	R roughing	ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
-	●	-											
Medium machining 	WNMG 060404-FM		●			○				**HC 7530**	10	**310757** 0326	8,60
	WNMG 080408-MM		●			○				**HC 7520**	10	310757 0925	10,40
			●			○				**HC 7530**	10	310757 0926	10,40

3108

ISO	HC 7520	HC 7530
ISO M stainless steel	Vc = 150 - 240	Vc = 130 - 200
ISO S superalloys	Vc = 30 - 60	Vc = 20 - 50
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.18 - 0.40 ap = 0.5 - 5.0	

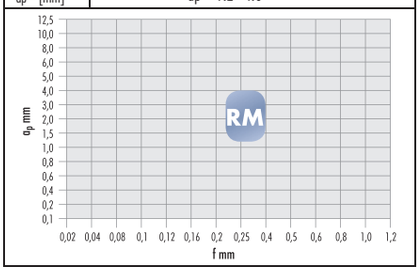


Chip breaker type RM (HC75..)

F finishing	M medium	R roughing	ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
-	-	●											
Roughing 	WNMG 080408-RM		●			○				**HC 7520**	10	**310761** 0925	10,40

3108

ISO	HC 7520
ISO M stainless steel	Vc = 110 - 200
ISO S superalloys	Vc = 30 - 60
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.22 - 0.40 ap = 1.2 - 4.0



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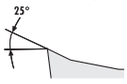
ISO indexable cutting inserts, chip breaker *MN*

- For machining aluminium, also suitable for plastics and non-ferrous metals
- **HW 6310** uncoated
- **HC 6310, TiN**-coated, also suitable for finishing **stainless steel** (**austenitic, quenched**);

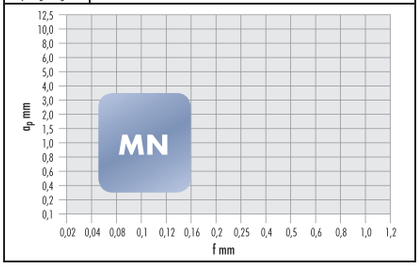
Especially for machining aluminium

CCGT 80° rhombic, positive 7°, chip breaker type MN

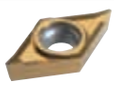
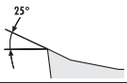
F finishinF finishing ●	M medium ●	R roughing -	ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Finishing/medium machining 	CCGT 060202-MN			○			●			**HC 6310**	10	**310901** 0141	10,30
	CCGT 060204-MN			○			●			**HC 6310**	10	310901 0241	10,30
	CCGT 09T302-MN			○			●			**HC 6310**	10	310901 1141	10,90
	CCGT 09T304-MN			○			●			**HC 6310**	10	310901 1241	10,90
	CCGT 09T308-MN			○			●			**HC 6310**	10	310901 1341	10,90
	CCGT 120402-MN			○			●			**HC 6310**	10	310901 2541	12,40
	CCGT 120404-MN			○			●			**HC 6310**	10	310901 2641	12,40
	CCGT 120408-MN			○			●			**HC 6310**	10	310901 2741	12,40

3108

ISO	HC 6310
ISO M stainless steel	Vc = 120 - 200
ISO N Al/non-ferrous	Vc = 160 - 1000
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.16 ap = 0.3 - 2.0

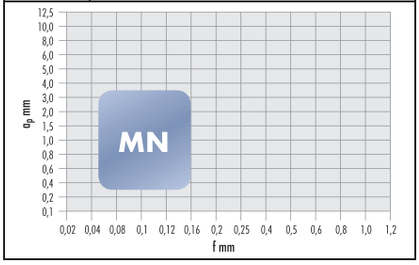


DCGT 55° rhombic, positive 7°, chip breaker type MN

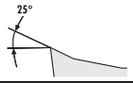
F finishing ●	M medium ●	R roughing -	ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
 Finishing/medium machining 	DCGT 070202-MN			○			●			**HC 6310**	10	**310903** 0541	9,65
	DCGT 070204-MN			○			●			**HC 6310**	10	310903 0641	9,65
	DCGT 11T302-MN			○			●			**HC 6310**	10	310903 1941	11,65
	DCGT 11T304-MN			○			●			**HC 6310**	10	310903 2041	11,65
	DCGT 11T308-MN			○			●			**HC 6310**	10	310903 2141	11,65

3108

ISO	HC 6310
ISO M stainless steel	Vc = 120 - 200
ISO N Al/non-ferrous	Vc = 160 - 1000
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.16 ap = 0.3 - 3.5

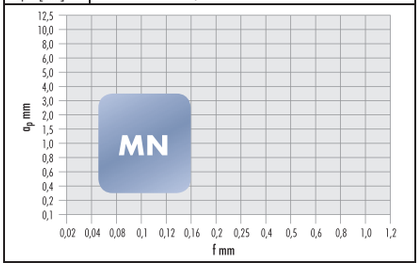


SCGT 90° square, positive 7°, chip breaker type MN

F finishing ●	M medium ●	R roughing -	ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality		art.no.	€
Finishing/medium machining 	SCGT 09T308-MN			○			●			**HC 6310**	10	**310351** 1341	11,–

3108

ISO	HC 6310
ISO M stainless steel	Vc = 120 - 200
ISO N Al/non-ferrous	Vc = 160 - 1000
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.16 ap = 0.3 - 2.0



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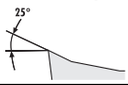
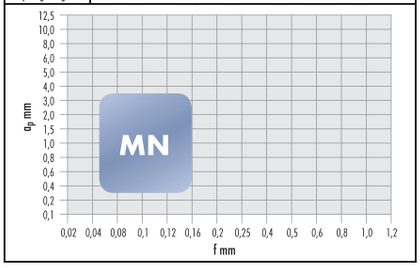
TCGT 60° triangular, positive 7°, chip breaker type MN

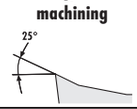
F finishing ●	M medium ●	R roughing -	ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
Finishing/medium machining 			TCGT 110204-MN		○		●			**HC 6310**	10 **310907** 1541	11,25

3108

ISO	HC 6310
ISO M stainless steel	Vc = 120 - 200
ISO N Al/non-ferrous	Vc = 160 - 1000
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.16 ap = 0.3 - 3.0

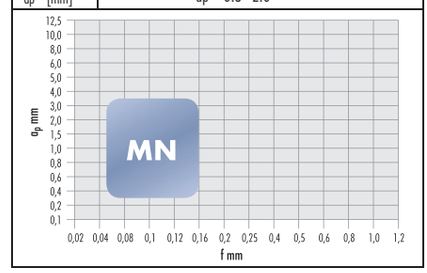


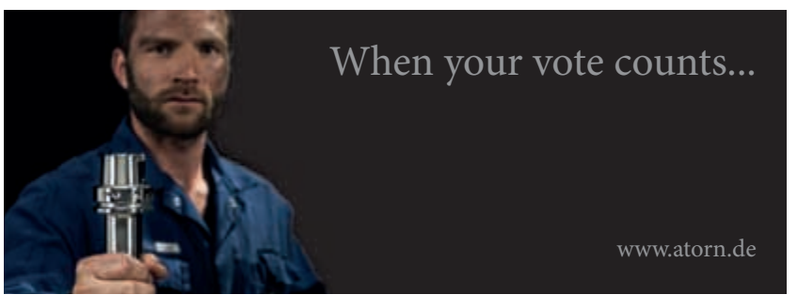
VCGT 35° rhombic, positive 7°, chip breaker type MN

F finishing ●	M medium ●	R roughing -	ATORN® ISO designation	ISO P	ISO M	ISO K	ISO N	ISO S	ISO H	Quality	art.no.	€
Finishing/medium machining 			VCGT 110302-MN		○		●			**HC 6310**	10 **310909** 1641	13,85
			VCGT 110304-MN		○		●			**HC 6310**	10 310909 1741	13,85
			VCGT 160404-MN		○		●			**HC 6310**	10 310909 3741	15,40
			VCGT 160408-MN		○		●			**HC 6310**	10 310909 3841	15,40

3108

ISO	HC 6310
ISO M stainless steel	Vc = 120 - 200
ISO N Al/non-ferrous	Vc = 160 - 1000
Vc = [m/min] f = [mm/U] ap = [mm]	f = 0.05 - 0.16 ap = 0.3 - 2.0





...suggestions are heard.

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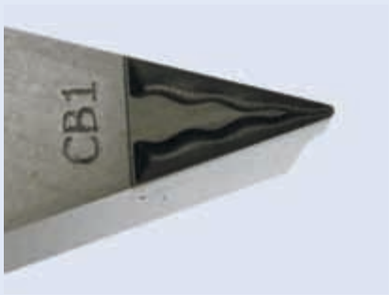
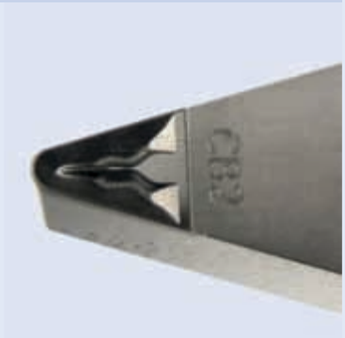
Safety in the workplace

Please protect your eyes, ears and respiratory system!

Comparison of diamond cutting materials

INFO





Becker designation	ISO designation	Properties	Materials
MDC	**DM**	Solid monocrystalline diamond without structure. Absolute cutting sharpness and nick-free cutting edges, therefore practically no cutting pressure (bur-free) and adherence to very narrow tolerances ± 0.001 mm. Absolute wear resistance and maximum 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 polycrystalline CVD diamond with no binder or carbide base. Perfect cutting edge sharpness and nick-free edges. No cutting pressure and adherence to the narrowest tolerances. Maximum wear resistance and very high thermal conductivity (HSC and HPC), increased toughness.	Super-finishing to semi-finishing of all non-ferrous metals and non-ferrous composites with high percentages of abrasive fillers. Maximum service life with GRP (80% glass) and CFP.
PDC	**DP Composite**	Polycrystalline diamond (composite cutting material) with carbide base, fine grain, good cutting edge sharpness and low cutting pressure with narrow tolerances. Lower wear resistance with increased toughness.	Fine finishing and finishing of all non-ferrous metals and non-ferrous materials with a low percentage of or no abrasive fillers.
PDC-S	**DP Composite**	Polycrystalline diamond (composite cutting material) with carbide base, coarse grain, good cutting edge sharpness and low cutting pressure with narrow tolerances, very well suited for milling tools. Lower wear resistance with increased toughness.	Fine finishing, finishing and milling of all non-ferrous metals and non-ferrous materials with low to high percentages of abrasive fillers.
PDC-CU-S	**DP Composite**	Solid polycrystalline diamond (composite cutting material) with carbide base, coarse grain, good cutting edge sharpness and low cutting pressure with narrow tolerances, very well suited for milling tools with high cutting depths. Very high wear resistance with increased toughness because of very high diamond volumes.	Fine finishing, finishing and milling of all non-ferrous metals and non-ferrous materials with very high percentages of abrasive fillers. Maximum material removal rates with CFP and GRP.

CB 1
- Positive geometry for finish and super-finish
- machining, ap from 0.05 mm to 1.5 mm Suitable for the narrowest tolerances with the lowest cutting pressure.
- For use with thin-walled and unstable workpieces.

CB 2
- Slightly negative geometry for semi-finishing, finishing and super-finishing machining,
- ap from 0.5 mm to 2 mm. Increased cutting pressure ensures improved surface finish quality at the narrowest tolerances.
- For use with thick-walled and solid parts under stable conditions.

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Overview of hard cutting materials

INFO

PBC-10S		PBC-26S		PBC-40S	
Maximum cutting speed when turning GG25		**Best surfaces with smooth cut, hardness 45-62 HRC**		**Maximum service life with interrupted cut, hardness 48-65 HRC**	
Example	Drive wheel GG25 diameter 480 mm	Example	Drive shaft HRC 60 substance 1.2332 - 47CrMo4	Example	Gear HRC 58 substance 1.2523 - 19Mn-cr5
Turning insert	DCGW11T308-D-10S-2MC	Turning insert	CNGA120408-E-25S-4SC	Turning insert	CNGA120408-G-40S-45C
Super-finish	v_c = 1430 m/min. a_p = 0.3 - 0.5 mm f = 0.20 mm	Super-finish	v_c = 180 m/min. a_p = 0.25 mm f = 0.08 mm	Super-finish	v_c = 230 m/min. a_p = 0.22 mm f = 0.16 mm
Service life	250 parts	Surface quality	R 0.18 µm	Surface quality	R 0.40 µm
For comparison	Coated HM turning insert, v_c = 300 m/min., 26 parts	Service life	Turning length = 3,218 m	Service life	Turning length = 4,280 m

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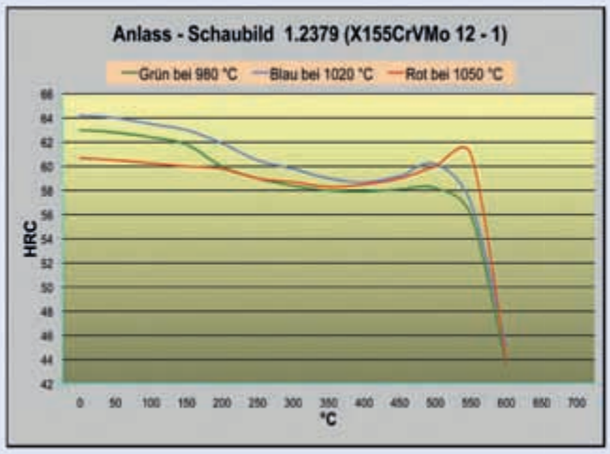
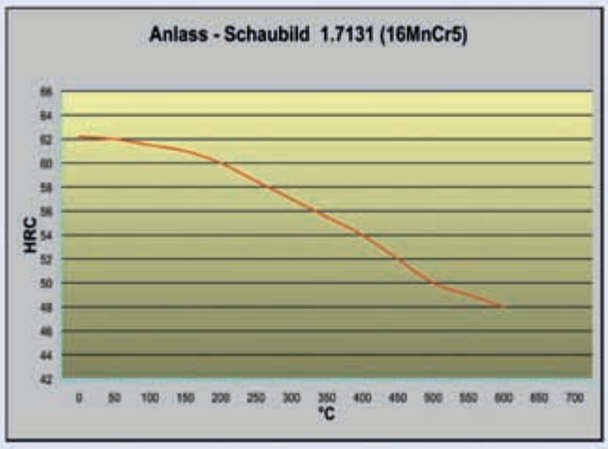
In order to use the extremely high capacity of various PcBN cutting materials effectively with various applications, the following explanations and notes are important:

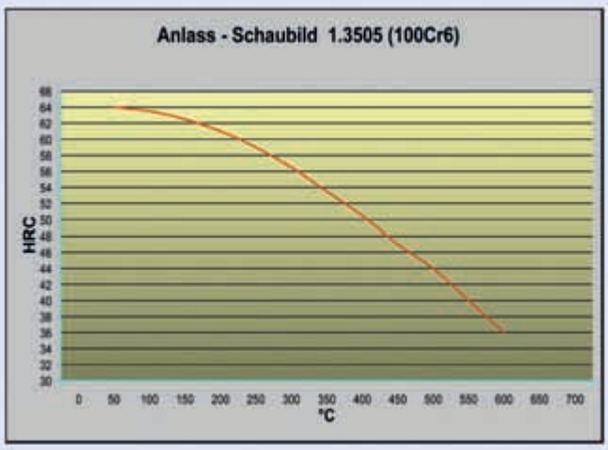
Hard machining with PcBN

The term hard cutting is generally used for cutting hardened steel. This cutting mechanism is a self-induced heat cutting process. A defined high temperature of approx. 550 to 750°C is required in the shear zone. This essential temperature is generated by converting the energy present into heat. This energy is available in the form of cutting speed Vc, feed f, cutting depth ap and chamfer geometries A-H of the PcBN blades. Cooling is not generally required.

The adjacent tempering diagrams show the decrease in hardness with increasing temperature. However, significant variations come about here.
In the case of self-induced heat cutting with PcBN varieties, the ideal hardness in the shear zone is 40 to 45 HRC. This means that different machining temperatures between 550 and 750°C are required.







At approx. 600°C, 1.2379 steel still has a hardness of approx. 58 HRC, for 1.7131 steel this is approx. 48 HRC, while1.3505 steel only achieves around 36 HRC, with an original hardness of about 62 HRC in each case.

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In order to generate and maintain the ideal machining temperature in the shear zone, the peculiarities of self-induced heat cutting must be strictly observed:

- the shear conductivity of the variety of PcBN used (55%-65% CBN)
- the chamfer geometry A-H used or the positive machining geometry
- the tempering diagrams (hardness diagram with increasing temperature)

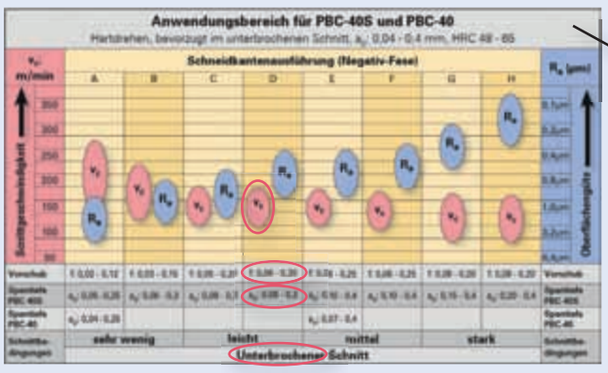
In selecting the cutting material for the intended application, a checklist must be drawn up that always covers the following points:

- Specification of the type of steel and its hardness in HRC
- Specification of the surface quality Ra required in µm and the cutting depth
- Differentiation between a smooth, slightly interrupted or very interrupted cut

The appropriate cutting material can then be selected using the type description.

Becker-Bezeichnung	ISO-Bezeichnung	Eigenschaften	Werkstoffe
PBC-25S	BL-C	Beschichtete PcBN-Sorte mit niedrigem CBN-Gehalt (65%) in Sandwich- und Normalausführung, Feinkorn (1-2 µm m) ideal für das Hartdrehen im glatten Schnitt	Hartzerspanung, trocken + nass HRC 48 - 62 a_p = 0,02 - 0,4 mm R_a = 0,2 - 3,2µm m
PBC-40S 1. Selection	BL-C	Beschichtete PcBN-Sorte mit niedrigem CBN-Gehalt (55%) in Sandwich- und Normalausführung, Superfeinkorn (0,7½ µm m) Sorte für leicht bis stark unterbrochenen Schnitt	Hartzerspanung, trocken + nass HRC 48-65 a_p = 0,05 - 0,4 mm R_a = 0,1 - 3,2µm m

Using the diagrams on the following pages, the chamfer geometry appropriate for the surface quality required can be selected.



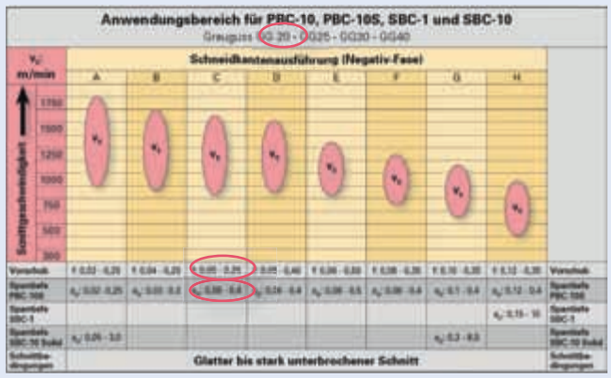
Example:

100Cr6 - HRC 62
ap = 0.25 mm, f = 0.1 mm/rev
Interrupted cut
Required Ra = 0.6 µm

PBC-40S cutting material
Chamfer "D" at vc 160 m/min
WSP=CNGA120408-D-40S-4SC

Soft machining with PcBN

Soft machining is the term used for machining all materials in their original hardness, without using a hardening process or similar.
The result is that no structural transformation has taken place. Nevertheless, it is essential to consider that there are materials (e.g. superalloys, titanium) which require a very high cutting temperature of 700 to 1,110°C, which can only be generated with PcBN as the cutting material.



The following pages show various areas of application, each with a corresponding diagram. On the left are the recommended cutting speeds, and the respective feed rates and cutting depths are given on the bottom rows.

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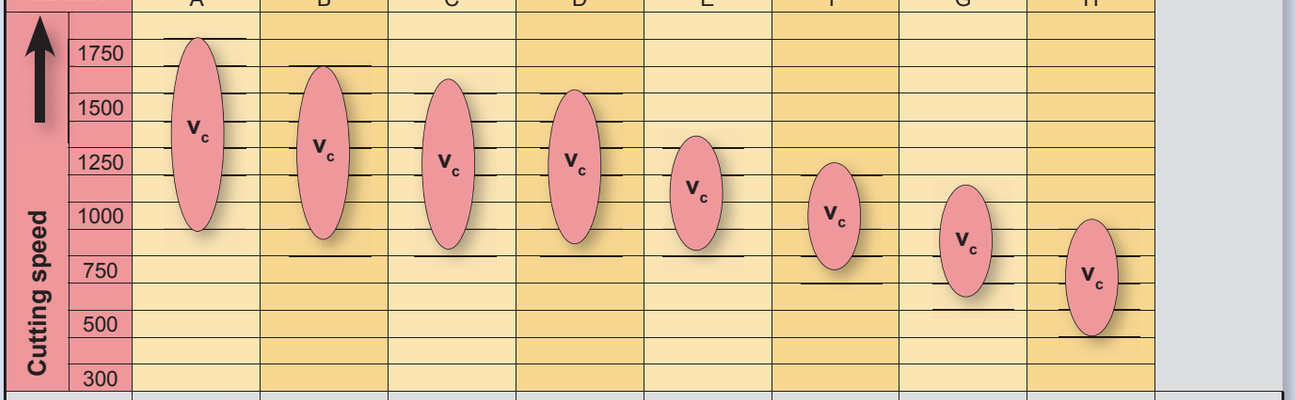
Area of application for PBC-10, PBC-10S, SBC-1 and SBC-10

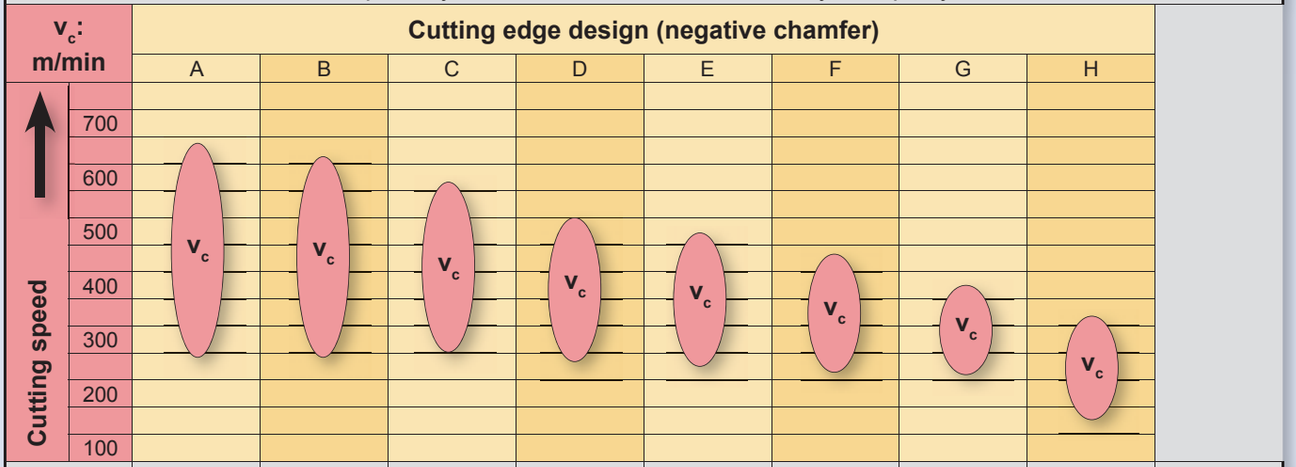
Grey cast iron GG20 - GG25 - GG30 - GG40



	A	B	C	D	E	F	G	H	
Feed	f: 0.02 - 0.25	f: 0.04 - 0.25	f: 0.05 - 0.25	f: 0.05 - 0.40	f: 0.06 - 0.50	f: 0.08 - 0.35	f: 0.10 - 0.35	f: 0.12 - 0.35	**Feed**
Cutting depth PBC-10S	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 PBC-10S**
Cutting depth SBC-1								a_p: 0.15 - 10	**Cutting depth SBC-1**
Cutting depth SBC-10 solid	a_p: 0.05 - 3.0						a_p: 0.3 - 8.0		**Cutting depth SBC-10 solid**
Cutting conditions	**Smooth to significantly interrupted cut**								**Cutting conditions**

Area of application for PBC-10, PBC-10S and SBC-10

Superalloys: Inconel 718, Nimonic, Hastelloy, Waspaloy



	A	B	C	D	E	F	G	H	
Feed	f: 0.02 - 0.25	f: 0.04 - 0.25	f: 0.05 - 0.25	f: 0.05 - 0.40	f: 0.06 - 0.50	f: 0.08 - 0.35	f: 0.10 - 0.35	f: 0.12 - 0.35	**Feed**
Cutting depth PBC-10S	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 PBC-10S**
Cutting depth SBC-10	a_p: 0.02 - 0.3						a_p: 0.05 - 0.4		**Cutting depth SBC-10**
Cutting conditions	**Smooth to moderately interrupted cut**								**Cutting conditions**

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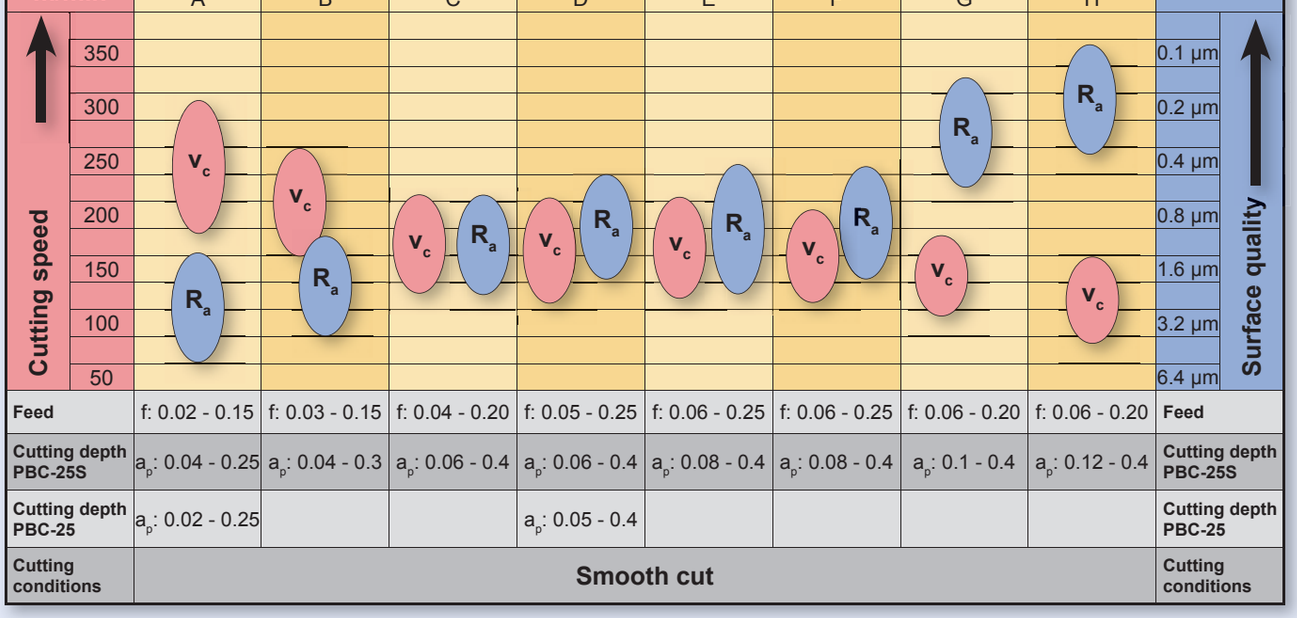
Area of application for PBC-25S and PBC-25

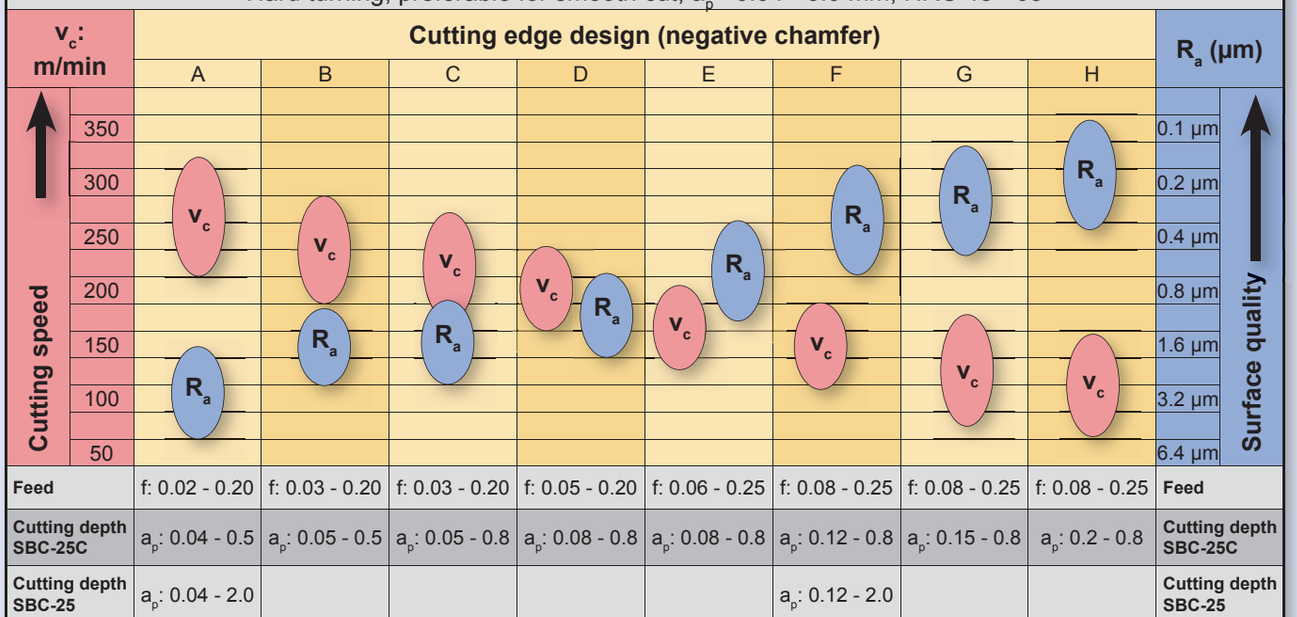
Hard turning, preferable for smooth cut, a_p = 0.02 - 0.4 mm, HRC 48 - 65



	A	B	C	D	E	F	G	H	
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 PBC-25S	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 PBC-25S
Cutting depth PBC-25	a_p: 0.02 - 0.25			a_p: 0.05 - 0.4					Cutting depth PBC-25
Cutting conditions	Smooth cut								Cutting conditions

Area of application for SBC-25C and SBC-25

Hard turning, preferable for smooth cut, a_p = 0.04 - 6.0 mm, HRC 48 - 65



	A	B	C	D	E	F	G	H	
Feed	f: 0.02 - 0.20	f: 0.03 - 0.20	f: 0.03 - 0.20	f: 0.05 - 0.20	f: 0.06 - 0.25	f: 0.08 - 0.25	f: 0.08 - 0.25	f: 0.08 - 0.25	Feed
Cutting depth SBC-25C	a_p: 0.04 - 0.5	a_p: 0.05 - 0.5	a_p: 0.05 - 0.8	a_p: 0.08 - 0.8	a_p: 0.08 - 0.8	a_p: 0.12 - 0.8	a_p: 0.15 - 0.8	a_p: 0.2 - 0.8	Cutting depth SBC-25C
Cutting depth SBC-25	a_p: 0.04 - 2.0					a_p: 0.12 - 2.0			Cutting depth SBC-25
Cutting depth SBC-25 solid						a_p: 0.25 - 6.0			Cutting depth SBC-25 solid
Cutting conditions	Smooth cut								Cutting conditions

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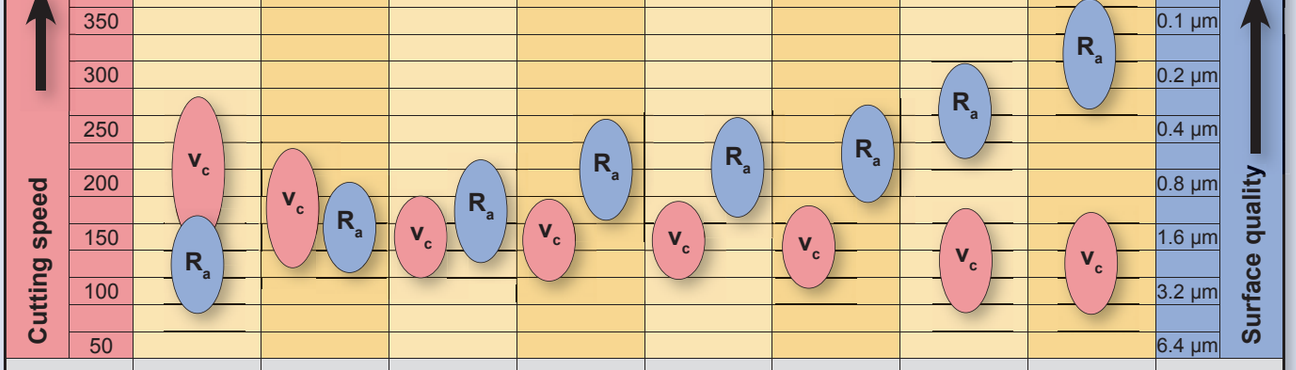
Area of application for PBC-40S and PBC-40

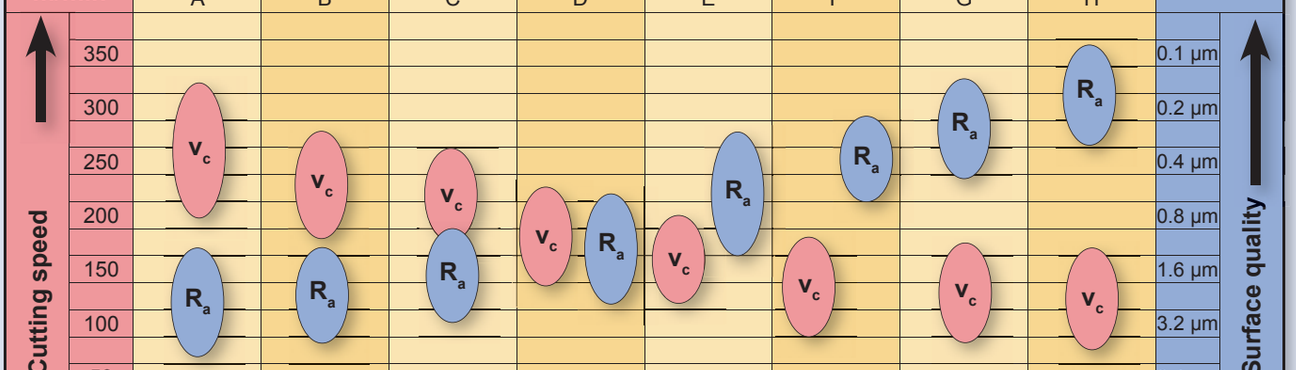
Hard turning, preferable in interrupted cut, a_p: 0.04 - 0.4 mm, HRC 48 - 65



v_c: m/min	Cutting edge design (negative chamfer)								R_a (µm)
	A	B	C	D	E	F	G	H	
Feed	f: 0.02 - 0.12	f: 0.03 - 0.15	f: 0.05 - 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 PBC-40S	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 PBC-40S
Cutting depth PBC-40	a_p: 0.04 - 0.25				a_p: 0.07 - 0.4				Cutting depth PBC-40
Cutting conditions	Very little		Slight		Medium		Significant		Cutting conditions
	Interrupted cut								

Area of application for SBC-40C and SBC-40

Hard turning, preferable in interrupted cut, a_p = 0.05 - 6.0 mm, HRC 48 - 65



v_c: m/min	Cutting edge design (negative chamfer)								R_a (µm)
	A	B	C	D	E	F	G	H	
Feed	f: 0.02 - 0.20	f: 0.03 - 0.20	f: 0.03 - 0.20	f: 0.05 - 0.25	f: 0.06 - 0.25	f: 0.06 - 0.25	f: 0.06 - 0.25	f: 0.06 - 0.25	Feed
Cutting depth SBC-40C	a_p: 0.05 - 0.5	a_p: 0.05 - 0.5	a_p: 0.05 - 0.8	a_p: 0.08 - 0.8	a_p: 0.10 - 0.8	a_p: 0.12 - 0.8	a_p: 0.15 - 0.8	a_p: 0.20 - 0.8	Cutting depth SBC-40C
Cutting depth SBC-40	a_p: 0.05 - 2.0						a_p: 0.12 - 2.0		Cutting depth SBC-40
Cutting depth SBC-40 solid							a_p: 0.25 - 6.0		Cutting depth SBC-40 solid
Cutting conditions	Very little		Slight		Medium		Significant		Cutting conditions
	Interrupted cut								

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CBN ISO indexable cutting inserts

- **Designation:** PBC-10S **ISO**: BH-C
  Properties: coated sandwich-type PcBN grade with very high CBN content (95%). Fine grain, higher wear resistance and similar toughness as PBC-10 in the HSC range.
  Materials/machining: Grey cast iron (GJL-25), sintered steel, superalloys; wet and dry machining possible.
  Caution: No mixing conditions for cooling!

- **Designation:** SBC-25C **ISO**: BL-C
  Properties: coated PcBN grade with low CBN content (65 %). Fine grain with very high wear resistance, compressive strength and toughness in hard turning applications at cutting depths from 0.05 to 6.0 mm, wet and dry machining possible.
  Materials/machining: Hard turning, HRc 48 - 65 for Ra 0.2 to 3.2 with ap 0.05 - 0.8 mm.
  Caution: No mixing conditions for cooling!

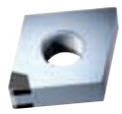
- **Designation:** SBC-40C **ISO**: BL-C
  Properties: coated PcBN grade with low CBN content (65 %). Superfine grain with extremely high wear resistance, compressive strength and toughness in hard turning applications at cutting depths from 0.05 to 0.8 mm with slightly to extremely interrupted cuts.
  Materials/machining: Hard turning, HRc 48 - 65 for Ra 0.1 to 3.2 with ap 0.05 - 0.8 mm.
  Caution: No mixing conditions for cooling!

- **Different blade designs (micro cutting edge geometry)**
  PBC-10S
  Version B, sharp cutting edge only for smooth cut with high cutting parameters GG 25 Vc 900-1800 m/min sintered steel Vc 250-500 m/min
  Version E, chamfered cutting edge for smooth to lightly interrupted cut GG 25 Vc 800-1300m/min sintered steel Vc 220-500m/min
  Version E, chamfered cutting edge for lightly to heavily interrupted cut GG 25 Vc 400-900m/min sintered steel Vc 140-500m/min

  SBC-25C
  Version A, sharp cutting edge for smooth cut with highest cutting parameters Vc 200-320m/min for Ra 2.0-6.0 µm
  Version E, chamfered cutting edge for smooth to lightly interrupted cut Vc 140-220m/min for Ra 0.8-1.6 µm
  Version G, chamfered cutting edge for lightly to heavily interrupted cut Vc 100-190m/min at Ra approx. 0.2-0.4 µm

  SBC-40C
  Version A, sharp cutting edge for extremely light interrupted cut with highest cutting parameters Vc 200-310m/min for Ra 1.6-6.0 µm
  Version D, chamfered cutting edge for slightly interrupted cuts Vc 150-230 m/min at Ra 0.6-3.2 µm
  Version F, chamfered cutting edge for medium to heavily interrupted cut Vc 100-1800m/min at Ra 0.2-0.6 µm

- All figures show inserts uncoated for a better illustration!



CNGA-SC

ISO designation	PBC-10S B art.no.	€	PBC-10S E art.no.	€	PBC-10S G art.no.	€
CNGA 120404-2SC	**384001** 0001	35,–	**384002** 0001	35,–	**384003** 0001	35,–
CNGA 120408-2SC	384001 0002	35,–	384002 0002	35,–	384003 0002	35,–
CNGA 120412-2SC	384001 0003	35,–	384002 0003	35,–	384003 0003	35,–
	3128		3128		3128	

CNGA-MC/S

ISO designation	SBC-25C A art.no.	€	SBC-25C E art.no.	€	SBC-25C G art.no.	€	SBC-40C A art.no.	€	SBC-40C D art.no.	€	SBC-40C F art.no.	€
CNGA 120404-2MC/S	**384004** 0001	58,50	**384005** 0001	58,50	**384006** 0001	58,50	**384007** 0001	58,50	**384008** 0001	58,50	**384009** 0001	58,50
CNGA 120408-2MC/S	384004 0002	58,50	384005 0002	58,50	384006 0002	58,50	384007 0002	58,50	384008 0002	58,50	384009 0002	58,50
	3128		3128		3128		3128		3128		3128	

CNGA-SC wiper

ISO designation	PBC-10S B art.no.	€	PBC-10S E art.no.	€	PBC-10S G art.no.	€
CNGA 120404-W-2SC	**384011** 0001	35,–	**384012** 0001	35,–	**384013** 0001	35,–
CNGA 120408-W-2SC	384011 0002	35,–	384012 0002	35,–	384013 0002	35,–
	3128		3128		3128	

CNGA-MC/S wiper

ISO designation	SBC-25C A art.no.	€	SBC-25C E art.no.	€	SBC-25C G art.no.	€	SBC-40C A art.no.	€	SBC-40C D art.no.	€	SBC-40C F art.no.	€
CNGA 120404-W-2MC/S	**384014** 0001	58,50	**384015** 0001	58,50	**384016** 0001	58,50	**384017** 0001	58,50	**384018** 0001	58,50	**384019** 0001	58,50
CNGA 120408-W-2MC/S	384014 0002	58,50	384015 0002	58,50	384016 0002	58,50	384017 0002	58,50	384018 0002	58,50	384019 0002	58,50
	3128		3128		3128		3128		3128		3128	

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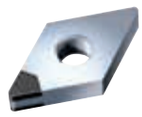

DNGA SC

ISO designation	PBC-10S B art.no.	€	PBC-10S E art.no.	€	PBC-10S G art.no.	€
DNGA 150604-2SC	**384021** 0001	35,–	**384022** 0001	35,–	**384023** 0001	35,–
DNGA 150608-2SC	384021 0002	35,–	384022 0002	35,–	384023 0002	35,–
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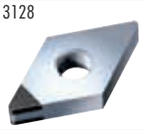


DNGA-MC/S

ISO designation	SBC-25C A art.no.	€	SBC-25C E art.no.	€	SBC-25C G art.no.	€	SBC-40C A art.no.	€	SBC-40C D art.no.	€	SBC-40C F art.no.	€
DNGA 150604-2MC/S	**384024** 0001	58,50	**384025** 0001	58,50	**384026** 0001	58,50	**384027** 0001	58,50	**384028** 0001	58,50	**384029** 0001	58,50
DNGA 150608-2MC/S	384024 0002	58,50	384025 0002	58,50	384026 0002	58,50	384027 0002	58,50	384028 0002	58,50	384029 0002	58,50
	3128		3128		3128		3128		3128		3128	

TNGA-SC

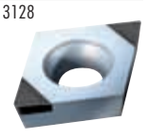
ISO designation	PBC-10S B art.no.	€	PBC-10S E art.no.	€	PBC-10S G art.no.	€
TNGA 160404-6SC	**384031** 0001	92,50	**384032** 0001	92,50	**384033** 0001	92,50
TNGA 160408-6SC	384031 0002	92,50	384032 0002	92,50	384033 0002	92,50
	3128		3128		3128	

TNGA-MC/S

ISO designation	SBC-25C A art.no.	€	SBC-25C E art.no.	€	SBC-25C G art.no.	€	SBC-40C A art.no.	€	SBC-40C D art.no.	€	SBC-40C F art.no.	€
TNGA 160404-6MC/S			**384035** 0001	139,–	**384036** 0001	139,–	**384037** 0001	139,–	**384038** 0001	139,–	**384039** 0001	139,–
TNGA 160408-6MC/S	**384034** 0002	139,–	384035 0002	139,–	384036 0002	139,–	384037 0002	139,–	384038 0002	139,–	384039 0002	139,–
	3128		3128		3128		3128		3128		3128	

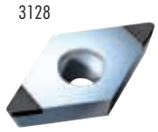
VNGA-SC

ISO designation	PBC-10S B art.no.	€	PBC-10S E art.no.	€	PBC-10S G art.no.	€
VNGA 160404-4SC	**384041** 0001	63,–	**384042** 0001	63,–	**384043** 0001	63,–
VNGA 160408-4SC	384041 0002	63,–	384042 0002	63,–	384043 0002	63,–
	3128		3128		3128	



CCGW-MC/S

ISO designation	SBC-25C A art.no.	€	SBC-25C E art.no.	€	SBC-25C G art.no.	€	SBC-40C A art.no.	€	SBC-40C D art.no.	€	SBC-40C F art.no.	€
CCGW 060202-2MC/S	**384054** 0001	58,50	**384055** 0001	58,50	**384056** 0001	58,50	**384057** 0001	58,50	**384058** 0001	58,50	**384059** 0001	58,50
CCGW 060204-2MC/S	384054 0002	58,50	384055 0002	58,50	384056 0002	58,50	384057 0002	58,50	384058 0002	58,50	384059 0002	**58,50**
CCGW 09T302-2MC/S	384054 0003	58,50	384055 0003	58,50	384056 0003	58,50	384057 0003	58,50	384058 0003	58,50	384059 0003	58,50
CCGW 09T304-2MC/S	384054 0004	58,50	384055 0004	58,50	384056 0004	58,50	384057 0004	58,50	384058 0004	58,50	384059 0004	**58,50**
CCGW 09T308-2MC/S	384054 0005	58,50	384055 0005	58,50	384056 0005	58,50	384057 0005	58,50	384058 0005	58,50	384059 0005	58,50
	3128		3128		3128		3128		3128		3128	



DCGW-MC/S

ISO designation	SBC-25C A art.no.	€	SBC-25C E art.no.	€	SBC-25C G art.no.	€	SBC-40C A art.no.	€	SBC-40C D art.no.	€	SBC-40C F art.no.	€
DCGW 070202-2MC/S	**384064** 0001	58,50	**384065** 0001	58,50	**384066** 0001	58,50	**384067** 0001	**58,50**	**384068** 0001	58,50	**384069** 0001	58,50
DCGW 070204-2MC/S	384064 0002	58,50	384065 0002	58,50	384066 0002	58,50	384067 0002	58,50	384068 0002	58,50	384069 0002	58,50
DCGW 11T302-2MC/S	384064 0003	**58,50**	384065 0003	58,50	384066 0003	58,50	384067 0003	58,50	384068 0003	58,50	384069 0003	58,50
DCGW 11T304-2MC/S	384064 0004	58,50	384065 0004	**58,50**	384066 0004	58,50	384067 0004	58,50	384068 0004	**58,50**	384069 0004	**58,50**
DCGW 11T308-2MC/S	384064 0005	58,50	384065 0005	58,50	384066 0005	**58,50**	384067 0005	58,50	384068 0005	58,50	384069 0005	**58,50**
	3128		3128		3128		3128		3128		3128	

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PDC ISO indexable cutting inserts

Vc/fz

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

- **PDC CB1**, fine grain
  Fine finishing and finishing of all non-ferrous metals and non-ferrous materials with a low percentage of or no abrasive fillers.
  Positive geometry for finishing and superfinishing machining, ap from 0.05 mm to 1.5 mm. Suitable for the narrowest tolerances with the lowest cutting pressure.
  For use with thin-walled and unstable workpieces.

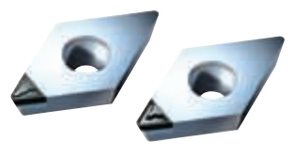
- **PDC-S CB2**, rough grain
  Finishing and fine finishing of all non-ferrous metals and non-ferrous materials with low to high percentages of abrasive fillers
  Slightly negative geometry for semi-finishing, finishing and super-finishing machining, ap from 0.5 mm to 2 mm.
  Increased cutting pressure ensures improved surface finish quality at the narrowest tolerances.
  For use with thick-walled and solid parts under stable conditions.

- Other geometries and versions available on request, also without chip breaker

CCGT

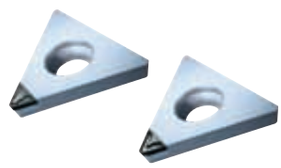
ISO designation	PDC CB1 art.no.	€	PDC-S CB2 art.no.	€
CCGT 060202	**385011** 0001	62,50	**385012** 0001	**62,50**
CCGT 060204	385011 0002	62,50	385012 0002	62,50
CCGT 060208	385011 0003	68,–	385012 0003	68,–
CCGT 09T302	385011 0004	64,–	385012 0004	64,–
CCGT 09T304	385011 0005	64,–	385012 0005	64,–
CCGT 09T308	385011 0006	**69,–**	385012 0006	69,–
CCGT 120404	385011 0007	65,–	385012 0007	65,–
CCGT 120408	385011 0008	70,50	385012 0008	70,50
	3111		3111	

DCGT



ISO designation	PDC CB1 art.no.	€	PDC-S CB2 art.no.	€
DCGT 070202	**385013** 0001	65,–	**385014** 0001	65,–
DCGT 070204	385013 0002	65,–	385014 0002	65,–
DCGT 070208	385013 0003	72,–	385014 0003	72,–
DCGT 11T302	385013 0004	69,–	385014 0004	69,–
DCGT 11T304	385013 0005	69,–	385014 0005	69,–
DCGT 11T308	385013 0006	77,–	385014 0006	77,–
	3111		3111	

TCGT



ISO designation	PDC CB1 art.no.	€	PDC-S CB2 art.no.	€
TCGT 090202	**385015** 0001	62,50	**385016** 0001	62,50
TCGT 090204	385015 0002	62,50	385016 0002	62,50
TCGT 110202	385015 0003	65,–	385016 0003	65,–
TCGT 110204	385015 0004	65,–	385016 0004	65,–
	3111		3111	

VCGT

ISO designation	PDC CB1 art.no.	€	PDC-S CB2 art.no.	€
VCGT 110302	**385017** 0001	**88,–**	**385018** 0001	88,–
VCGT 110304	385017 0002	88,–	385018 0002	88,–
VCGT 160402	385017 0003	90,50	385018 0003	90,50
VCGT 160404	385017 0004	**92,–**	385018 0004	92,–
VCGT 160408	385017 0005	101,–	385018 0005	101,–
VCGT 160412	385017 0006	112,–	385018 0006	112,–
	3111		3111	

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- **Ultra-hard cutting materials, single tip**

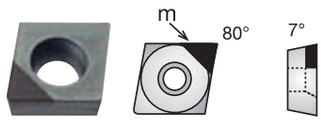
- **CBN, cubic boron nitride,** quality ABC10 (ISO K-K25, S01-S15)
  polycrystalline CBN type with a high CBN content and carbide base, fine grain, very high wear resistance in the HSC range with GJL-25 (Super-finish), long service life in the case of super-alloys
  Use: Grey cast iron (GJL-25) super-alloys.
  Note: For the **chamfered** version, the type ABC10 includes the protective chamfer **"G"** as standard

- **CBN, cubic boron nitride,** quality ABC15 (ISO K01-K25, S01-S20)
  polycrystalline CBN grade with high CBN content and a superfine grain carbide base, very high wear resistance in HSC applications with GJS-40 (super-finish), long service life with superalloys and sintered steel
  Use: Spheroidal graphite cast iron (GGG-40), sintered steels, super-alloys
  Note: For the **chamfered** version, the type ABC15 includes the protective chamfer **"C"** as standard

- **CBN, cubic boron nitride,** quality ABC25 (ISO K05-K20, S05-S25, H01-H25)
  polycrystalline CBN type with a low CBN content and carbide base, fine grain, very high wear resistance, pressure resistance and toughness in hard turning (HRc 52-62) in the smooth to medium interrupted vertical section.
  Use: Hard turning, dry, HRc 52 - 65
  Note: For the **chamfered** version, the type ABC25 includes the protective chamfer **"F"** as standard

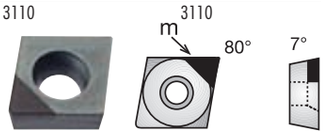
- **PCD, polycrystalline diamond,** quality ADC (ISO N05-N40)
  polycrystalline diamond with carbide base, fine grain, good cutting edge sharpness and low cutting pressure with narrow tolerances. High degree of wear resistance and toughness.
  Use: Finishing and fine finishing of all non-ferrous metals and non-ferrous materials with a low percentage of abrasive fillers

- Cutting edge length m depends on the cutting radius



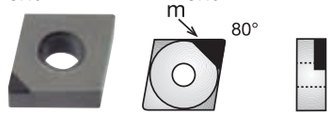
CCGW, sharp-edged (F)

ISO designation	ABC 10/A art.no.	€	ABC 15AF art.no.	€	ABC 25/A art.no.	€	ADC/F art.no.	€
CCGW 06 02 02	**390201** 1422	33,50	**390240** 1422	33,50	**390201** 1423	33,50	**390230** 1425	53,50
CCGW 06 02 04	390201 1432	33,50	390240 1432	33,50	390201 1433	33,50	390230 1435	53,50
CCGW 09 T3 04	390201 3432	33,50	390240 3432	33,50	390201 3433	33,50	390230 3435	53,50
CCGW 09 T3 08	390201 3442	33,50	390240 3442	33,50	390201 3443	33,50	390230 3445	53,50
CCGW 12 04 04	390201 5032	33,50	390240 5032	33,50	390201 5033	33,50	390230 5035	53,50
	3110		3110		3110		3110	



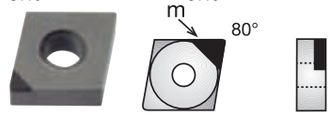
CCGW, chamfered

ISO designation	ABC 10/T art.no.	€	ABC 15/T art.no.	€	ABC 25/T art.no.	€
CCGW 06 02 02	**390205** 1422	33,50	**390241** 1422	33,50	**390205** 1423	33,50
CCGW 06 02 04	390205 1432	33,50	390241 1432	33,50	390205 1433	33,50
CCGW 09 T3 04	390205 3432	33,50	390241 3432	33,50	390205 3433	33,50
CCGW 09 T3 08	390205 3442	33,50	390241 3442	33,50	390205 3443	33,50
CCGW 12 04 04	390205 5032	33,50	390241 5032	33,50	390205 5033	33,50
	3110		3110		3110	



CNGA, sharp-edged (F)

ISO designation	ABC 10/A art.no.	€	ABC 15/A art.no.	€	ABC 25/A art.no.	€	ADC/F art.no.	€
CNGA 12 04 04	**390401** 5032	33,50	**390242** 5032	33,50	**390401** 5033	33,50	**390430** 5035	53,50
CNGA 12 04 08	390401 5042	33,50	390242 5042	33,50	390401 5043	33,50	390430 5045	53,50
	3110		3110		3110		3110	



CNGA, chamfered

ISO designation	ABC 10/T art.no.	€	ABC 15/T art.no.	€	ABC 25/T art.no.	€
CNGA 12 04 04	**390405** 5032	33,50	**390243** 5032	33,50	**390405** 5033	33,50
CNGA 12 04 08	390405 5042	33,50	390243 5042	33,50	390405 5043	33,50
	3110		3110		3110	

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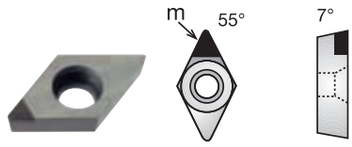
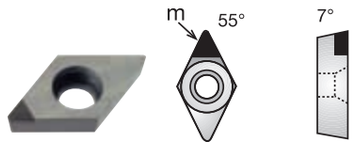


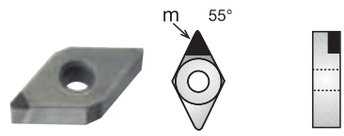
DCGW, sharp-edged (F)

ISO designation	ABC 10/A art.no.	€	ABC15/F art.no.	€	ABC25/F art.no.	€	ADC/F art.no.	€
DCGW 07 02 02	**391301** 2022	*33,50*	**390244** 2022	*33,50*	**391301** 2023	**33,50**	**391330** 2025	**53,50**
DCGW 07 02 04	391301 2032	*33,50*	390244 2032	*33,50*	391301 2033	**33,50**	391330 2035	*53,50*
DCGW 11 T3 02	391301 4622	*33,50*	390244 4622	*33,50*	391301 4623	**33,50**	391330 4625	**53,50**
DCGW 11 T3 04	391301 4632	**33,50**	390244 4632	**33,50**	391301 4633	**33,50**	391330 4635	**53,50**
DCGW 11 T3 08	391301 4642	*33,50*	390244 4642	*33,50*	391301 4643	*33,50*	391330 4645	*53,50*
	3110		3110		3110		3110	



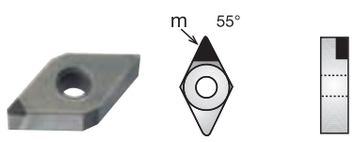
DCGW, chamfered

ISO designation	ABC 10/T art.no.	€	ABC 15/T art.no.	€	ABC 25/T art.no.	€
DCGW 07 02 02	**391305** 2022	*33,50*	**390245** 2022	*33,50*	**391305** 2023	*33,50*
DCGW 07 02 04	391305 2032	*33,50*	390245 2032	*33,50*	391305 2033	**33,50**
DCGW 11 T3 02	391305 4622	*33,50*	390245 4622	*33,50*	391305 4623	**33,50**
DCGW 11 T3 04	391305 4632	**33,50**	390245 4632	**33,50**	391305 4633	**33,50**
DCGW 11 T3 08	391305 4642	*33,50*	390245 4642	*33,50*	391305 4643	**33,50**
	3110		3110		3110	



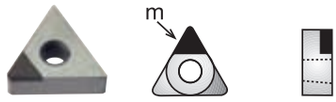
DNGA, sharp-edged (F)

ISO designation	ABC 10/A art.no.	€	ABC 15/A art.no.	€	ABC 25/A art.no.	€	ADC/F art.no.	€
DNGA 15 06 04	**391401** 5832	*33,50*	**390246** 5832	*33,50*	**391401** 5833	**33,50**	**391430** 5835	*53,50*
DNGA 15 06 08	391401 5842	*33,50*	390246 5842	*33,50*	391401 5843	**33,50**	391430 5845	*53,50*
	3110		3110		3110		3110	



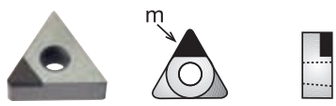
DNGA, chamfered

ISO designation	ABC 10/T art.no.	€	ABC 15/T art.no.	€	ABC 25/T art.no.	€
DNGA 15 06 04	**391405** 5832	**33,50**	**390247** 5832	**33,50**	**391405** 5833	**33,50**
DNGA 15 06 08	391405 5842	*33,50*	390247 5842	*33,50*	391405 5843	**33,50**
	3110		3110		3110	



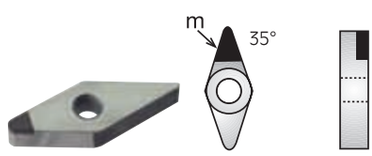
TNGA, sharp-edged (F)

ISO designation	ABC 10/A art.no.	€	ABC 25/A art.no.	€	ADC/F art.no.	€
TNGA 16 04 04	**395501** 6232	33,50	**395501** 6233	*33,50*	**395530** 6235	*53,50*
TNGA 16 04 08	395501 6242	*33,50*	395501 6243	*33,50*	395530 6245	*53,50*
	3110		3110		3110	



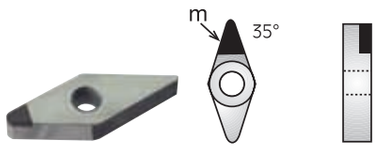
TNGA, chamfered

ISO designation	ABC 10/T art.no.	€	ABC 15/T art.no.	€	ABC 25/T art.no.	€
TNGA 16 04 04	**395505** 6232	*33,50*			**395505** 6233	33,50
TNGA 16 04 08	395505 6242	*33,50*	**390249** 6242	*33,50*	395505 6243	*33,50*
	3110		3110		3110	



VNGA, sharp-edged (A)

ISO designation	ABC 10/A art.no.	€	ABC 15/A art.no.	€	ABC 25/A art.no.	€	ADC/A art.no.	€
VNGA 16 04 04	**396810** 6232	*39,–*	**390250** 6232	*39,–*	**396810** 6233	*39,–*	**396830** 6235	53,50
VNGA 16 04 08	396810 6242	*39,–*	390250 6242	*39,–*	396810 6243	*39,–*	396830 6245	53,50
	3110		3110		3110		3110	



VNGA, chamfered

ISO designation	ABC 10/T art.no.	€	ABC 15/T art.no.	€	ABC 25/T art.no.	€
VNGA 16 04 04	**396815** 6232	*39,–*	**390251** 6232	*39,–*	**396815** 6233	*39,–*
VNGA 16 04 08	396815 6242	*39,–*	390251 6242	*39,–*	396815 6243	*39,–*
	3110		3110		3110	

ATORN® Precision thread cutting

INFO

The threading inserts are clamped in the holder using Torx screws; you can use virtually all the tool holders available on the market.

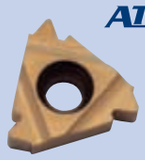
Affordable thread turning for external and internal threads, especially on CNC processing machines.

Ground version

ATORN®

Version ground on all sides with **highly accurate profile geometry**

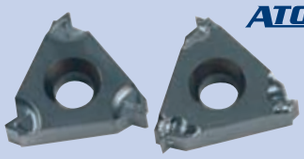
- Guaranteed quality due to complete control
- Maximum precision possible
- Chip breakers ground from solid material



Ground version with sintered chip breaker

ATORN®

- Controlled chip breaking
- Longer service life



Threading inserts product range

	ATORN®
Partial profiles, 60°	●
Partial profiles, 55°	●
ISO metric thread	●
UN full profile thread (Unified)	●
BSW British Standard Whitworth thread	●
NPT American standard taper pipe thread	●
Trapezoidal thread according to DIN 103	●
Round thread according to DIN 405	●
PG (DIN 40430) armoured pipe thread	●
Saw-tooth thread (DIN 513)	●
Type Z inserts, 4.1 mm, for Sandvik holders	●
Mini thread	●

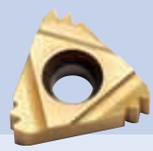
Other threading inserts are available on request:

- ACME American trapezoidal thread
- Oil thread
  - API – round
  - API – V 0.040
  - API – V 0.038 R
  - API – V 0.050
- BSPT British tapered pipe thread
- NPTF
- STUB ACME
- UNJ
- Multiple thread ridge inserts

and thread based on drawings available on request

Multiple thread ridge inserts

available on request



Application areas of the available carbide qualities

Quality	ISO	Application area
HC 5625 PVD TIN	P15-P35	For non-alloyed and alloyed steel at low to medium cutting speeds
HC 5615 PVD TIN	P10-P25 K10-K20	For machining non-alloyed, alloyed and stainless steels, super alloys, hardened steels, cast iron materials and non-ferrous metals at medium cutting speeds
HC 5630 PVD TIAlN	P20-P40 K20-K30	For machining non-alloyed, alloyed and stainless steels, super alloys, hardened steels and cast iron materials at medium to high cutting speeds
HC 5640 PVD TIN	P30-P50 K25-K40	For non-alloyed and alloyed steels at low cutting speeds, particularly suitable for stainless steels
HC 5620 PVD	M10-M20 K05-K20 N10-N20 S10-S20	For stainless steel, cast iron, titanium, non-ferrous metals and high-temperature alloys
HC 5110 PVD	H01-H20	For hardened steels, cast iron, super alloys up to 62 HRc

O partial profile, 60° and 55°	Page 30-124
DIN ISO full profile, metric	Page 30-125
DIN ISO partial profile, metric high-performance coating	Page 30-129
DIN ISO threading inserts metric, for machining hard materials	Page 30-130
DIN ISO full profile UN, BSW	Page 30-130
DIN ISO round, trapezoidal	Page 30-132
DIN ISO NPT, PG saw-tooth	Page 30-133
DIN ISO mini thread	Page 30-134

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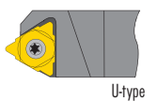
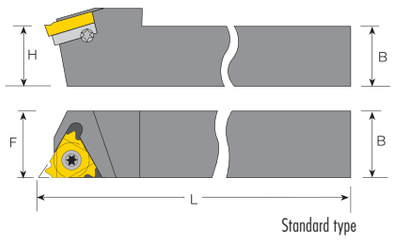
ATORN® Tool holder

- **External thread**
- **Note:** All tool holders are manufactured with a pitch angle of 1.5°. Other pitch angles are specified in the pitch angle table in the technical part of the catalogue.
- * = tool holder without spacers
- ** = available with clamping claw on request



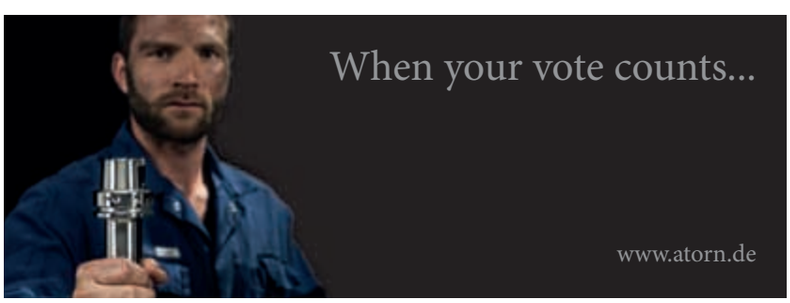


External thread

Designation	B mm	L mm	F mm	Cutting edge length mm	H mm						Right-hand art.no.	€	Left-hand art.no.	€
SER 10 10 H11	10	100	11	11*	10	A1				E1	**340101** 0002	78,–		
SEL 10 10 H11	10	100	11	11*	10	A1				E1			**340110** 0002	78,–
SER 12 12 F16	12	80	16	16**	12	A2	B1	C1		E2	340101 0011	78,–		
SEL 12 12 F16	12	80	16	16**	12	A2	B1		D1	E2			340110 0011	78,–
SER 16 16 H16	16	100	16	16**	16	A2	B1	C1		E2	340101 0012	78,–		
SEL 16 16 H16	16	100	16	16**	16	A2	B1		D1	E2			340110 0012	78,–
SER 20 20 K16	20	125	20	16**	20	A2	B1	C1		E2	340101 0013	78,–		
SEL 20 20 K16	20	125	20	16**	20	A2	B1		D1	E2			340110 0013	78,–
SER 25 25 M16	25	150	25	16**	25	A2	B1	C1		E2	340101 0014	82,50		
SEL 25 25 M16	25	150	25	16**	25	A2	B1		D1	E2			340110 0014	82,50
SER 25 25 M22	25	150	25	22	25	A3	B2	C2		E3	340101 0021	88,50		
SEL 25 25 M22	25	150	25	22	25	A3	B2		D2	E3			340110 0021	88,50
SER 32 32 P22	32	170	32	22	32	A3	B2	C2		E3	340101 0022	122,–		
SEL 32 32 P22	32	170	32	22	32	A3	B2		D2	E3			340110 0022	122,–
SER 32 32 P22U	32	170	32	22U	32	A3	B2	C3		E3	340101 0031	127,–		
SEL 32 32 P22U	32	170	32	22U	32	A3	B2		D3	E3			340110 0031	127,–
SER 25 25 M27	25	150	32	27	25	A4	B3	C4		E4	340101 0041	112,–		
SEL 25 25 M27	25	150	32	27	25	A4	B3		D4	E4			340110 0041	112,–
SER 32 32 P27	32	170	32	27	32	A4	B3	C4		E4	340101 0042	149,–		
SEL 32 32 P27	32	170	32	27	32	A4	B3		D4	E4			340110 0042	149,–
SER 32 32 P27U	32	170	32	27U	32	A4	B3	C5		E4	340101 0051	149,–		
SEL 32 32 P27U	32	170	32	27U	32	A4	B3		D5	E4			340110 0051	149,–
											3112		3112	

Spare parts

Screw			Spacer screw			Spacer, external right-hand/internal left-hand			Spacer, external left-hand/internal right-hand			TORX key		
	art.no.	€		art.no.	€		art.no.	€		art.no.	€		art.no.	€
A1	341401 0001	1,83	B1	341410 0011	1,83	C1	341430 0011	7,85	D1	341430 0012	7,85	E1	705105 0008	4,84
A2	341401 0011	1,50	B2	341410 0021	2,56	C2	341430 0021	12,25	D2	341430 0022	12,25	E2	705105 0010	5,20
A3	341401 0021	2,56	B3	341410 0041	3,40	C3	341430 0031	12,25	D3	341430 0032	12,25	E3	705105 0020	5,50
A4	341401 0041	3,40				C4	341430 0041	20,40	D4	341430 0042	20,40	E4	705105 0025	5,50
	3116			3116		C5	341430 0051	20,40	D5	341430 0052	20,40			
							3116			3116			7112	

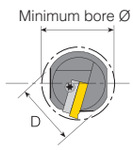


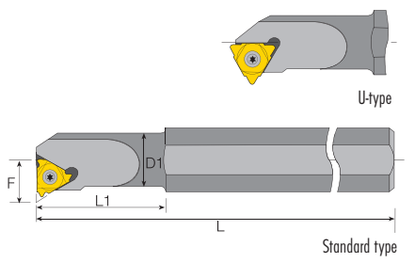
...suggestions are heard.

ATORN®
High quality for great performance

ATORN® Boring bars

- **Female thread**
- **Note:** All boring bars are manufactured with a pitch angle of 1.5°. Other pitch angles are specified in the pitch angle table in the technical part of the catalogue
- * = boring bar without spacers
- ** = available with clamping claw on request





Female thread

Designation	Cutting edge length mm	D mm	D1 mm	Min. hole Ø mm	L mm	L1 mm	F mm						Right-hand art.no.	€	Left-hand art.no.	€
SIR 0010H11	11*	10	10	12.0	100	-	7.4	A1				E1	**340301** 0001	80,–		
SIL 0010H11	11*	10	10	12.0	100	-	7.4	A1				E1			**340310** 0001	80,–
SIR 0010 K11	11*	16	10	12.0	125	25	7.4	A1				E1	340301 0002	80,–		
SIL 0010 K11	11*	16	10	12.0	125	25	7.4	A1				E1			340310 0002	80,–
SIR 0013 L11	11*	16	13	15.0	140	32	8.9	A1				E1	340301 0003	80,–		
SIL 0013 L11	11*	16	13	15.0	140	32	8.9	A1				E1			340310 0003	80,–
SIR 0013 M16	16*	16	13	16.0	150	32	10.2	A2				E2	340301 0011	80,–		
SIL 0013 M16	16*	16	13	16.0	150	32	10.2	A2				E2			340310 0011	80,–
SIR 0016 P16	16*	20	16	19.0	170	40	11.7	A2				E2	340301 0012	80,–		
SIL 0016 P16	16*	20	16	19.0	170	40	11.7	A2				E2			340310 0012	80,–
SIR 0020 P16	16**	20	20	24.0	170	-	13.7	A2	B1		D1	E2	340301 0013	90,50		
SIL 0020 P16	16**	20	20	24.0	170	-	13.7	A2	B1	C1		E2			340310 0013	90,50
SIR 0025 R16	16**	25	25	29.0	200	-	16.2	A2	B1		D1	E2	340301 0014	101,–		
SIL 0025 R16	16**	25	25	29.0	200	-	16.2	A2	B1	C1		E2			340310 0014	101,–
SIR 0032 S16	16**	32	32	36.0	250	-	19.7	A2	B1		D1	E2	340301 0015	127,–		
SIL 0032 S16	16**	32	32	36.0	250	-	19.7	A2	B1	C1		E2			340310 0015	127,–
SIR 0040 T16	16**	40	40	44.0	300	-	23.7	A2	B1		D1	E2	340301 0016	170,–		
SIL 0040 T16	16**	40	40	44.0	300	-	23.7	A2	B1	C1		E2			340310 0016	170,–
SIR 0020 P22	22*	20	20	24.0	170	-	15.6	A3				E3	340301 0021	94,–		
SIL 0020 P22	22*	20	20	24.0	170	-	15.6	A3				E3			340310 0021	94,–
SIR 0025 R22	22**	25	25	29.0	200	-	18.1	A3	B2		D2	E3	340301 0022	107,–		
SIL 0025 R22	22**	25	25	29.0	200	-	18.1	A3	B2	C2		E3			340310 0022	107,–
SIR 0032 S22	22	32	32	38.0	250	-	21.6	A3	B2		D2	E3	340301 0023	130,–		
SIL 0032 S22	22	32	32	38.0	250	-	21.6	A3	B2	C2		E3			340310 0023	130,–
SIR 0040 T22	22	40	40	46.0	300	-	25.6	A3	B2		D2	E3	340301 0024	167,–		
SIL 0040 T22	22	40	40	46.0	300	-	25.6	A3	B2	C2		E3			340310 0024	167,–
SIR 0032 S22U	22U	32	32	38.0	250	-	24.4	A3	B2		D3	E3	340301 0031	141,–		
SIL 0032 S22U	22U	32	32	38.0	250	-	24.4	A3	B2	C3		E3			340310 0031	141,–
SIR 0040 T22U	22U	40	40	46.0	300	-	28.1	A3	B2		D3	E3	340301 0032	176,–		
SIL 0040 T22U	22U	40	40	46.0	300	-	28.1	A3	B2	C3		E3			340310 0032	176,–
SIR 0032 S27	27	32	32	40.0	250	-	22.6	A4	B3		D4	E4	340301 0041	166,–		
SIL 0032 S27	27	32	32	40.0	250	-	22.6	A4	B3	C4		E4			340310 0041	166,–
SIR 0050 U27	27	50	50	58.0	350	-	31.6	A4	B3		D4	E4	340301 0043	240,–		
SIL 0050 U27	27	50	50	58.0	350	-	31.6	A4	B3	C4		E4			340310 0043	240,–
SIR 0032 S27U	27U	32	32	40.0	250	-	25.8	A4	B3		D5	E4	340301 0051	128,–		
SIL 0032 S27U	27U	32	32	40.0	250	-	25.8	A4	B3	C5		E4			340310 0051	128,–
SIR 0050 U27U	27U	50	50	58.0	350	-	34.3	A4	B3		D5	E4	340301 0053	245,–		
SIL 0050 U27U	27U	50	50	58.0	350	-	34.3	A4	B3	C5		E4			340310 0053	245,–
													3112		3112	

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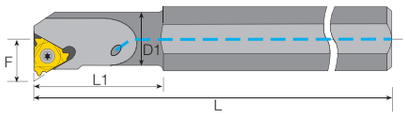
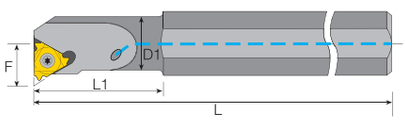


Boring bars with internal coolant supply

Designation	Cutting edge length mm	D mm	D1 mm	Min. hole Ø mm	L mm	L1 mm	F mm						Right-hand art.no.	€	Left-hand art.no.	€
SIR 0010 K11B	11*	16	10	12.0	125	25	7.4	A1				E1	**340320** 0002	88,–		
SIL 0010 K11B	11*	16	10	12.0	125	25	7.4	A1				E1			**340321** 0002	88,–
SIR 0013 M16B	16*	16	13	16.0	150	32	10.2	A2				E2	340320 0011	88,–		
SIL 0013 M16B	16*	16	13	16.0	150	32	10.2	A2				E2			340321 0011	*88,–*
SIR 0016 P16B	16*	20	16	19.0	170	40	11.7	A2				E2	340320 0012	88,–		
SIL 0016 P16B	16*	20	16	19.0	170	40	11.7	A2				E2			340321 0012	88,–
SIR 0020 P16B	16	20	20	24.0	170	-	13.7	A2	B1		D1	E2	340320 0013	99,50		
SIL 0020 P16B	16	20	20	24.0	170	-	13.7	A2	B1	C1		E2			340321 0013	99,50
SIR 0025 R16B	16	25	25	29.0	200	-	16.2	A2	B1		D1	E2	340320 0014	111,–		
SIL 0025 R16B	16	25	25	29.0	200	-	16.2	A2	B1	C1		E2			340321 0014	111,–
SIR0025 R22B	22	25	25	29.0	200	-	18.1	A3	B2		D2	E3	340320 0022	118,–		
SIL0025 R 22B	22	25	25	29.0	200	-	18.1	A3	B2	C2		E3			340321 0022	118,–
													3112		3112	

30



Solid carbide boring bars with internal coolant supply

- Solid carbide boring bars are used without spacers. Especially suited to preventing vibration in applications with long projections and small bore diameters

Designation	Cutting edge length mm	D mm	D1 mm	Min. hole Ø mm	L mm	L1 mm	F mm			Right-hand art.no.	€	Left-hand art.no.	€
SIR/L 0010 M11CB	11*	10	10	12.0	150	-	7.4	A1	E1	**340501** 0001	265,–	**340510** 0001	*320,–*
SIR/L 0012 P11CB	11*	12	12	15.0	170	-	8.4	A1	E1	340501 0002	*320,–*	340510 0002	*380,–*
SIR/L 0016 R16CB	16*	16	16	19.0	200	-	11.7	A2	E2	340501 0011	465,–	340510 0011	*559,–*
SIR/L 0020 S16CB	16*	20	20	23.0	250	-	13.7	A2	E2	340501 0012	629,–	340510 0012	759,–
SIR/L 0025 S16CB	16*	25	25	28.0	250	-	16.2	A2	E2	340501 0013	629,–	340510 0013	1.019,–
										3112		3112	

Spare parts

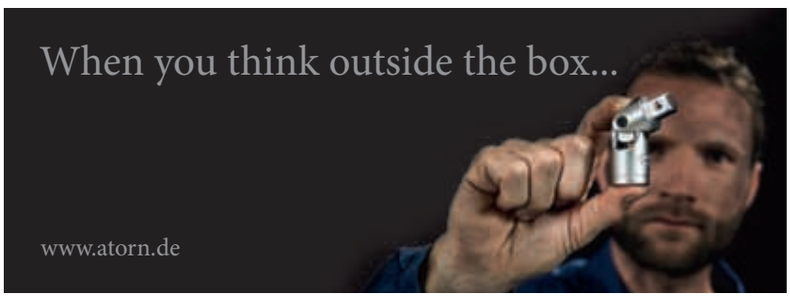
	Screw art.no.	€
A1	341401 0001	1,83
A2	341401 0011	1,50
A3	341401 0021	2,56
A4	341401 0041	3,40
	3116	

	Spacer screw art.no.	€
B1	341410 0011	1,83
B2	341410 0021	2,56
B3	341410 0041	3,40
	3116	

	Spacer, external right-hand/internal left-hand art.no.	€
C1	341430 0011	7,85
C2	341430 0021	12,25
C3	341430 0031	*12,25*
C4	341430 0041	20,40
C5	341430 0051	20,40
	3116	

	Spacer, external left-hand/internal right-hand art.no.	€
D1	341430 0012	7,85
D2	341430 0022	12,25
D3	341430 0032	*12,25*
D4	341430 0042	*20,40*
D5	341430 0052	*20,40*
	3116	

	TORX key art.no.	€
E1	705105 0008	4,84
E2	705105 0010	5,20
E3	705105 0020	5,50
E4	705105 0025	5,50
	7112	

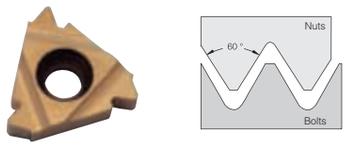


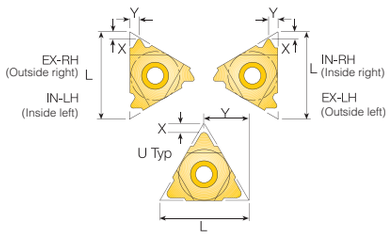
...new things are created.

ATORN®
High quality for great performance

ATORN® Thread cutting inserts, partial profile, 60°

- **Partial profile, 60°**
- **Inserts available in left-hand version on request**





Partial profile, 60° external right-hand, ground

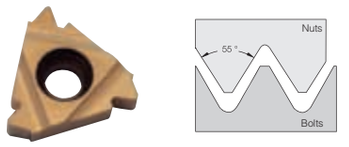
Designation	L mm	Pitch mm	X mm	Y mm	ISO P M K S H HC 5630			ISO P M K N HC 5615		
						art.no.	€		art.no.	€
11 ER A60	11	0.5-1.5	0.8	0.9	10	**342001** 0127	*14,40*	10	**342001** 0135	*14,40*
16 ER A60	16	0.5-1.5	0.8	0.9	10	342001 0227	*14,40*	10	342001 0235	*14,40*
16 ER G60	16	1.75-3.0	1.2	1.7	10	342001 0327	*15,60*	10	342001 0335	*15,60*
16 ER AG60	16	0.5-3.0	1.2	1.7	10	342001 0427	*15,60*	10	342001 0435	*15,60*
22 ER N60	22	3.5-5.0	1.7	2.5	5	342001 0527	*24,40*	5	342001 0535	*24,40*
22 UER/L U60	22U	5.5-8.0	0.6	11.0	5	342001 0627	*24,40*	5	342001 0635	*24,40*
						3113			3113	

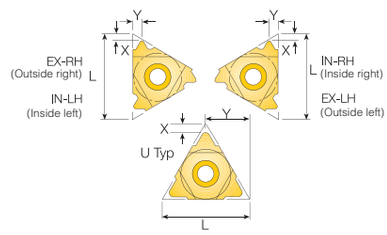
Partial profile, 60º internal right-hand, ground

Designation	L mm	Pitch mm	X mm	Y mm	ISO P M K S H HC 5630			ISO P M K N HC 5615		
						art.no.	€		art.no.	€
11 IR A60	11	0.5-1.5	0.8	0.9	10	**342201** 0127	*14,40*	10	**342201** 0135	*14,40*
16 IR A60	16	0.5-1.5	0.8	0.9	10	342201 0227	*14,40*	10	342201 0235	*14,40*
16 IR G60	16	1.75-3.0	1.2	1.7	10	342201 0327	*15,60*	10	342201 0335	*15,60*
16 IR AG60	16	0.5-3.0	1.2	1.7	10	342201 0427	*15,60*	10	342201 0435	*15,60*
22 IR N60	22	3.5-5.0	1.7	2.5	5	342201 0527	*24,40*	5	342201 0535	*24,40*
22U IR/L U60	22U	5.5-8.0	0.6	11.0	5	342201 0627	*24,40*	5	342201 0635	*24,40*
						3113			3113	

ATORN® Thread cutting inserts, partial profile, 55°

- **Partial profile, 55°**
- **Inserts available in left-hand version on request**





Partial profile, 55° external right-hand, ground

Designation	L mm	Pitch TPI	X mm	Y mm	ISO P M K S H HC 5630			ISO P M K N HC 5615		
						art.no.	€		art.no.	€
11 ER A55	11	48 - 16	0.8	0.9	10	**342401** 0127	*15,80*	10	**342401** 0135	*15,80*
16 ER A55	16	48 - 16	0.8	0.9	10	342401 0227	*15,80*	10	342401 0235	*15,80*
16 ER G55	16	14 - 8	1.2	1.7	10	342401 0327	*17,–*	10	342401 0335	*17,–*
16 ER AG55	16	48 - 8	1.2	1.7	10	342401 0427	*17,–*	10	342401 0435	*17,–*
22 ER N55	22	7 - 5	1.7	2.5	5	342401 0527	*26,40*	10	342401 0535	*26,40*
22 UER U55	22U	4.5 - 3.25	0.9	11.0	5	342401 0627	*26,40*	5	342401 0635	*26,40*
						3113			3113	

Partial profile, 55° internal right-hand, ground

Designation	L mm	Pitch TPI	X mm	Y mm	ISO P M K S H HC 5630			ISO P M K N HC 5615		
						art.no.	€		art.no.	€
11 IR A55	11	48 - 16	0.8	0.9	10	**342601** 0127	*15,80*	10	**342601** 0135	*15,80*
16 IR A55	16	48 - 16	0.8	0.9	10	342601 0227	*15,80*	10	342601 0235	*15,80*
16 IR G55	16	14 - 8	1.2	1.7	10	342601 0327	*17,–*	10	342601 0335	*17,–*
16 IR AG55	16	48 - 8	1.2	1.7	10	342601 0427	*17,–*	10	342601 0435	*17,–*
22 IR N55	22	7 - 5	1.7	2.5	5	342601 0527	*26,40*	10	342601 0535	*26,40*
22U IR U55	22U	4.5 - 3.25	0.9	11.0	5	342601 0627	*26,40*	5	342601 0635	*26,40*
						3113			3113	

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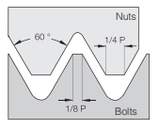
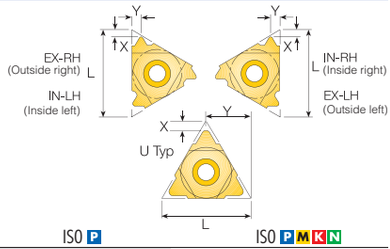
ATORN® Thread cutting inserts, full profile, ISO, ER

- **Metric, full profile, ISO**



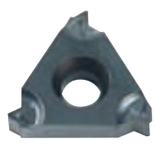


Full profile, ISO external right-hand, ground

Designation	L mm	Pitch mm	X mm	Y mm	ISO P M K S H HC 5630			ISO P HC 5625			ISO P M K N HC 5615		
						art.no.	€		art.no.	€		art.no.	€
11 ER 0.35ISO	11	0.35	0.8	0.4				10	**342801** 0130	*15,30*	10	**342801** 0135	*15,30*
11 ER 0.4ISO	11	0.4	0.7	0.4				10	342801 0230	*15,30*	10	342801 0235	*15,30*
11 ER 0.45ISO	11	0.45	0.7	0.4				10	342801 0330	*15,30*	10	342801 0335	*15,30*
11 ER 0.5ISO	11	0.5	0.6	0.6				10	342801 0430	*15,30*	10	342801 0435	*15,30*
11 ER 0.6ISO	11	0.6	0.6	0.6				10	342801 0530	*15,30*	10	342801 0535	*15,30*
11 ER 0.7ISO	11	0.7	0.6	0.6				10	342801 0630	*15,30*	10	342801 0635	*15,30*
11 ER 0.75ISO	11	0.75	0.6	0.6				10	342801 0730	*15,30*	10	342801 0735	**15,30**
11 ER 0.8ISO	11	0.8	0.6	0.6				10	342801 0830	*15,30*	10	342801 0835	*15,30*
11 ER 1.0ISO	11	1.0	0.7	0.7				10	342801 0930	*13,40*	10	342801 0935	*13,40*
11 ER 1.25ISO	11	1.25	0.8	0.9				10	342801 1030	*13,40*	10	342801 1035	*13,40*
11 ER 1.5ISO	11	1.5	0.8	1.0				10	342801 1130	*13,40*	10	342801 1135	*13,40*
11 ER 1.75ISO	11	1.75	0.8	1.1				10	342801 1230	*13,40*	10	342801 1235	*13,40*
16 ER 0.35ISO	16	0.35	0.8	0.4				10	342801 1330	*15,30*	10	342801 1335	**15,30**
16 ER 0.4ISO	16	0.4	0.7	0.4	10	**342801** 1427	*15,30*	10	342801 1430	*15,30*	10	342801 1435	*15,30*
16 ER 0.45ISO	16	0.45	0.7	0.4				10	342801 1530	*15,30*	10	342801 1535	**15,30**
16 ER 0.5ISO	16	0.5	0.6	0.6	10	342801 1627	**15,30**	10	342801 1630	*15,30*	10	342801 1635	**15,30**
16 ER 0.6ISO	16	0.6	0.6	0.6				10	342801 1730	**15,30**	10	342801 1735	*15,30*
16 ER 0.7ISO	16	0.7	0.6	0.6				10	342801 1830	*15,30*	10	342801 1835	**15,30**
16 ER 0.75ISO	16	0.75	0.6	0.6	10	342801 1927	**15,30**	10	342801 1930	**15,30**	10	342801 1935	**15,30**
16 ER 0.8ISO	16	0.8	0.6	0.6	10	342801 2027	**15,30**	10	342801 2030	*15,30*	10	342801 2035	**15,30**
16 ER 1.0ISO	16	1.0	0.7	0.7	10	342801 2127	**13,40**	10	342801 2130	**13,40**	10	342801 2135	**13,40**
16 ER 1.25ISO	16	1.25	0.8	0.9	10	342801 2227	**13,40**	10	342801 2230	**13,40**	10	342801 2235	**13,40**
16 ER 1.5ISO	16	1.5	0.8	1.0	10	342801 2327	**13,40**	10	342801 2330	**13,40**	10	342801 2335	**13,40**
16 ER 1.75ISO	16	1.75	0.9	1.2	10	342801 2427	**13,40**	10	342801 2430	**13,40**	10	342801 2435	**13,40**
16 ER 2.0ISO	16	2.0	1.0	1.3	10	342801 2527	**13,40**	10	342801 2530	**13,40**	10	342801 2535	**13,40**
16 ER 2.5ISO	16	2.5	1.1	1.5	10	342801 2627	**14,70**	10	342801 2630	**14,70**	10	342801 2635	**14,70**
16 ER 3.0ISO	16	3.0	1.2	1.6	10	342801 2727	**14,70**	10	342801 2730	**14,70**	10	342801 2735	**14,70**
16 ER 3.5ISO	16	3.5	1.2	1.7							10	342801 3735	**14,70**
22 ER 3.5ISO	22	3.5	1.6	2.3	10	342801 2827	**20,20**	10	342801 2830	*20,20*	10	342801 2835	**20,20**
22 ER 4.0ISO	22	4.0	1.6	2.3	10	342801 2927	**20,20**	10	342801 2930	**20,20**	10	342801 2935	**20,20**
22 ER 4.5ISO	22	4.5	1.7	2.4	10	342801 3027	**20,20**	10	342801 3030	**20,20**	10	342801 3035	**20,20**
22 ER 5.0ISO	22	5.0	1.7	2.5	10	342801 3127	*20,20*	10	342801 3130	**20,20**	10	342801 3135	**20,20**
22 ER 5.5ISO	22	5.5	1.7	2.6							10	342801 3835	**20,20**
22 ER 6.0ISO	22	6.0	1.9	2.7							10	342801 3935	**20,20**
27 ER 5.5ISO	27	5.5	1.9	2.7				5	342801 3230	**33,70**	5	342801 3235	**33,70**
27 ER 6.0ISO	27	6.0	2.0	2.9				5	342801 3330	**33,70**	5	342801 3335	**33,70**
22U ER/L5.5ISO	22U	5.5	2.3	11.0				10	342801 3430	*25,40*	10	342801 3435	*25,40*
22U ER/L6.0ISO	22U	6.0	2.6	11.0				10	342801 3530	*25,40*	10	342801 3535	*25,40*
27U ER/L8.0ISO	27U	8.0	2.4	13.7				5	342801 3630	*33,70*	5	342801 3635	**33,70**
						3113			3113			3113	

Full profile, ISO external right-hand, with chip breaker type B

Designation	L mm	Pitch mm	X mm	Y mm	ISO P M K S H HC 5630		
						art.no.	€
16 ERB 1.0ISO	16	1.0	0.7	0.7	10	**342802** 2127	**13,40**
16 ERB 1.25ISO	16	1.25	0.8	0.9	10	342802 2227	**13,40**
16 ERB 1.5ISO	16	1.5	0.8	1.0	10	342802 2327	**13,40**
16 ERB 1.75ISO	16	1.75	0.9	1.2	10	342802 2427	**13,40**
16 ERB 2.0ISO	16	2.0	1.0	1.3	10	342802 2527	**13,40**
16 ERB 2.5ISO	16	2.5	1.1	1.5	10	342802 2627	**14,70**
16 ERB 3.0ISO	16	3.0	1.2	1.6	10	342802 2727	**14,70**
						3113	



10 pcs set, ground profile, external right

ISO P M K S H

Contents per set	HC 5630 art.no.	€
2 pcs. 16 ER 1.0 ISO; 2 pcs. 16 ER 1.25 ISO; 2 pcs. 16 ER 1.5 ISO; 2 pcs. 16 ER 1.75 ISO; 2 pcs. 16 ER 2.0 ISO	**342801** 5016	125,–

3113

10 pcs set, ground profile, external right with chip breaker B

ISO P M K S H

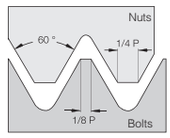
Contents	HC 5630 art.no.	€
2 pcs. 16 ER B 1.0 ISO; 2 pcs. 16 ER B 1.25 ISO; 2 pcs. 16 ER B 1.5 ISO; 2 pcs. 16 ER B 1.75 ISO; 2 pcs. 16 ER B 2.0 ISO	**342802** 5016	125,–

3113

ATORN® Thread cutting inserts, full profile, ISO, EL

Vc/fz

- **Metric, full profile, ISO**
- ***Note:** Insert types 22 U and 27 U in pitches of 5.5 - 8.0 mm are identical to the right-hand version

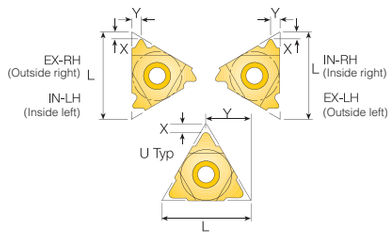


Full profile, ISO external left-hand, ground

ISO P M K N

Designation	L mm	Pitch mm	X mm	Y mm		HC 5615 art.no.	€
11 EL 0.35ISO	11	0.35	0.8	0.4	10	**342810** 0135	15,30
11 EL 0.4ISO	11	0.4	0.7	0.4	10	342810 0235	15,30
11 EL 0.45ISO	11	0.45	0.7	0.4	10	342810 0335	15,30
11 EL 0.5ISO	11	0.5	0.6	0.6	10	342810 0435	15,30
11 EL 0.6ISO	11	0.6	0.6	0.6	10	342810 0535	15,30
11 EL 0.7ISO	11	0.7	0.6	0.6	10	342810 0635	15,30
11 EL 0.75ISO	11	0.75	0.6	0.6	10	342810 0735	15,30
11 EL1.0ISO	11	1.0	0.7	0.7	10	342810 0935	13,40
11 EL 1.25ISO	11	1.25	0.8	0.9	10	342810 1035	13,40
11 EL 1.5ISO	11	1.5	0.8	1.0	10	342810 1135	13,40
11 EL 1.75ISO	11	1.75	0.8	1.1	10	342810 1235	13,40
16 EL 0.35ISO	16	0.35	0.8	0.4	10	342810 1335	15,30
16 EL 0.4ISO	16	0.4	0.7	0.4	10	342810 1435	15,30
16 EL 0.45ISO	16	0.45	0.7	0.4	10	342810 1535	15,30
16 EL 0.5ISO	16	0.5	0.6	0.6	10	342810 1635	15,30
16 EL 0.6ISO	16	0.6	0.6	0.6	10	342810 1735	15,30
16 EL 0.7ISO	16	0.7	0.6	0.6	10	342810 1835	15,30
16 EL 0.75ISO	16	0.75	0.6	0.6	10	342810 1935	15,30
16 EL 0.8ISO	16	0.8	0.6	0.6	10	342810 2035	15,30
16 EL 1.0 ISO	16	1.0	0.7	0.7	10	342810 2135	13,40
16 EL 1.25ISO	16	1.25	0.8	0.9	10	342810 2235	13,40
16 EL 1.5ISO	16	1.5	0.8	1.0	10	342810 2335	13,40
16 EL 1.75ISO	16	1.75	0.9	1.2	10	342810 2435	13,40
16 EL 2.0ISO	16	2.0	1.0	1.3	10	342810 2535	13,40
16 EL 2.5ISO	16	2.5	1.1	1.5	10	342810 2635	14,70
16 EL 3.0ISO	16	3.0	1.2	1.6	10	342810 2735	14,70
16 EL 3.5ISO	16	3.5	1.2	1.7	10	342810 3735	14,70
22 EL 3.5ISO	22	3.5	1.6	2.3	10	342810 2835	20,20
22 EL 4.0ISO	22	4.0	1.6	2.3	10	342810 2935	20,20
22 EL 4.5ISO	22	4.5	1.7	2.4	10	342810 3035	20,20
22 EL 5.0ISO	22	5.0	1.7	2.5	10	342810 3135	20,20
22 EL 5.5ISO	22	5.5	1.7	2.6	10	342810 3835	20,20
22 EL 6.0ISO	22	6.0	1.9	2.7	10	342810 3935	20,20
27 EL 5.5ISO	27	5.5	1.9	2.7	5	342810 3235	33,70
27 EL 6.0ISO	27	6.0	2.0	2.9	5	342810 3335	33,70

3113



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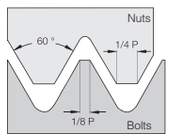
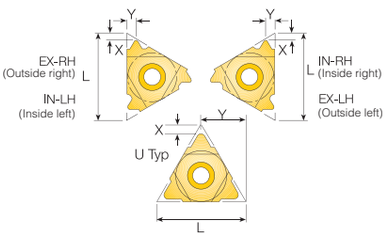
ATORN® Thread cutting inserts, full profile, ISO, IR

- **Metric, full profile, ISO**



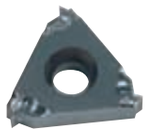


Full profile, ISO internal right-hand, ground

Designation	L mm	Pitch mm	X mm	Y mm	ISO P M K S H HC 5630			ISO P HC 5625			ISO P M K N HC 5615		
						art.no.	€		art.no.	€		art.no.	€
11 IR 0.35ISO	11	0.35	0.8	0.3				10	**343001** 0130	*15,30*	10	**343001** 0135	*15,30*
11 IR 0.4ISO	11	0.4	0.8	0.4				10	343001 0230	*15,30*	10	343001 0235	*15,30*
11 IR 0.45ISO	11	0.45	0.8	0.4				10	343001 0330	*15,30*	10	343001 0335	*15,30*
11 IR 0.5ISO	11	0.5	0.6	0.6	10	**343001** 0427	*15,30*	10	343001 0430	*15,30*	10	343001 0435	**15,30**
11 IR 0.6ISO	11	0.6	0.6	0.6				10	343001 0530	*15,30*	10	343001 0535	*15,30*
11 IR 0.7ISO	11	0.7	0.6	0.6				10	343001 0630	*15,30*	10	343001 0635	*15,30*
11 IR 0.75ISO	11	0.75	0.6	0.6	10	343001 0727	*15,30*	10	343001 0730	*15,30*	10	343001 0735	**15,30**
11 IR 0.8ISO	11	0.8	0.6	0.6				10	343001 0830	*15,30*	10	343001 0835	**15,30**
11 IR 1.0ISO	11	1.0	0.6	0.7	10	343001 0927	**13,40**	10	343001 0930	*13,40*	10	343001 0935	**13,40**
11 IR 1.25ISO	11	1.25	0.8	0.8				10	343001 1030	*13,40*	10	343001 1035	**13,40**
11 IR 1.5ISO	11	1.5	0.8	1.0	10	343001 1127	**13,40**	10	343001 1130	**13,40**	10	343001 1135	**13,40**
11 IR 1.75ISO	11	1.75	0.8	1.1				10	343001 1230	*13,40*	10	343001 1235	*13,40*
11 IR 2.0ISO	11	2.0	0.8	0.9	10	343001 4127	**13,40**				10	343001 4135	**13,40**
16 IR 0.5ISO	16	0.5	0.6	0.6							10	343001 4035	**15,30**
16 IR 0.6ISO	16	0.6	0.6	0.6				10	343001 1430	*15,30*	10	343001 1435	*15,30*
16 IR 0.7ISO	16	0.7	0.6	0.6				10	343001 1530	*15,30*	10	343001 1535	*15,30*
16 IR 0.75ISO	16	0.75	0.6	0.6				10	343001 1630	*15,30*	10	343001 1635	**15,30**
16 IR 0.8ISO	16	0.8	0.6	0.6				10	343001 1730	*15,30*	10	343001 1735	*15,30*
16 IR 1.0ISO	16	1.0	0.6	0.7	10	343001 1827	**13,40**	10	343001 1830	**13,40**	10	343001 1835	**13,40**
16 IR 1.25ISO	16	1.25	0.8	0.9	10	343001 1927	**13,40**	10	343001 1930	*13,40*	10	343001 1935	**13,40**
16 IR 1.5ISO	16	1.5	0.8	1.0	10	343001 2027	**13,40**	10	343001 2030	**13,40**	10	343001 2035	**13,40**
16 IR 1.75ISO	16	1.75	0.9	1.2	10	343001 2127	**13,40**	10	343001 2130	*13,40*	10	343001 2135	**13,40**
16 IR 2.0ISO	16	2.0	1.0	1.3	10	343001 2227	**13,40**	10	343001 2230	**13,40**	10	343001 2235	**13,40**
16 IR 2.5ISO	16	2.5	1.1	1.5	10	343001 2327	**14,70**	10	343001 2330	*14,70*	10	343001 2335	**14,70**
16 IR 3.0ISO	16	3.0	1.1	1.5	10	343001 2427	**14,70**	10	343001 2430	**14,70**	10	343001 2435	**14,70**
16 IR 3.5ISO	16	3.5	1.2	1.7							5	343001 3435	**14,70**
22 IR 3.5ISO	22	3.5	1.6	2.3	10	343001 2527	**20,20**	10	343001 2530	**20,20**	10	343001 2535	**20,20**
22 IR 4.0ISO	22	4.0	1.6	2.3	10	343001 2627	**20,20**	10	343001 2630	**20,20**	10	343001 2635	**20,20**
22 IR 4.5ISO	22	4.5	1.6	2.4				10	343001 2730	**20,20**	10	343001 2735	**20,20**
22 IR 5.0ISO	22	5.0	1.6	2.3				10	343001 2830	**20,20**	10	343001 2835	**20,20**
22 IR 5.5ISO	22	5.5	1.6	2.3							5	343001 3535	**20,20**
22 IR 6.0ISO	22	6.0	1.6	2.4							5	343001 3635	**20,20**
22U IR/L5.5ISO	22U	5.5	2.4	11.0				10	343001 3130	*25,40*	10	343001 3135	*25,40*
22U IR/L6.0ISO	22U	6.0	2.1	11.0				10	343001 3230	*25,40*	10	343001 3235	**25,40**
27 IR 5.5ISO	27	5.5	1.6	2.3				5	343001 2930	*33,70*	5	343001 2935	*33,70*
27 IR 6.0ISO	27	6.0	1.8	2.5				5	343001 3030	*33,70*	5	343001 3035	**33,70**
27U IR/L8.0ISO	27U	8.0	2.4	13.7				5	343001 3330	*33,70*	5	343001 3335	**33,70**
						3113			3113			3113	

Full profile, ISO internal right-hand, ground, with chip breaker type B

Designation	L mm	Pitch mm	X mm	Y mm	ISO P M K S H HC 5630		
						art.no.	€
16 IRB 1.0ISO	16	1.0	0.6	0.7	10	**343002** 1827	**13,40**
16 IRB 1.25ISO	16	1.25	0.8	0.9	10	343002 1927	*13,40*
16 IRB 1.5ISO	16	1.5	0.8	1.0	10	343002 2027	**13,40**
16 IRB 1.75ISO	16	1.75	0.9	1.2	10	343002 2127	*13,40*
16 IRB 2.0ISO	16	2.0	1.0	1.3	10	343002 2227	**13,40**
16 IRB 2.5ISO	16	2.5	1.1	1.5	10	343002 2327	**14,70**
16 IRB 3.0ISO	16	3.0	1.1	1.5	10	343002 2427	**14,70**
						3113	



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10 pcs set, ground profile, internal right

ISO P M K S H

Contents	HC 5630 art.no.	€
2 pcs. 16 IR 1.0 ISO; 2 pcs. 16 IR 1.25 ISO; 2 pcs. 16 IR 1.5 ISO; 2 pcs. 16 IR 1.75 ISO; 2 pcs. 16 IR 2.0 ISO	**343001** 5016	125,–

3113

10 pcs set, ground profile, internal right with chip breaker B

ISO P M K S H

Contents	HC 5630 art.no.	€
2 pcs. 16 IR B 1.0 ISO; 2 pcs. 16 IR B 1.25 ISO; 2 pcs. 16 IR B 1.5 ISO; 2 pcs. 16 IR B 1.75 ISO; 2 pcs. 16 IR B 2.0 ISO	**343002** 5016	125,–

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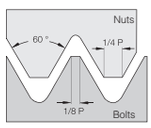
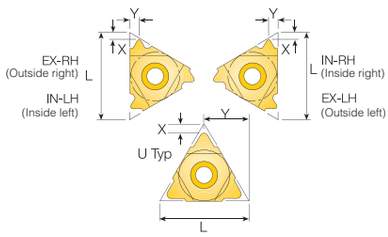
ATORN® Thread cutting inserts, full profile, ISO, IL

Vc/fz

- **Metric, full profile, ISO**
- ***Note:** Insert types 22 U and 27 U with pitches of 5.5 - 8.0 mm are identical to the right-hand version





Full profile, ISO internal left-hand, ground

ISO P M K N

Designation	L mm	Pitch mm	X mm	Y mm		HC 5615 art.no.	€
11 IL 0.35ISO	11	0.35	0.8	0.3	10	**343010** 0135	*15,30*
11 IL 0.4ISO	11	0.4	0.8	0.4	10	343010 0235	*15,30*
11 IL 0.5ISO	11	0.5	0.6	0.6	10	343010 0435	*15,30*
11 IL 0.7ISO	11	0.7	0.6	0.6	10	343010 0635	*15,30*
11 IL 0.75ISO	11	0.75	0.6	0.6	10	343010 0735	*15,30*
11 IL 0.8ISO	11	0.8	0.6	0.6	10	343010 0835	*15,30*
11 IL 1.0ISO	11	1.0	0.6	0.7	10	343010 0935	**13,40**
11 IL 1.25ISO	11	1.25	0.8	0.8	10	343010 1035	*13,40*
11 IL 1.5ISO	11	1.5	0.8	1.0	10	343010 1135	**13,40**
11 IL 1.75ISO	11	1.75	0.8	1.1	10	343010 1235	*13,40*
11 IL 2.0ISO	11	2.0	0.8	0.9	10	343010 4135	**13,40**
16 IL 0.35ISO	16	0.35	0.8	0.3	10	343010 1335	*15,30*
16 IL 0.6ISO	16	0.6	0.6	0.6	10	343010 1435	*15,30*
16 IL 0.75 ISO	16	0.75	0.6	0.6	10	343010 1635	**15,30**
16 IL 0.8ISO	16	0.8	0.6	0.6	10	343010 1735	*15,30*
16 IL 1.0 ISO	16	1.0	0.6	0.7	10	343010 1835	*13,40*
16 IL 1.25ISO	16	1.25	0.8	0.9	10	343010 1935	*13,40*
16 IL 1.5ISO	16	1.5	0.8	1.0	10	343010 2035	**13,40**
16 IL 1.75ISO	16	1.75	0.9	1.2	10	343010 2135	*13,40*
16 IL 2.0ISO	16	2.0	1.0	1.3	10	343010 2235	*13,40*
16 IL 2.5ISO	16	2.5	1.1	1.5	5	343010 2335	*14,70*
16 IL 3.0ISO	16	3.0	1.1	1.5	5	343010 2435	**14,70**
16 IL 3.5ISO	16	3.5	1.2	1.7	5	343010 3435	*14,70*
22 IL 3.5ISO	22	3.5	1.6	2.3	5	343010 2535	**20,20**
22 IL 4.0ISO	22	4.0	1.6	2.3	5	343010 2635	*20,20*
22 IL 4.5ISO	22	4.5	1.6	2.4	5	343010 2735	*20,20*
22 IL 5.0ISO	22	5.0	1.6	2.3	5	343010 2835	**20,20**
22 IL 5.5ISO	22	5.5	1.6	2.3	5	343010 3535	*20,20*
22 IL 6.0ISO	22	6.0	1.6	2.4	5	343010 3635	**20,20**
27 IL 5.5ISO	27	5.5	1.6	2.3	5	343010 2935	**33,70**
27 IL 6.0ISO	27	6.0	1.8	2.5	5	343010 3035	*33,70*

3113

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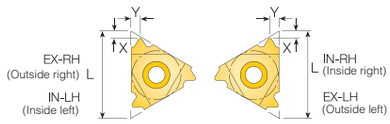
ATORN® High-performance thread cutting inserts

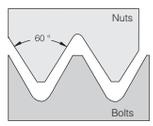
Vc/fz

- **New high-performance coating for significantly higher cutting speeds**
- Partial profile, 55° ER/IR
- Partial profile, 60° ER/IR
- Full profile, ISO ER/IR



Partial profile, 60° external right-hand, ground

ISO P M K N S H



Designation	L mm	Pitch mm	X mm	Y mm		HC 5620 art.no.	€
16 ER A60	16	0.5-1.5	0.8	0.9	10	**342160** 0240	15,80
16 ER AG60	16	0.5-3.0	1.2	1.7	10	342160 0440	17,10

3113

Partial profile, 60º internal right-hand, ground

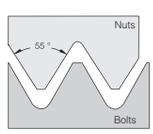
ISO P M K N S H

Designation	L mm	Pitch mm	X mm	Y mm		HC 5620 art.no.	€
16 IR A60	16	0.5-1.5	0.8	0.9	10	**342161** 0240	15,80
16 IR AG60	16	0.5-3.0	1.2	1.7	10	342161 0440	17,10
16 IR G60	16	1.75-3.0	1.2	1.7	10	342161 0340	17,10

3113

Partial profile, 55° external right-hand, ground

ISO P M K N S H



Designation	L mm	Pitch TPI	X mm	Y mm		HC 5620 art.no.	€
16 ER A55	16	48-16	0.8	0.9	10	**342162** 0240	17,40
16 ER G55	16	14-8	1.2	1.7	10	342162 0340	18,70
16 ER AG55	16	48-8	1.2	1.7	10	342162 0440	18,70

3113

Partial profile, 55° internal right-hand, ground

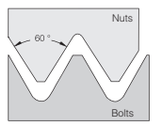
ISO P M K N S H

Designation	L mm	Pitch TPI	X mm	Y mm		HC 5620 art.no.	€
16 IR A55	16	48-16	0.8	0.9	10	**342163** 0240	17,40
16 IR G55	16	14-8	1.2	1.7	10	342163 0340	18,70
16 IR AG55	16	48-8	1.2	1.7	10	342163 0440	18,70

3113

Full profile, 60° external right-hand, ground

ISO P M K N S H



Designation	L mm	Pitch mm	X mm	Y mm		HC 5620 art.no.	€
16 ER 1.0 ISO	16	1.0	0.7	0.7	10	**342164** 2145	14,75
16 ER 1.25 ISO	16	1.25	0.8	0.9	10	342164 2245	*14,75*
16 ER 1.5 ISO	16	1.5	0.8	1.0	10	342164 2345	14,75
16 ER 1.75 ISO	16	1.75	0.9	1.2	10	342164 2445	*14,75*
16 ER 2.0 ISO	16	2.0	1.0	1.3	10	342164 2545	*14,75*
16 ER 3.0 ISO	16	3.0	1.2	1.6	10	342164 2745	16,20

3113

Full profile, 60º internal right-hand, ground

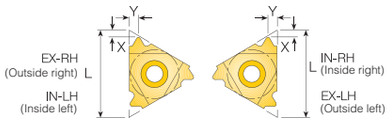
ISO P M K N S H

Designation	L mm	Pitch mm	X mm	Y mm		HC 5620 art.no.	€
16 IR 1.0 ISO	16	1.0	0.6	0.7	10	**342165** 2145	14,75
16 IR 1.25 ISO	16	1.25	0.8	0.9	10	342165 2245	14,75
16 IR 1.5 ISO	16	1.5	0.8	1.0	10	342165 2345	*14,75*
16 IR 1.75 ISO	16	1.75	0.9	1.2	10	342165 2445	14,75
16 IR 2.0 ISO	16	2.0	1.0	1.3	10	342165 2545	*14,75*
16 IR 3.0 ISO	16	3.0	1.1	1.5	10	342165 2745	*16,20*

3113

ATORN® Thread cutting inserts for hard machining

- **Hard machining up to 62 HRc**
- Partial profile, 55° ER/IR
- Partial profile, 60° ER/IR
- Full profile, ISO ER/IR



Up to 62 HRc

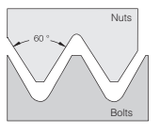
30

Partial profile, 60° external right-hand, ground

ISO S H

Designation	L mm	Pitch mm	X mm	Y mm		HC 5110 art.no.	€
16 ER A60	16	0.5-1.5	0.8	0.9	10	**342150** 0240	17,30
16 ER AG60	16	0.5-3.0	1.2	1.7	10	342150 0440	18,70
16 ER G60	16	1.75-3.0	1.2	1.7	10	342150 0340	18,70

3113



Partial profile, 60º internal right-hand, ground

ISO S H

Designation	L mm	Pitch mm	X mm	Y mm		HC 5110 art.no.	€
16 IR A60	16	0.5-1.5	0.8	0.9	10	**342151** 0240	17,30
16 IR AG60	16	0.5-3.0	1.2	1.7	10	342151 0440	18,70
16 IR G60	16	1.75-3.0	1.2	1.7	10	342151 0340	*18,70*

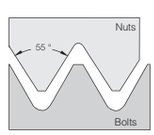
3113

Partial profile, 55° external right-hand, ground

ISO S H

Designation	L mm	Pitch TPI	X mm	Y mm		HC 5110 art.no.	€
16 ER A55	16	48-16	0.8	0.9	10	**342152** 0240	*19,–*
16 ER AG55	16	48-8	1.2	1.7	10	342152 0440	*20,40*
16 ER G55	16	14-8	1.2	1.7	10	342152 0340	20,40

3113



Partial profile, 55° internal right-hand, ground

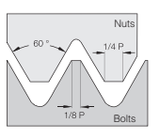
ISO S H

Designation	L mm	Pitch TPI	X mm	Y mm		HC 5110 art.no.	€
16 IR A55	16	48-16	0.8	0.9	10	**342153** 0240	*19,–*
16 IR AG55	16	48-8	1.2	1.7	10	342153 0440	*20,40*
16 IR G55	16	14-8	1.2	1.7	10	342153 0340	*20,40*

3113

ATORN® Thread cutting inserts, full profile, UN

- **Full profile, UN**
- other insert sizes and pitches available on request, along with left-hand version

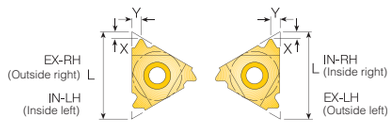


Full profile, UN external right-hand, ground

ISO P M K N

Designation	L mm	Pitch TPI	X mm	Y mm		HC 5615 art.no.	€
16 ER 20UN	16	20	0.8	0.9	10	**343201** 2735	16,40
16 ER 18UN	16	18	0.8	1.0	10	343201 2835	16,40
16 ER 16UN	16	16	0.9	1.1	10	343201 2935	16,40
16 ER 12UN	16	12	1.1	1.4	10	343201 3235	16,40

3113



Full profile, UN internal right-hand, ground

ISO P M K N

Designation	L mm	Pitch TPI	X mm	Y mm		HC 5615 art.no.	€
16 IR 14UN	16	14	0.9	1.2	10	**343401** 3035	*16,40*
16 IR 12UN	16	12	1.1	1.4	10	343401 3235	16,40

3113

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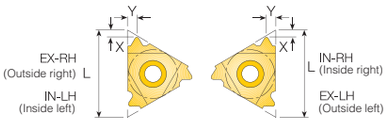
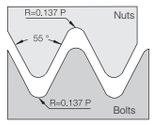
ATORN® Thread cutting inserts, full profile, BSW

- **Full profile, BSW**
- other insert sizes and pitches available on request, along with left-hand version





Full profile, BSW external right-hand, ground

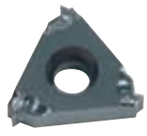
Designation	L mm	Pitch TPI	X mm	Y mm		HC 5630 art.no.	€		HC 5625 art.no.	€		HC 5615 art.no.	€
						ISO P M K S H			ISO P			ISO P M K N	
16 ER 28W	16	28	0.6	0.7				10	**344401** 2430	*16,40*	10	**344401** 2435	16,40
16 ER 19W	16	19	0.8	1.0	10	**344401** 2927	16,40	10	344401 2930	*16,40*	10	344401 2935	16,40
16 ER 14W	16	14	1.0	1.2	10	344401 3227	16,40	10	344401 3230	*16,40*	10	344401 3235	16,40
16 ER 11W	16	11	1.1	1.5	10	344401 3427	16,40	10	344401 3430	16,40	10	344401 3435	16,40
						3113			3113			3113	

Full profile, BSW internal right-hand, ground

Designation	L mm	Pitch TPI	X mm	Y mm		HC 5630 art.no.	€		HC 5625 art.no.	€		HC 5615 art.no.	€
						ISO P K			ISO P			ISO P M K N	
11 IR 19W	11	19	0.8	1.0	10	**344601** 1327	16,40	10	**344601** 1330	*16,40*	10	**344601** 1335	16,40
11 IR 14W	11	14	0.9	1.1	10	344601 1627	16,40	10	344601 1630	*16,40*	10	344601 1635	16,40
16 IR 19W	16	19	0.8	1.0	10	344601 2927	*16,40*	10	344601 2930	*16,40*	10	344601 2935	*16,40*
16 IR 14W	16	14	1.0	1.2	10	344601 3227	16,40	10	344601 3230	*16,40*	10	344601 3235	16,40
16 IR 11W	16	11	1.1	1.5	10	344601 3427	16,40	10	344601 3430	16,40	10	344601 3435	16,40
						3113			3113			3113	

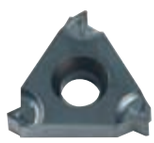
Full profile, BSW external right-hand, ground, with chip breaker type B

Designation	L mm	Pitch TPI	X mm	Y mm		HC 5630 art.no.	€
						ISO P M K S H	
16 ERB 19W	16	19	0.8	1.0	10	**344402** 2927	16,40
16 ERB 14W	16	14	1.0	1.2	10	344402 3227	*16,40*
16 ERB 11W	16	11	1.1	1.5	10	344402 3427	16,40
						3113	



Full profile, BSW internal right-hand, ground, with chip breaker type B

Designation	L mm	Pitch TPI	X mm	Y mm		HC 5630 art.no.	€
						ISO P M K S H	
16 IRB 19W	16	19	0.8	1.0	10	**344602** 2927	*16,40*
16 IRB 14W	16	14	1.0	1.2	10	344602 3227	16,40
16 IRB 11W	16	11	1.1	1.5	10	344602 3427	16,40
						3113	



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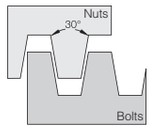
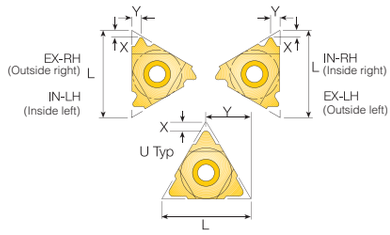
ATORN® Thread cutting inserts, full profile, trapezoidal

- **Full profile, trapezoidal, DIN 103**
- other insert sizes and pitches available on request, along with left-hand version





Full profile, trapezoidal external right-hand, ground

ISO P M K N

Designation	L mm	Pitch mm	X mm	Y mm		HC 5615 art.no.	€
16 ER 3TR	16	3	1.3	1.5	10	**343601** 0335	19,60
22 ER 4TR	22	4	1.8	1.9	5	343601 0435	27,20
22 ER 5TR	22	5	2.0	2.4	5	343601 0535	27,20
22 ER 6TR	22	6	2.0	2.4	5	343601 0935	27,20
22 UER/L 6TR	22U	6	2.0	11.0	10	343601 0635	27,20
22 UER/L 8TR	22U	8	2.5	11.0	5	343601 1035	27,20
27 UER/L 8TR	27U	8	2.5	13.7	5	343601 0835	40,50
						3113	

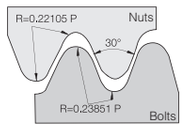
Full profile, trapezoidal internal right-hand, ground

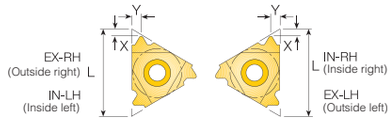
ISO P M K N

Designation	L mm	Pitch mm	X mm	Y mm		HC 5615 art.no.	€
16 IR 2TR	16	2	1.0	1.3	10	**343801** 0235	19,60
16 IR 3TR	16	3	1.3	1.5	10	343801 0335	19,60
22 IR 4TR	22	4	1.8	1.9	5	343801 0435	27,20
22 IR 5TR	22	5	2.0	2.4	10	343801 0535	27,20
22 IR 6TR	22	6	2.0	2.4	5	343801 1035	27,20
22 UIR/L 6TR	22U	6	2.0	11.0	5	343801 0635	*27,20*
22 UIR/L 7TR	22U	7	2.3	11.0	5	343801 0735	27,20
22 UIR/L 8TR	22U	8	2.5	11.0	5	343801 1135	27,20
						3113	

ATORN® Thread cutting inserts, full profile, round thread

- **Full profile, round thread, DIN 405**
- other insert sizes and pitches available on request, along with left-hand version





Full profile, external right-hand, ground

ISO P M K N

Designation	L mm	Pitch TPI	X mm	Y mm		HC 5615 art.no.	€
16 ER 8 RD	16	8	1.4	1.3	10	**345601** 0235	19,60
16 ER 6 RD	16	6	1.5	1.7	10	345601 0335	19,60
						3113	

Full profile, internal right-hand, ground

Designation	L mm	Pitch TPI	X mm	Y mm	ISO P K			ISO P M K N		
						HC 5625 art.no.	€		HC 5615 art.no.	€
16 IR 8 RD	16	8	1.4	1.4	10	**345801** 0230	*0,–*	10	**345801** 0235	19,60
16 IR 6 RD	16	6	1.4	1.5	10	345801 0330	*19,60*	10	345801 0335	19,60
22 IR 6 RD	22	6	1.5	1.7	10	345801 0430	27,20	10	345801 0435	27,20
22 IR 4 RD	22	4	2.2	2.3	10	345801 0530	*27,20*	10	345801 0535	27,20
						3113			3113	

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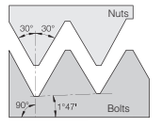
ATORN® Thread cutting inserts, full profile, NPT

Vc/fz

- **Full profile, NPT American standard taper pipe thread**
- other insert sizes and pitches available on request, along with left-hand version

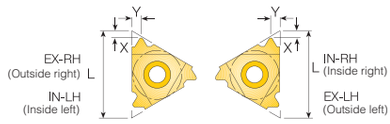


Full profile, NPT external right-hand, ground

ISO P M K N

Designation	L mm	Pitch TPI	X mm	Y mm		HC 5615 art.no.	€
16 ER 18NPT	16	18	0.8	1.0	10	**344801** 0335	18,20
16 ER 14NPT	16	14	0.9	1.2	10	344801 0335	18,20
16 ER 11.5NPT	16	11.5	1.1	1.5	10	344801 0435	18,20

3113



Full profile, NPT internal right-hand, ground

ISO P M K N

Designation	L mm	Pitch TPI	X mm	Y mm		HC 5615 art.no.	€
11 IR 14NPT	11	14	0.8	1.0	10	**345001** 0335	18,20
16 IR 14NPT	16	14	0.9	1.2	10	345001 0635	18,20
16 IR 11.5NPT	16	11.5	1.1	1.5	10	345001 0735	18,20

3113

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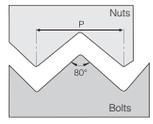
ATORN® Thread cutting inserts, full profile, PG

Vc/fz

- **Full profile, PG, DIN 40430**

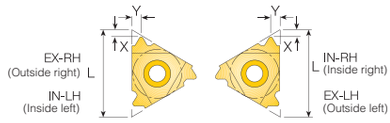


Full profile, PG external right-hand, ground

ISO P M K S

Designation	L mm	Pitch TPI	PG thread	X mm	Y mm		HC 5630 art.no.	€
16 ER 20 PG	16	20	PG7	0.7	0.8	10	**345820** 1027	24,70
16 ER 18 PG	16	18	PG 9/11/13.5/16	0.8	0.9	10	345820 1527	24,70
16 ER 16 PG	16	16	PG 21/29/36/42/48	0.8	1.0	10	345820 2027	24,70

3113



Full profile, PG internal right-hand, ground

ISO P M K S

Designation	L mm	Pitch TPI	PG thread	X mm	Y mm		HC 5630 art.no.	€
16 IR 18 PG	16	18 PG	PG 11/13.5/16	0.8	0.9	10	**345825** 1527	24,70
16 IR 16 PG	16	16 PG	PG 21/29/36/42/48	0.8	1.0	10	345825 2027	24,70

3113

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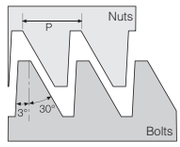
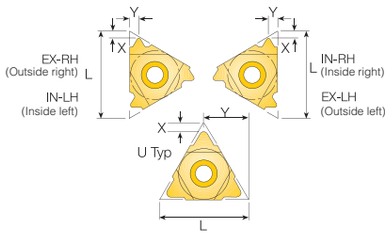
ATORN® Thread cutting inserts, full profile, saw-tooth thread

- **Full profile, saw-tooth, DIN 513**
- Left-hand versions available on request





Full profile, saw-tooth external right-hand, ground

ISO P M K S

Designation	L mm	n mm	X mm	Y mm		HC 5630 art.no.	€
16 ER 2 SAW	16	2.0	1.1	1.6	10	**345830** 1027	23,50
22 ER 3 SAW	22	3.0	1.5	2.4	10	345830 1527	32,60
22 ER 4 SAW	22	4.0	1.9	3.1	10	345830 2027	32,60
22U ER 5 SAW	22U	5.0	1.2	11.6	10	345830 2527	32,60
22U ER 6 SAW	22U	6.0	1.2	11.7	10	345830 3027	32,60

3113

Full profile, saw-tooth internal right-hand, ground

ISO P M K S

Designation	L mm	n mm	X mm	Y mm		HC 5630 art.no.	€
16 IR 2 SAW	16	2.0	1.2	1.7	10	**345835** 1027	23,50
22 IR 3 SAW	22	3.0	1.9	2.9	10	345835 1527	32,60
22 IR 4 SAW	22	4.0	2.3	3.5	10	345835 2027	32,60
22U IR 5 SAW	22U	5.0	1.9	11.7	10	345835 2527	32,60
22U IR 6 SAW	22U	6.0	2.1	11.9	10	345835 3027	32,60

3113

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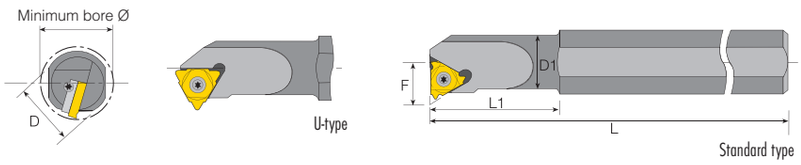
ATORN® MINI boring bar

- **Female thread**
- **Note:** The boring bars are used without spacers.
- Especially suited to preventing vibration in applications with long projections and small bore diameters.



Boring bars

Designation	Cutting edge length mm	D mm	D1 mm	Min. hole Ø mm	L mm	L1 mm	F mm			Right-hand art.no.	€
SIR 0005 H06	6	12	5.1	6.0	100	12	4.3	A1	B1	**340901** 0001	88,50
SIR 0007 K08	8	16	6.6	7.8	125	18	5.3	A2	B2	340901 0002	88,50
SIR 0008 K08U	8U	16	7.3	9.0	125	21	6.6	A2	B2	340901 0003	101,–

3112

Solid carbide boring bars with internal coolant supply

Designation	Cutting edge length mm	D mm	D1 mm	Min. hole Ø mm	L mm	L1 mm	F mm			Right-hand art.no.	€
SIR 0005 H06CB	6	6	5.1	6.0	100	26	4.3	A1	B1	**340901** 0011	205,–
SIR 0007 K08CB	8	8	6.6	7.8	125	31	5.3	A2	B2	340901 0012	225,–
SIR 0008 K08UCB	8U	8	7.3	9.0	125	35	6.6	A2	B2	340901 0013	270,–

3112

Spare parts

	Screw art.no.	€
A1	341401 0051	1,93
A2	341401 0061	1,93

3116

	TORX art.no.	€
B1	703053 0060	3,–
B2	703053 0080	3,05

7114

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ATORN® Thread cutting kit *Ultra* and *MINI*

- Common ULTRA and MINI thread cutting inserts plus boring bar for female threads
- Left-hand version available on request

Ultra thread cutting set

ISO P M K S

Contents	HC 5640 coat. art.no.	€
10 Platten 06 IR A60 1 Halter SIR 0005 H06 1 TORX-Schlüssel	**349001** 0225	225,–

3112

MINI thread cutting set

ISO P M K S

Contents	HC 5640 coat. art.no.	€
10 inserts, 08 IR A60 1 holder, SIR 0007 K08; 1 TORX key	**349001** 0325	225,–

3112

ATORN® *MINI* Thread cutting and internal turning kit

- **For internal turning and internal thread cutting from Ø 6 mm**
- Partial profile, 60°, for thread pitches from 0.5 mm to 1.25 mm
- Solid carbide boring bar with internal cooling for low-vibration use in internal turning and thread cutting operations!

Also for internal turning from Ø 6 mm!

ISO P M K S

Contents	HC5640 coat. art.no.	€
Combination set, consisting of: 10 thread cutting inserts, 06 IR A60 HC5640 10 turning inserts, 06 IR Turn HC 5630 1 boring bar, SIR 0005 H06CB 2 spare screws 1 TORX key, T6	**340500** 0001	395,–

3112

Turning inserts

ISO P M K S H

Designation		Unit price art.no.	€
Turning insert type 06IR TURN HC 5630	10	**347010** 0003	11,70

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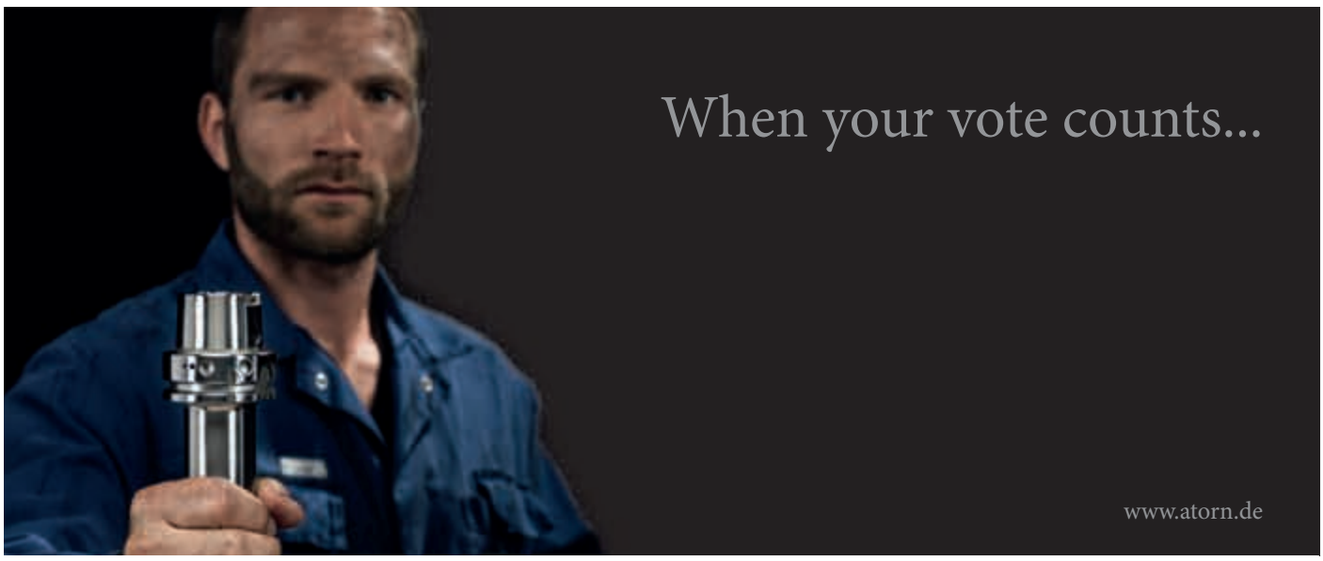

...suggestions are heard.

ATORN®
High quality for great performance

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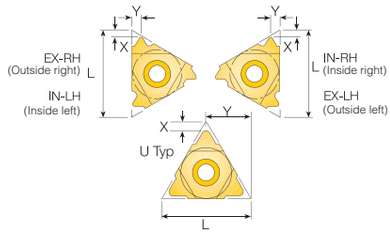
ATORN® Thread cutting inserts *MINI*

- **Female thread for bores from 6 mm in diameter**
- Amazing combination of Mini thread cutting inserts and coatings
- Specially developed for low speeds
- Successfully replace conventional taps
- Left-hand version available on request



Partial profile, 60° and 55° internal right-hand, ground

ISO P M K S

Designation	L mm	Pitch mm	Pitch TPI	X mm	Y mm		HC 5640 art.no.	€
06 IR A60	6	0.5 - 1.25		0.6	0.6	10	**347001** 0125	15,10
08 IR A60	8	0.5 - 1.5		0.6	0.7	10	347001 0225	15,10
08 U IR/L U60	8U	1.75 - 2.0		0.8	4.0	10	347001 0325	*18,10*
06 IR A55	6		48-20	0.5	0.6	10	347001 1125	*15,10*
08 IR A55	8		48-16	0.6	0.7	10	347001 1225	15,10
08 U IR/L U55	8U		14-11	0.9	4.0	10	347001 1325	*18,10*

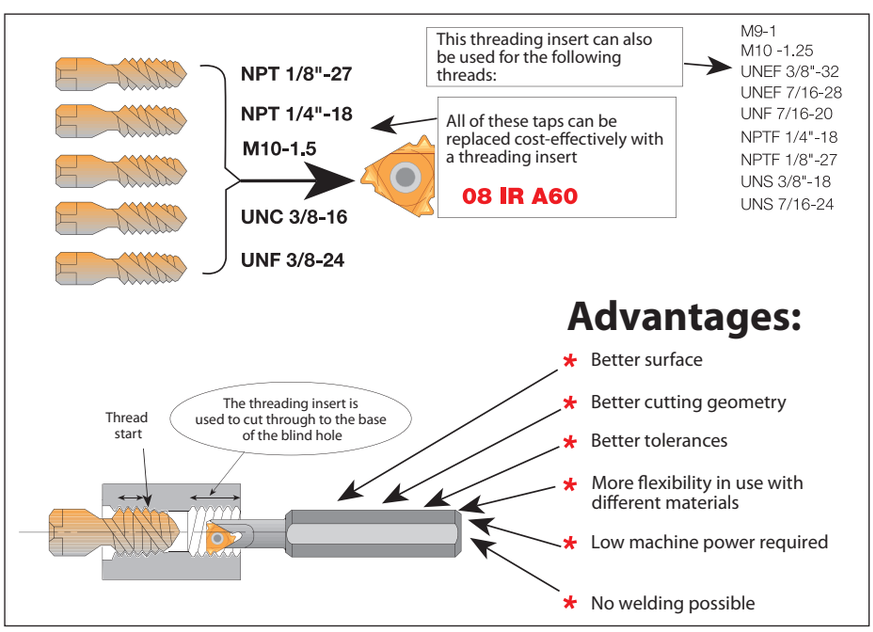
3113

Full profile, ISO metric internal right-hand, ground

ISO P M K S

Designation	L mm	Pitch mm	X mm	Y mm		HC 5640 art.no.	€
06 IR 0.5ISO	6	0.5	0.9	0.5	10	**347201** 0125	15,10
06 IR 0.75ISO	6	0.75	0.8	0.5	10	347201 0225	15,10
06 IR 1.0ISO	6	1.0	0.7	0.6	10	347201 0325	15,10
06 IR 1.25ISO	6	1.25	0.6	0.6	10	347201 0425	15,10
08 IR 0.5ISO	8	0.5	0.6	0.5	10	347201 0525	15,10
08 IR 0.75ISO	8	0.75	0.6	0.5	10	347201 0625	15,10
08 IR 1.0ISO	8	1.0	0.6	0.6	10	347201 0725	15,10
08 IR 1.25ISO	8	1.25	0.6	0.7	10	347201 0825	15,10
08 IR 1.5ISO	8	1.5	0.6	0.7	10	347201 0925	15,10
08 IR 1.75ISO	8	1.75	0.6	0.8	10	347201 1025	15,10
08 U IR/L 2.0ISO	8U	2.0	0.9	4.0	10	347201 1125	*18,10*

3113



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ATORN® Thread cutting set

- Common thread cutting inserts plus tool holder or boring bar
- For external/female threads

External

Contents	External art.no.	€
1 of each thread cutting insert, quality grade HC 5625: 16ER A60 16ER G60 16ER 0.75 ISO 16ER 1.0 ISO 16ER 1.25 ISO 16ER 1.5 ISO 16ER 1.75 ISO 16ER 2.0 ISO 16ER 2.5 ISO 16ER 3.0 ISO 1 tool holder, SER 2020 K16 1 TORX key 1 screw	**348001** 0130	205,–

3112

Internal

Contents	Internal art.no.	€
1 of each thread cutting insert, quality grade HC 5625: 16IR A60 16IR G60 16IR 0.75 ISO 16IR 1.0 ISO 16IR 1.25 ISO 16IR 1.5 ISO 16IR 1.75 ISO 16IR 2.0 ISO 16IR 2.5 ISO 16IR 3.0 ISO 1 boring bar, SIR 0020 P 16 1 TORX key 1 screw	**348501** 0130	225,–

3112

ATORN® Adapter/spacer set

Adapters/spacers allow the thread cutting inserts to be used in holders from other manufacturers such as Sandvik.

Designation	Contents	art.no.	€
Adapter set, external	Spacer, AES 16N; insert screw, AS16N; Torx key, K16	**341432** 1000	28,–
Adapter set, internal	Spacer, AIS 16N; insert screw, AS16N; Torx key, K16	341432 1001	28,–

3116

ATORN® Spacer set

- Spacers with different pitch angles
- **Type AE** for use in external RH/internal LH holders
- **Type AI** for use in external LH/internal RH holders

Contents	art.no.	€
AE16: +4.5 / +3.5 / +2.5 / +0.5 / -1.5 ; AI16: +4.5 / +3.5 / +2.5 /+0.5 / -1.5	**341430** 1600	102,–
AE22: +4.5 / +3.5 / +2.5 / +0.5 / -1.5; AI22: +4.5 / +3.5 / +2.5 /+0.5 / -1.5	341430 2200	159,–
AE22U: +4.5 / +3.5 / +2.5 / +0.5 / -1.5; AI22U: +4.5 / +3.5 / +2.5 /+0.5 / -1.5	341430 2250	159,–
AE27: +4.5 / +2.5 / -1.5 ; AI27: +4.5 /+2.5 / -1.5	341430 2700	159,–
AE27U: +4.5 / +2.5 / -1.5; AI27U: +4.5 /+2.5 / -1.5	341430 2750	159,–

3116

ATORN® Grooving inserts

- **For use in thread cutting holders**
- Low tool costs, since existing holders can be used
- One tool holder for grooving and thread cutting
- Three cutting edges, precision-ground
- Coated with HC 5640
- **Supplied without spacer (spacer set), please order separately!**

Inserts suitable for holder types SER..16 and SIL..16

ISO P M K N

Designation	W±0.02 mm	T mm	suitable spacer		HC 5640 art.no.	€
16 ER/IL 1.00	1.00	1.4	AE 16-0	5	**349050** 1025	21,40
16 ER/IL 1.20	1.20	1.6	AE 16-0	5	349050 1225	21,40
16 ER/IL 1.40	1.40	1.8	AE 16-0	5	349050 1425	21,40
16 ER/IL 1.70	1.70	2.0	AE 16-0	5	349050 1725	21,40
16 ER/IL 1.95	1.95	2.0	AE 16-0	5	349050 1925	21,40
16 ER/IL 2.25	2.25	2.25	AE 16-0	5	349050 2225	21,40

3113

Inserts suitable for holder types SIR..16 and SEL..16

ISO P M K N

Designation	W±0.02 mm	T mm	suitable spacer		HC 5640 art.no.	€
16 IR/EL 1.00	1.00	1.4	AI 16-0	5	**349055** 1025	21,40
16 IR/EL 1.20	1.20	1.6	AI 16-0	5	349055 1225	21,40
16 IR/EL 1.40	1.40	1.8	AI 16-0	5	349055 1425	21,40
16 IR/EL 1.70	1.70	2.0	AI 16-0	5	349055 1725	21,40
16 IR/EL 1.95	1.95	2.0	AI 16-0	5	349055 1925	21,40
16 IR/EL 2.25	2.25	2.25	AI 16-0	5	349055 2225	21,40

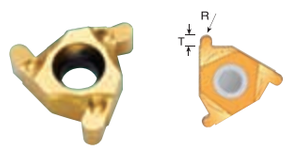
3113

Radius inserts suitable for holder types SER..16 and SIL..16

ISO P M K N

Designation	R±0.04 mm	T mm	suitable spacer		HC 5640 art.no.	€
16 ER/IL R 0.5	0.5	1.4	AE 16-0	5	**349052** 0525	21,40
16 ER/IL R 0.6	0.6	1.6	AE 16-0	5	349052 0625	21,40
16 ER/IL R 0.9	0.9	2.0	AE 16-0	5	349052 0925	21,40
16 ER/IL R 1.0	1.0	2.0	AE 16-0	5	349052 1025	21,40
16 ER/IL R 1.1	1.1	2.15	AE 16-0	5	349052 1125	21,40
16 ER/IL R 1.2	1.2	2.25	AE 16-0	5	349052 1225	21,40

3113

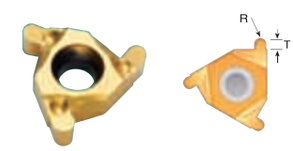


Radius inserts suitable for holder types SIR..16 and SEL..16

ISO P M K N

Designation	R±0.04 mm	T mm	suitable spacer		HC 5640 art.no.	€
16IR/EL R 0.5	0.5	1.4	AI 16-0	5	**349057** 0525	21,40
16IR/EL R 0.6	0.6	1.6	AI 16-0	5	349057 0625	21,40
16IR/EL R 0.9	0.9	2.0	AI 16-0	5	349057 0925	21,40
16IR/EL R 1.0	1.0	2.0	AI 16-0	5	349057 1025	21,40
16IR/EL R 1.1	1.1	2.15	AI 16-0	5	349057 1125	21,40
16IR/EL R 1.2	1.2	2.25	AI 16-0	5	349057 1225	21,40

3113



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Insert sets suitable for holder types SER..16 and SIL..16

ISO P M K N

Contents	W mm	T mm	HC 5640 art.no.	€
16 ER/IL 1.0	1.0	1.4		
16 ER/IL 1.20	1.20	1.6		
16 ER/IL 1.40	1.40	1.8		
16 ER/IL 1.70	1.70	2.0	**349051** 1601	114,–
16 ER/IL 1.95	1.95	2.0		
16 ER/IL 2.25	2.25	2.25		
spacer, AE 16-0				
			3113	

Insert sets suitable for holder types SIR..16 and SEL..16

ISO P M K N

Contents	W mm	T mm	HC 5640 art.no.	€
16 IR/EL 1.0	1.0	1.4		
16 IR/EL 1.20	1.20	1.6		
16 IR/EL 1.40	1.40	1.8		
16 IR/EL 1.70	1.70	2.0	**349056** 1601	114,–
16 IR/EL 1.95	1.95	2.0		
16 IR/EL 2.25	2.25	2.25		
spacer, AI 16-0				
			3113	

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Spacers for grooving inserts

Designation	art.no.	€
AE 16-0	**349060** 1610	9,–
AI 16-0	349060 1620	9,–
	3113	

349060 1610 349060 1620

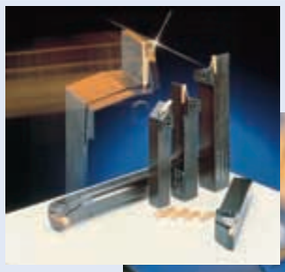
...then it's ATORN.

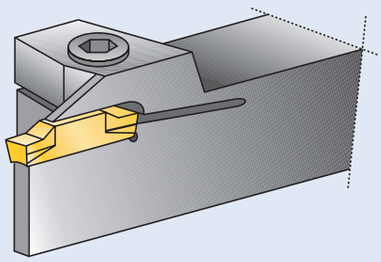
ATORN®
High quality for great performance

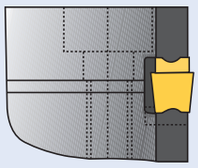
The D-CLAMP system

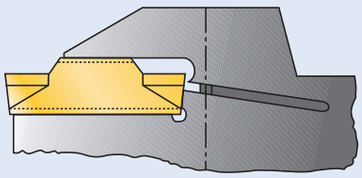
INFO

Duracarb has developed a truly simple but very effective clamping system in the form of the D-Clamp clamping system, one that guarantees short retooling times.









System description

The following operations can be performed using the D-clamp:

- Longitudinal turning and grooving
- Precision grooving and hollowing
- Recessing and hollowing, internal
- Axial grooving and facing

One-piece tool

- Simple, precise and secure positioning
- Twin guidance of the cutting insert in the holder
- Stable grip against lateral forces
- No additional spare parts

Cutting inserts

- Repetition precision
- Cutting inserts for turning and grooving
- By changing the feed direction, secondary cutting edges become main cutting edges
- The sintered chip curler operates on both the front and the sides
- One upper and one lower half-radius are used to position the cutting insert precisely and firmly
- Improved surface finish in comparison to conventional tools
- Multiple cutting edges increase the service life of the cutting insert

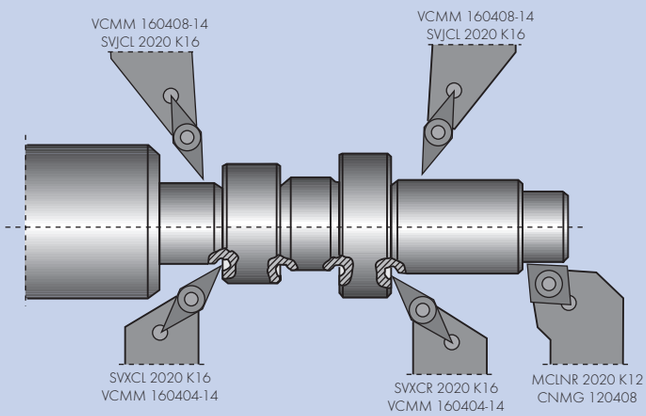
Usage characteristics

- Submersion at a 90° angle and longitudinal turning in sequence, without interruption
- Longitudinal turning to the left and right
- Reduces the number of tools per machining process
- Improves the turret usage. Reserve stations can be fitted with spare tools
- Reduces tooling times, cuts retooling times, lowers production costs

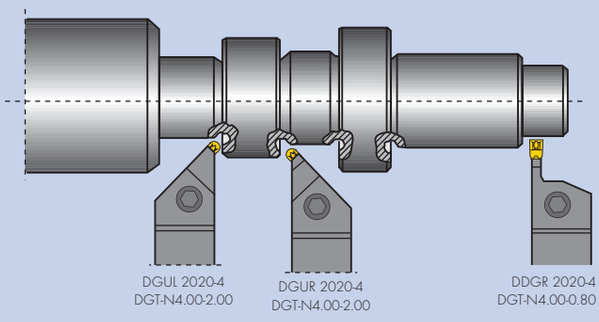
The solution: D-CLAMP

D-Clamp in comparison to conventional turning tools

External machining
Conventional/ISO



External machining
D-Clamp system



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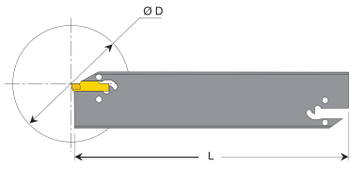
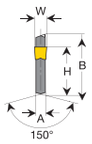
D-CLAMP





DGB

- For deep grooving and parting-off
- Supplied without chuck key

Designation	B mm	L mm	H mm	A mm	W mm	Insert seat	suitable cutting inserts	D max. mm	suitable wrench	suitable clamping shanks	art.no.	€
DGB 26-2S	26	150	21.4	1.6	2.0	Single-sided	DDC/DSC/DDJ/DSJ	39.0	EDG-33B	AGTBN 16-5 / 19-5 / 20-5	**350140** 2602	105,–
DGB 26-3S	26	150	21.4	2.4	3.0	Single-sided	DDC/DSC/DDJ/DSJ	70.0	EDG-33B	AGTBN 16-5 / 19-5 / 20-5	350140 2603	105,–
DGB 32-2	32	150	24.8	1.6	2.0	Double-sided	DDC/DSC/DDJ/DSJ	40.0	EDG-33B	AGTBN 20-6 / 25-6 / 32-6 / 38-6	350140 3202	105,–
DGB 32-3	32	150	24.8	2.4	3.0	Double-sided	DDC/DSC/DDJ/DSJ	80.0	EDG-33B	AGTBN 20-6 / 25-6 / 32-6 / 38-6	350140 3203	105,–
DGB 32-4	32	150	24.8	3.2	4.0	Double-sided	DDC/DSC/DDJ/DSJ	100.0	EDG-33B	AGTBN 20-6 / 25-6 / 32-6 / 38-6	350140 3204	105,–

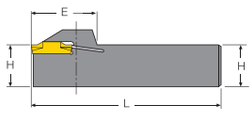
3119

Chuck key

- For mounting cutting inserts into the cutting edge holder

Designation	art.no.	€
EDG-33B	**350501** 0200	33,90

3106



DDG

- For longitudinal turning and grooving
- For external machining

Designation	H mm	B mm	L mm	F mm	T mm	E mm	A mm	W mm	suitable cutting inserts	suitable clamping screw	suitable wrench	Right-hand art.no.	€	Left-hand art.no.	€
DDGR/L - 1616 - 2	16	16	110	14.95	12	32	1.6	2.0	DDC/DSC/DDJ/DSJ	DB120516	SW-4	**350101** 1602	131,–		
DDGR/L - 2020 - 2	20	20	125	18.95	12	32	1.6	2.0	DDC/DSC/DDJ/DSJ	DB120516	SW-4	350101 2002	151,–	**350102** 2002	151,–
DDGR/L - 1616 - 3	16	16	110	14.95	12	32	2.1	3.0	DDC/DSC/DDJ/DSJ/DGT-N/DGP-N	DB120516	SW-4	350101 0001	131,–		
DDGR/L - 2020 - 3	20	20	125	18.95	12	32	2.1	3.0	DDC/DSC/DDJ/DSJ/DGT-N/DGP-N	DB120516	SW-4	350101 0002	151,–	350102 0002	151,–
DDGR/L - 2020 - 3/4	20	20	135	18.95	22	41	2.1	3.0	DDC/DSC/DDJ/DSJ/DGT-N/DGP-N	DB120516	SW-4	350101 3001	156,–	350102 3001	156,–
DDGR/L - 2525 - 3	25	25	150	23.95	12	32	2.1	3.0	DDC/DSC/DDJ/DSJ/DGT-N/DGP-N	DB120516	SW-4	350101 0003	163,–	350102 0003	163,–
DDGR/L - 2525 - 3/4	25	25	140	23.95	27	46	2.1	3.0	DDC/DSC/DDJ/DSJ/DGT-N/DGP-N	DB120516	SW-4	350101 3002	156,–	350102 3002	156,–
DDGR/L - 1616 - 4	16	16	110	14.55	15	32	2.9	4.0	DDC/DSC/DDJ/DSJ/DGT-N/DGP-N	DB120516	SW-4	350101 0004	*131,–*		
DDGR/L - 2020 - 4	20	20	125	18.55	15	32	2.9	4.0	DDC/DSC/DDJ/DSJ/DGT-N/DGP-N	DB120516	SW-4	350101 0005	151,–	350102 0005	151,–
DDGR/L - 2525 - 4	25	25	150	23.55	15	32	2.9	4.0	DDC/DSC/DDJ/DSJ/DGT-N/DGP-N	DB120516	SW-4	350101 0006	163,–	350102 0006	163,–
DDGR/L - 2020 - 5	20	20	125	18.05	20	37	3.9	5.0	DDC/DSC/DDJ/DSJ/DGT-N/DGP-N	DB120616	SW-5	350101 0007	151,–	350102 0007	*151,–*
DDGR/L - 2525 - 5	25	25	150	23.05	20	37	3.9	5.0	DDC/DSC/DDJ/DSJ/DGT-N/DGP-N	DB120616	SW-5	350101 0008	163,–	350102 0008	163,–
DDGR/L - 2525 - 6	25	25	150	22.55	20	37	4.9	6.0	DDC/DSC/DDJ/DSJ/DGT-N/DGP-N	DB120616	SW-5	350101 0010	163,–		

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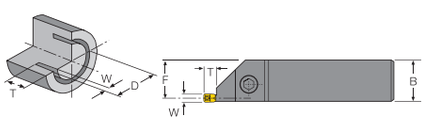

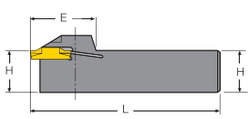

DGF

- For external and axial grooving
- For precision grooving inserts, type DGP-N

Designation	H mm	B mm	L mm	F mm	E mm	W mm	T max. mm	D min. mm	suitable cutting inserts	suitable clamping screw	suitable wrench	Right-hand art.no.	€	Left-hand art.no.	€
DGFR/L - 2020 - 4	20	20	125	18.55	32	4.0	6.0	30.0	DDFT R/L, DSC/DSJ	DB120516	SW-4	**350120** 0003	151,–	**350121** 0003	151,–

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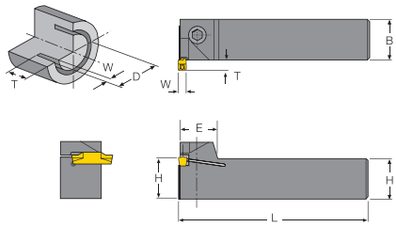
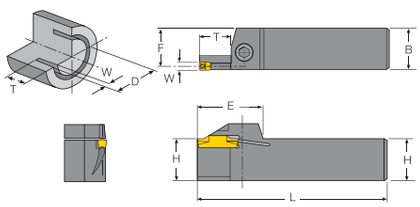


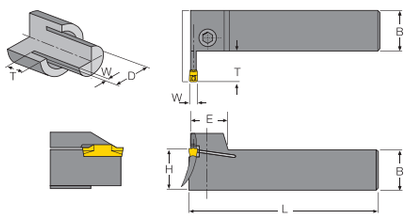
DFCP, rectangular
- For axial grooving and longitudinal turning
- After grooving, the facing diameter is unlimited

Designation	H mm	B mm	L mm	E mm	W mm	T max. mm	D mm	suitable cutting inserts	suitable clamping screw	suitable wrench	**Right-hand** art.no.	€	**Left-hand** art.no.	€
DGFPR/L-2525-4	25	25	150	18	4.0	4.8	30	DDFT R/L	DB120516	SW-4	**350125** 0002	163,–	**350126** 0002	163,–
											3119		3119	



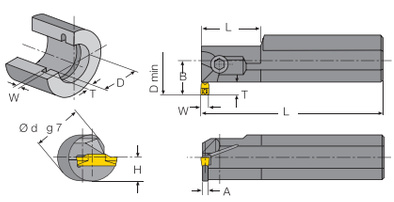
DFS
- For deep axial grooving and facing
- After grooving, the facing diameter is unlimited

Designation	H mm	B mm	L mm	F mm	E mm	W mm	T max. mm	D mm	suitable cutting inserts	suitable clamping screw	suitable wrench	**Right-hand** art.no.	€
DFSR/L-25-30-4	25	25	150	23.55	32	4.0	15.0	30 - 40	DDFT R/L	DB120516	SW-4	**350130** 0001	194,–
DFSR/L-25-40-4	25	25	150	23.55	32	4.0	15.0	40 - 50	DDFT R/L	DB120516	SW-4	350130 0002	194,–
DFSR/L-25-50-4	25	25	150	23.55	32	4.0	15.0	50 - 60	DDFT R/L	DB120516	SW-4	350130 0003	*194,–*
DFSR/L-25-60-4	25	25	150	23.55	32	4.0	15.0	60 - 85	DDFT R/L	DB120516	SW-4	350130 0004	194,–
DFSR/L-25-60-6	25	25	150	22.55	37	6.0	20.0	60 - 85	DGT-N/DDC/DDJ	DB120616	SW-5	350130 0005	*194,–*
DFSR/L-25-85-6	25	25	150	22.55	37	6.0	20.0	85 - 150	DGT-N/DDC/DDJ	DB120616	SW-5	350130 0006	230,–
DFSR/L-25-150-6	25	25	150	23.55	37	6.0	20.0	150 - 250	DGT-N/DDC/DDJ	DB120616	SW-5	350130 0007	230,–
												3119	



DFCP, rectangular
- For deep axial grooving and facing
- After grooving, the facing diameter is unlimited

Designation	H mm	B mm	L mm	F mm	E mm	W mm	T max. mm	D mm	suitable cutting inserts	suitable clamping screw	suitable wrench	**Right-hand** art.no.	€
DFCPR/L-25-30-4	25	25	150	23.55	18	4.0	12.0	30 - 40	DDFT R	DB120516	SW-4	**350135** 0001	194,–
DFCPR/L-25-40-4	25	25	150	23.55	18	4.0	15.0	40 - 50	DDFT R	DB120516	SW-4	350135 0002	194,–
DFCPR/L-25-50-4	25	25	150	23.55	18	4.0	15.0	50 - 60	DDFT R	DB120516	SW-4	350135 0003	194,–
DFCPR/L-25-60-4	25	25	150	23.55	18	4.0	15.0	60 - 85	DDFT R	DB120516	SW-4	350135 0004	194,–
												3119	



DGI
- For longitudinal turning and grooving
- For internal machining

Designation	d mm	D min. mm	L2 mm	L1 mm	B mm	H mm	T max. mm	A mm	W mm	suitable cutting inserts	suitable clamping screw	suitable wrench	**Right-hand** art.no.	€	**Left-hand** art.no.	€
DGIR/L - 20 - 3	20	26.0	160	40	15.8	9	6.5	2.1	3.0	DGTIN	DB 120512	SW-4	**350110** 0001	215,–	**350111** 0001	215,–
DGIR/L - 20 - 4	20	26.0	160	40	15.8	9	6.5	2.9	4.0	DGTIN	DB 120512	SW-4	350110 0002	215,–	350111 0002	215,–
DGIR/L - 25 - 3	25	25.0	200	40	17.5	11.5	6.5	2.1	3.0	DGTIN	DB 120512	SW-4	350110 2503	220,–	350111 2503	220,–
DGIR/L - 25 - 4	25	26.0	200	40	17.5	11.5	5.8	2.9	4.0	DGTIN	DB 120512	SW-4	350110 0003	215,–	350111 0003	215,–
DGIR/L - 25 - 5	25	31.0	200	40	18.3	11.5	6.5	3.9	5.0	DGTIN	DB 120616	SW-5	350110 0004	215,–	350111 0004	215,–
													3119		3119	

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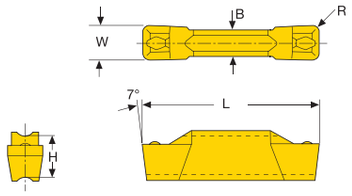
DGT

- For longitudinal turning and grooving
- Cutting edge accuracy W ± 0.02 mm

Designation	W±0.02 mm	R±0.05 mm	B mm	L mm	H mm		ISO P DC 7400 coated art.no.	€
DGT-N3.00-0.40	3.00	0.40	2.2	20	4.7	10	**351001** 0120	27,50
DGT-N4.00-0.40	4.00	0.40	3.0	20	4.7	10	351001 0220	28,30
DGT-N4.00-0.80	4.00	0.80	3.0	20	4.7	10	351001 0320	28,30
DGT-N5.00-0.40	5.00	0.40	4.0	25	5.2	10	351001 0420	29,70
DGT-N5.00-0.80	5.00	0.80	4.0	25	5.2	10	351001 0520	29,70
DGT-N6.00-0.80	6.00	0.80	5.0	25	5.2	10	351001 0620	37,–
DGT-N8.00-0.80	8.00	0.80	6.0	30	6.4	10	351001 0820	41,30

3120



DGT-E

- For longitudinal turning and grooving
- Cutting edge accuracy W ± 0.05 mm

Designation	W±0.05 mm	R mm	B mm	L mm	H mm		ISO K N DC 210 uncoated art.no.	€		ISO P DC 7400 coated art.no.	€
DGT-N3E-0.4	3.00	0.40	2.2	20	4.7	10	**351003** 0103	17,90	10	**351003** 0120	22,20
DGT-N4E-0.4	4.00	0.40	3.0	20	4.7	10	351003 0203	18,40	10	351003 0220	22,80

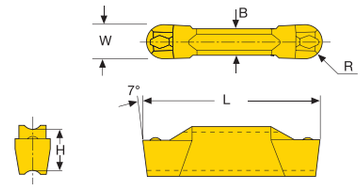
3120 3120

DGT, full radius

- For longitudinal turning and grooving

Designation	W±0.02 mm	R±0.05 mm	B mm	L mm	H mm		ISO P DC 7400 coated art.no.	€
DGT-N-3.00-1.50	3.00	1.50	2.2	20	4.7	10	**351005** 0120	28,70
DGT-N4.00-2.00	4.00	2.00	3.0	20	4.7	10	351005 0220	30,80
DGT-N5.00-2.50	5.00	2.50	4.0	25	5.2	10	351005 0320	32,10
DGT-N6.00-3.00	6.00	3.00	5.0	25	5.2	10	351005 0420	40,10

3120

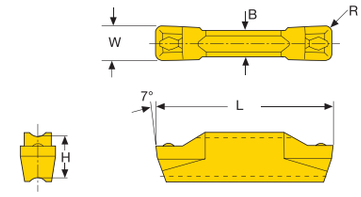


DGTI

- For internal longitudinal turning and grooving

Designation	W±0.02 mm	R±0.05 mm	B mm	L mm	H mm		ISO P DC 7400 coated art.no.	€
DGTI-N3.00-0.40	3.00	0.40	2.2	20	4.7	10	**351010** 0120	27,20
DGTI-N4.00-0.40	4.00	0.40	3.0	20	4.7	10	351010 0220	28,30
DGTI-N5.00-0.40	5.00	0.40	4.0	25	5.2	10	351010 0420	28,30

3120

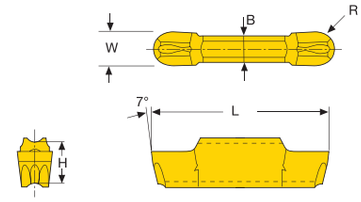


DGTI, full radius

- For internal longitudinal turning and grooving

Designation	W mm	R mm	B mm	L mm	H mm		ISO P DC 7400 coated art.no.	€
DGTI-N3.00-1.50	3.00	1.50	2.2	20	4.7	10	**351012** 0120	29,10
DGTI-N4.00-2.00	4.00	2.00	3.0	20	4.7	10	351012 0220	30,90

3120



DDFT, right-hand

- For axial grooving and longitudinal turning

Designation	W±0.05 mm	R mm	B mm	L mm	H mm		ISO P DC 7400 coated art.no.	€
DDFT3E-0.4R	3.00	0.40	2.2	20	4.7	10	**351015** 0120	27,90
DDFT4E-0.4R	4.00	0.40	3.0	20	4.7	10	351015 0220	29,20

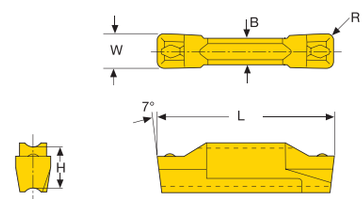
3120

DDFT, left-hand

- For axial grooving and longitudinal turning

Designation	W±0.05 mm	R mm	B mm	L mm	H mm		ISO P DC 7400 coated art.no.	€
DDFT4E-0.4L	4.00	0.40	3.0	20	4.7	10	**351016** 0220	29,20

3120



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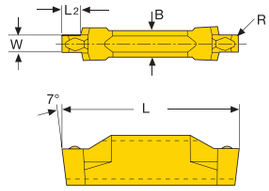
DGP

- For circlips
- For precision grooving

ISO P

Designation	W±0.02 mm	R±0.03 mm	B mm	L mm	L2 mm	H mm		DC 7400 coated art.no.	€
DGP-N1.00-0.00	1.00	0.00	2.2	20.0	2	4.7	10	**351020** 0020	25,90
DGP-N1.30-0.00	1.30	0.00	2.2	20.0	2	4.7	10	351020 0220	25,90
DGP-N1.60-0.10	1.60	0.10	2.2	20.0	2	4.7	10	351020 0320	25,90
DGP-N1.85-0.10	1.85	0.10	2.2	20.0	3	4.7	10	351020 0420	25,90
DGP-N2.15-0.15	2.15	0.15	2.2	20.0	3	4.7	10	351020 0520	25,90
DGP-N2.65-0.15	2.65	0.15	2.2	20.0	5	4.7	10	351020 0620	27,50
DGP-N3.15-0.15	3.15	0.15	2.2	20.0	5	4.7	10	351020 0720	27,50
DGP-N4.15-0.15	4.15	0.15	3.0	20.0	5	4.7	10	351020 0820	28,30

3120



For descriptions of chip breakers C and J, see page 30-152

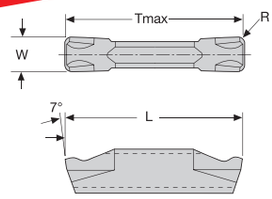
DDC

- Two-sided, with chip breaker version C
- For parting-off and grooving

ISO P M

Designation	W±0.05 mm	R mm	L mm	H mm	T max. mm		DC 554 coated art.no.	€
DDC2	2.00	0.20	20	4.7	19.0	10	**351050** 0130	20,60
DDC3	3.00	0.20	20	4.7	19.0	10	351050 0530	20,60
DDC4	4.00	0.30	20	4.7	19.0	10	351050 1030	22,10
DDC5	5.00	0.30	25	5.2	24.0	10	351050 1530	23,60

3120



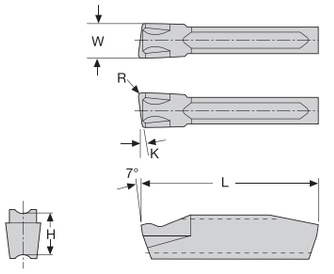
DSC, right-hand

- Single-sided, with chip breaker version C
- For deep grooving and parting-off

ISO P M

Designation	W±0.05 mm	R mm	L mm	K °	H mm		DC 554 coated art.no.	€
DSC2-6R	2.00	0.20	20	6.0	4.7	10	**351060** 0530	11,20
DSC3-6R	3.00	0.20	20	6.0	4.7	10	351060 1030	11,30
DSC4-4R	4.00	0.30	20	4.0	4.7	10	351060 1530	12,30

3120



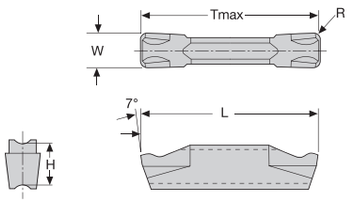
DSC, straight

- Single-sided, with chip breaker version C
- For deep grooving and parting-off

ISO P M

Designation	W±0.05 mm	R mm	L mm	H mm	K °		DC 9235 coated art.no.	€
DSC3	3.00	0.2	20.0	4.7	0	5	**351030** 1049	11,50

3120



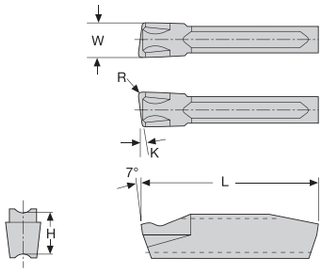
DSC, left-hand

- Single-sided, with chip breaker version C
- For deep grooving and parting-off

ISO P M

Designation	W±0.05 mm	R mm	L mm	K °	H mm		DC 554 coated art.no.	€
DSC2-6L	2.00	0.20	20	6.0	4.7	10	**351061** 0530	11,20
DSC3-6L	3.00	0.20	20	6.0	4.7	10	351061 1030	11,30
DSC4-4L	4.00	0.30	20	4.0	4.7	10	351061 1530	12,30

3120



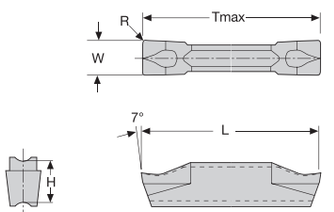
DDJ

- Two-sided, with chip breaker version J
- For parting-off and grooving

ISO P M

Designation	W±0.05 mm	R mm	L mm	H mm	T max. mm		DC 554 coated art.no.	€		DC 9800 coated art.no.	€
DDJ2	2.00	0.20	20	4.7	19.0	10	**351070** 0130	20,60	10	**351070** 0135	20,60
DDJ3	3.00	0.20	20	4.7	19.0	10	351070 0530	20,60	10	351070 0535	20,60
DDJ4	4.00	0.30	20	4.7	19.0	10	351070 1030	22,10			
DDJ5	5.00	0.30	25	5.2	24.0	10	351070 1530	23,60			

3120 3120



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DSJ, right-hand

- Single-sided, with chip breaker version J
- For deep grooving and parting-off

ISO P M

Designation	W±0.05 mm	R mm	L mm	K °	H mm		DC 554 coated art.no.	€
DSJ2-6R	2.00	0.20	20	6.0	4.7	10	**351080** 0530	11,20
DSJ3-6R	3.00	0.20	20	6.0	4.7	10	351080 1030	11,30
DSJ4-4R	4.00	0.30	20	4.0	4.7	10	351080 1530	12,30

3120

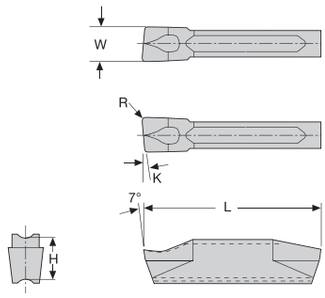
DSJ, left-hand

- Single-sided, with chip breaker version J
- For deep grooving and parting-off

ISO P M

Designation	W±0.05 mm	R mm	L mm	K °	H mm		DC 554 coated art.no.	€
DSJ2-6L	2.00	0.20	20	6.0	4.7	10	**351081** 0530	11,20
DSJ3-6L	3.00	0.20	20	6.0	4.7	10	351081 1030	11,30
DSJ4-4L	4.00	0.30	20	4.0	4.7	10	351081 1530	12,30

3120



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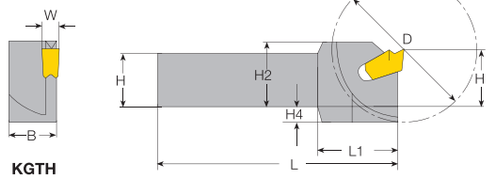
Parting-off and grooving tools D-GRIP

An effective, easy-to-use system for parting-off and grooving.
Comprised of various holding tools and cutting inserts for all standard materials, it provides for a wide variety of uses.

The cutting inserts are fixed in place using a wedge-shaped clamping system.

Duracarb D-GRIP recess turning tool holder

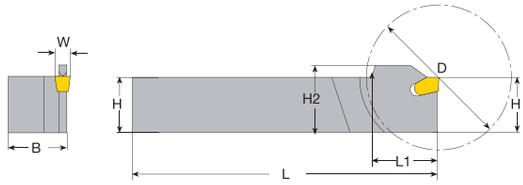
KGTHR



KGTH

Designation	W±0.1 mm	D max. mm	H mm	H1 mm	B mm	L mm	L1 mm	H2 mm	H4 mm	suitable cutting inserts	**Right-hand** art.no.	€
KGTHR 10-2	2.2 2.4	28	10	10	10	86	18	19	5	KGT_-2; 2.4	**352001** 0001	112,–
KGTHR 12-2	2.2 2.4	30	12	12	10	110	18	19	4	KGT_-2; 2.4	352001 0002	114,–
KGTHR 12-3	3.1	32	12	12	10	110	21	21	6	KGT_-3	352001 0003	114,–
KGTHR 16-2	2.2 2.4	30	16	16	10	110	18	19	-	KGT_-2; 2.4	352001 0004	118,–
KGTHR 16-3	3.1	32	16	16	12	110	20	24	4	KGT_-3	352001 0005	*118,–*
KGTHR 20-3	3.1	36	20	20	12	110	23	24	-	KGT_-3	352001 0008	134,–

3121



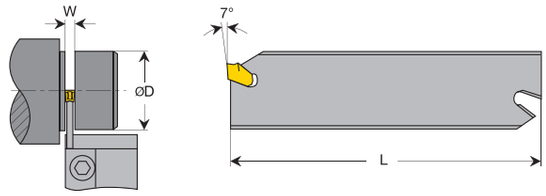
KGTHR

- With end-to-end supporting surface

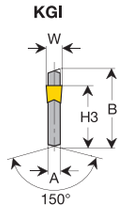
Designation	W±0.1 mm	D max. mm	H mm	H1 mm	B mm	L mm	L1 mm	H2 mm	suitable cutting inserts	**Right-hand** art.no.	€
KGTHR 2020-3	3.1	45	20	20	20	120	25	25.0	KGT_-3	**352005** 0001	134,–
KGTHR 2020-4	4.1	60	20	20	20	120	33	25.0	KGT_-4	352005 0002	134,–
KGTHR 2525-3	3.1	52	25	25	25	150	25	30.0	KGT_-3	352005 0003	*145,–*
KGTHR 2525-4	4.1	62	25	25	25	150	30	30.0	KGT_-4	352005 0004	145,–

3121

Duracarb D-GRIP recessing blade



KGI



KGIH

- Parting-off and grooving
- *) A = 1.6 mm only in relation to the recess depth; generally A = 2.4 mm

Designation	W±0.1 mm	D max. mm	A mm	B mm	L mm	H3 mm	suitable cutting inserts	Holder	art.no.	€
KGIH 19-2	2.2 2.4	40	1.6	19	86	15.7	KGT_-2	AGTBR/L 19-2; AGTBN 16-2	**352501** 0001	95,50
KGIH 26-2	2.2 2.4	50	1.6	26	110	21.4	KGT_-2	AGTBR/L 25-6; AGTBN 16-5, 19-5, 20-5	352501 0002	103,–
KGIH 26-3	3.1	75	2.4	26	110	21.4	KGT_-3	AGTBR/L 25-6; AGTBN 16-5, 19-5, 20-5	352501 0003	103,–
KGIH 26-4	4.1	80	3.2	26	110	21.4	KGT_-4	AGTBR/L 25-6; AGTBN 16-5, 19-5, 20-5	352501 0004	103,–
KGIH 32-2	2.2 2.4	40	1.6*)	32	150	25.0	KGT_-2	AGTBN 19-6, 20-6; AGTBN 25-6, 32-6; AGTBN 38-6	352501 0007	114,–
KGIH 32-3	3.1	100	2.4	32	150	25.0	KGT_-3	AGTBR/L 25-6; AGTBN 16-5, 19-5, 20-5	352501 0008	114,–
KGIH 32-4	4.1	100	3.2	32	150	25.0	KGT_-4	AGTBR/L 25-6; AGTBN 16-5, 19-5, 20-5	352501 0009	114,–
KGIH 32-5	5.1	120	4	32	150	25.0	KGT_-5	AGTBR/L 25-6; AGTBN 16-5, 19-5, 20-5	352501 0010	114,–
KGIH 32-6	6.4	120	5.2	32	150	25.0	KGT_-6	AGTBR/L 25-6; AGTBN 16-5, 19-5, 20-5	352501 0011	115,–

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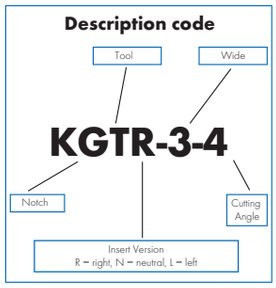
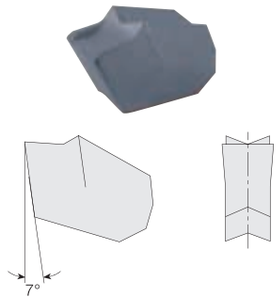
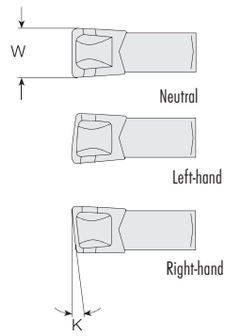


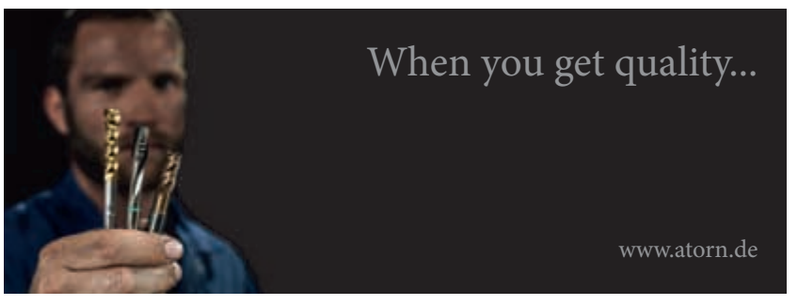


KGTN/R/L

• Parting-off and grooving

Designation	K °	W±0.1 mm		ISO P DC 340 uncoated art.no.	€		ISO K N DC 210 uncoated art.no.	€		ISO P DC 9340 art.no.	€
KGTN-2	0.0	2.2	5	**353001** 0110	10,–	5	**353001** 0120	10,–	5	**353001** 0130	13,20
KGTR-2-4 D	4.0	2.2							5	353001 0230	13,20
KGTL-2-4 D	4.0	2.2							5	353001 0330	13,20
KGTR-2-8 D	8.0	2.2	5	353001 0410	10,–				5	353001 0430	13,20
KGTL-2-8 D	8.0	2.2							5	353001 0530	13,20
KGTN-3	0.0	3.1	5	353001 1310	10,55	5	353001 1320	10,55	5	353001 1330	13,90
KGTR-3-4 D	4.0	3.1	5	353001 1410	10,55	5	353001 1420	10,55	5	353001 1430	13,90
KGTL-3-4 D	4.0	3.1				5	353001 1520	10,55	5	353001 1530	13,90
KGTR-3-8 D	8.0	3.1							5	353001 1630	13,90
KGTL-3-8 D	8.0	3.1							5	353001 1730	13,90
KGTN-4	0.0	4.1				5	353001 2020	11,25	5	353001 2030	14,85
KGTR-4-4 D	4.0	4.1	5	353001 2110	11,25				5	353001 2130	14,85
KGTL-4-4 D	4.0	4.1							5	353001 2230	14,85
KGTN-5	0.0	5.1							5	353001 3230	15,70
KGTN-6	0.0	6.4	5	353001 3710	13,05						
				3122			3122			3122	





...then it's ATORN.

ATORN®
High quality for great performance

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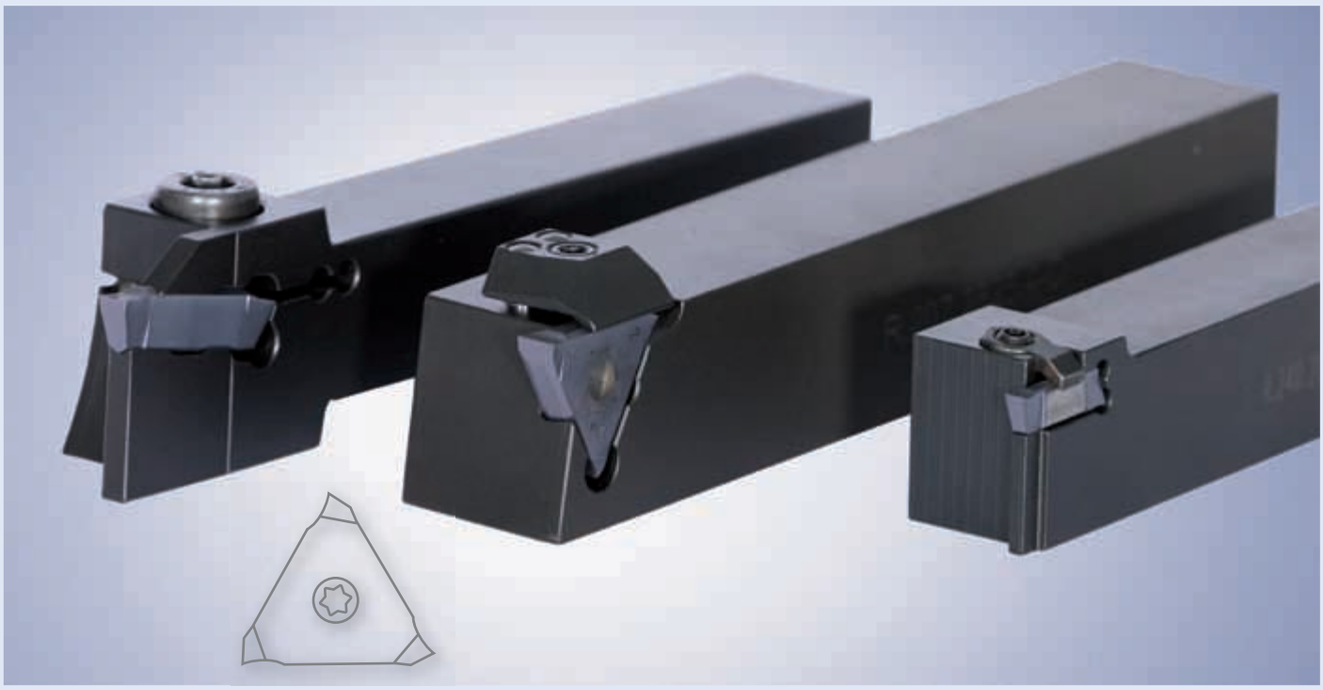
ATORN® DED grooving system

INFO

Recess turning tools with three-fluted indexable inserts

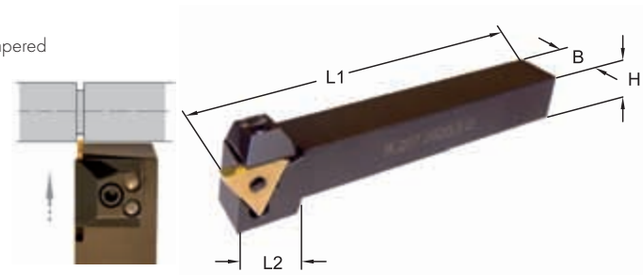


ATORN® DED

- 3-cutting-edge system
- Quick, positionally accurate changing of blades
- For punching depths up to 6 mm depth and 8 mm width
- For grooving and parting-off, for grooves in accordance with DIN 471/472, for axial grooves
- More cost-effective with 3 cutting edges
- Soft cutting with modern coatings and ground chip breakers

ATORN® DED grooving system holder

- **For three-edged recessing inserts**
- Solid tool holder made from 42 CrMo4V, approx. 1,300 N/mm² Hardened and tempered
- Powerful clamping element guided by two cylindrical pins



Holder type R/L..1-D

- Recessing depth up to 4 mm

Designation	H ± 0.1 mm	B ± 0.1 mm	L1 mm	L2 mm	T max. mm	suitable cutting inserts					Right-hand art.no.	€	Left-hand art.no.	€
R 207.1212.1-D	12	12	100	24	4	DED.00.. DED.01..	A1	B1		D1	**350001** 1212	98,50		
L 207.1616.1-D	16	16	125	22	4	DED.00.. DED.01..		B1	C1	D1			**350005** 1616	87,50
R 207.1616.1-D	16	16	125	22	4	DED.00.. DED.01..	A1	B1		D1	350001 1616	87,50		
L 207.2020.1-D	20	20	125	21	4	DED.00.. DED.01..		B1	C1	D1			350005 2020	68,–
R 207.2020.1-D	20	20	125	21	4	DED.00.. DED.01..	A1	B1		D1	350001 2020	68,–		
L 207.2525.1-D	25	25	150	-	4	DED.00.. DED.01..		B1	C1	D1			350005 2525	71,50
R 207.2525.1-D	25	25	150	-	4	DED.00.. DED.01..	A1	B1		D1	350001 2525	71,50		
											3131		3131	

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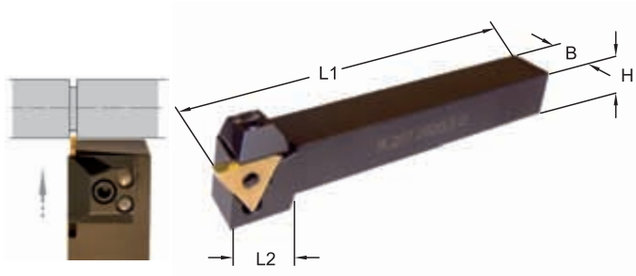
11 pcs set

- **DED grooving system**
- (holder with set of 10 indexable inserts)

Contents	art.no.	€
1x tool holder R.207.2020.1-D 20 x 20 mm, punching depth up to 4 mm (for DED.00../DED.01..) 1 of each recessing insert DIN 471/472: DED.0050.00-D 0.5 mm DED.0060.00-D 0.6 mm DED.0070.00-D 0.7 mm DED.0080.00-D 0.8 mm DED.0090.00-D 0.9 mm DED.0100.00-D 1.0 mm DED.0110.00-D 1.1 mm DED.0130.00-D 1.3 mm DED.0160.00-D 1.6 mm DED.0185.00-D 1.85 mm	**350600** 0011	275,–
	3131	



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Holder type R/L..2-D

- Recessing depth up to 6 mm

Designation	H ± 0.1 mm	B ± 0.1 mm	L1 mm	L2 mm	T max. mm	suitable cutting inserts					**Right-hand** art.no.	€	**Left-hand** art.no.	€
L 207.1616.2-D	16	16	125	22	6	DED.02..		B1	C1	D1			**350006** 1616	*87,50*
R 207.1616.2-D	16	16	125	22	6	DED.02..	A1	B1		D1	**350002** 1616	*87,50*		
L 207.2020.2-D	20	20	125	21	6	DED.02..		B1	C1	D1			350006 2020	*68,–*
R 207.2020.2-D	20	20	125	21	6	DED.02..	A1	B1		D1	350002 2020	*68,–*		
L 207.2525.2-D	25	25	150	-	6	DED.02..		B1	C1	D1			350006 2525	*71,50*
R 207.2525.2-D	25	25	150	-	6	DED.02..	A1	B1		D1	350002 2525	*71,50*		
											3131		3131	

Holder type R/L..3-D

- Recessing depth up to 6 mm

Designation	H ± 0.1 mm	B ± 0.1 mm	L1 mm	L2 mm	T max. mm	suitable cutting inserts					**Right-hand** art.no.	€	**Left-hand** art.no.	€
L 207.1616.3-D	16	16	125	22	6	DED.03..		B1	C1	D1			**350007** 1616	*87,50*
R 207.1616.3-D	16	16	125	22	6	DED.03..	A1	B1		D1	**350003** 1616	*87,50*		
L 207.2020.3-D	20	20	125	21	6	DED.03..		B1	C1	D1			350007 2020	*68,–*
R 207.2020.3-D	20	20	125	21	6	DED.03..	A1	B1		D1	350003 2020	*68,–*		
L 207.2525.3-D	25	25	150	-	6	DED.03..		B1	C1	D1			350007 2525	*71,50*
R 207.2525.3-D	25	25	150	-	6	DED.03..	A1	B1		D1	350003 2525	*71,50*		
											3131		3131	

Holder type R/L..4-D

- Recessing depth up to 6 mm

Designation	H ± 0.1 mm	B ± 0.1 mm	L1 mm	L2 mm	T max. mm	suitable cutting inserts					**Right-hand** art.no.	€	**Left-hand** art.no.	€
L 207.1616.4-D	16	16	125	21	6	DED.04.. DED.05..		B1	C2	D1			**350008** 1616	*87,50*
R 207.1616.4-D	16	16	125	21	6	DED.04.. DED.05..	A2	B1		D1	**350004** 1616	*87,50*		
L 207.2020.4-D	20	20	125	-	6	DED.04.. DED.05..		B1	C2	D1			350008 2020	*68,–*
R 207.2020.4-D	20	20	125	-	6	DED.04.. DED.05..	A2	B1		D1	350004 2020	*68,–*		
L 207.2525.4-D	25	25	150	-	6	DED.04.. DED.05..		B1	C2	D1			350008 2525	*71,50*
R 207.2525.4-D	25	25	150	-	6	DED.04.. DED.05..	A2	B1		D1	350004 2525	*71,50*		
											3131		3131	

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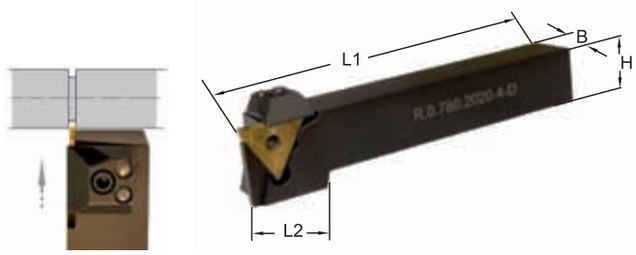

Holder type R/L..2-D

• Recessing depth up to 8 mm

Designation	H ± 0.1 mm	B ± 0.1 mm	L1 mm	L2 mm	T max. mm	suitable cutting inserts		B1	C1	D1	Right-hand art.no.	€	Left-hand art.no.	€
L 0.780.2020.2D	20	20	125	24	8	DED.02..		B1	C1	D1			**350012** 2020	72,50
R 0.780.2020.2D	20	20	125	24	8	DED.02..	A1	B1		D1	**350009** 2020	72,50		
L 0.780.2525.2D	25	25	150	-	8	DED.02..		B1	C1	D1			350012 2525	76,50
R 0.780.2525.2D	25	25	150	-	8	DED.02..	A1	B1		D1	350009 2525	76,50		
L 0.780.3232.2D	32	32	170	-	8	DED.02..		B1	C1	D1			350012 3232	91,–
R 0.780.3232.2D	32	32	170	-	8	DED.02..	A1	B1		D1	350009 3232	91,–		
											3131		3131	

Holder type R/L..3-D

• Recessing depth up to 8 mm

Designation	H ± 0.1 mm	B ± 0.1 mm	L1 mm	L2 mm	T max. mm	suitable cutting inserts		B1	C1	D1	Right-hand art.no.	€	Left-hand art.no.	€
L 0.780.2020.3D	20	20	125	24	8	DED.03..		B1	C1	D1			**350013** 2020	72,50
R 0.780.2020.3D	20	20	125	24	8	DED.03..	A1	B1		D1	**350010** 2020	72,50		
L 0.780.2525.3D	25	25	150	-	8	DED.03..		B1	C1	D1			350013 2525	76,50
R 0.780.2525.3D	25	25	150	-	8	DED.03..	A1	B1		D1	350010 2525	76,50		
L 0.780.3232.3D	32	32	170	-	8	DED.03..		B1	C1	D1			350013 3232	91,–
R 0.780.3232.3D	32	32	170	-	8	DED.03..	A1	B1		D1	350010 3232	91,–		
											3131		3131	

Holder type R/L..4-D

• Recessing depth up to 8 mm

Designation	H ± 0.1 mm	B ± 0.1 mm	L1 mm	L2 mm	T max. mm	suitable cutting inserts		B1	C2	D1	Right-hand art.no.	€	Left-hand art.no.	€
L 0.780.2020.4D	20	20	125	24	8	DED.04.. DED.05..		B1	C2	D1			**350014** 2020	72,50
R 0.780.2020.4D	20	20	125	24	8	DED.04.. DED.05..	A2	B1		D1	**350011** 2020	72,50		
L 0.780.2525.4D	25	25	150	-	8	DED.04.. DED.05..		B1	C2	D1			350014 2525	76,50
R 0.780.2525.4D	25	25	150	-	8	DED.04.. DED.05..	A2	B1		D1	350011 2525	76,50		
L 0.780.3232.4D	32	32	170	-	8	DED.04.. DED.05..		B1	C2	D1			350014 3232	91,–
R 0.780.3232.4D	32	32	170	-	8	DED.04.. DED.05..	A2	B1		D1	350011 3232	91,–		
											3131		3131	

Spare parts

	Clamping claw art.no.	€
A1	370001 0121	19,70
A2	370001 0125	21,90
	3131	

	Clamping screw art.no.	€
B1	370001 0200	3,99
	3131	

	Clamping claw art.no.	€
C1	370001 0221	19,70
C2	370001 0225	21,90
	3131	

	Guide pin art.no.	€
D1	370001 6325	0,36
	3131	

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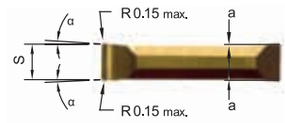
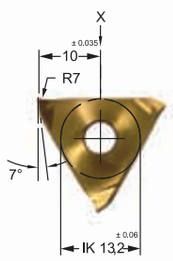
ATORN® DED grooving system inserts

- **3 cutting edges**
- Sintered version with incircle Ø 13.2 mm
- Positive, ground cutting geometries
- Extremely easy cutting action
- Low cutting forces
- Parting-off insert with chip breaker
- High thermal and chemical stability
- Low friction coefficient
- Can be used under some circumstances for dry machining
- Can be used universally with almost all materials
- Versions for parting-off, grooving, radius recessing, copy turning and precision turning
- **Material: HC 8620 ISO PMKNS fine grain carbide, TiAlN-coated**





For retaining grooves in accordance with DIN 471 / 472

ISO P M K N S

Designation	Groove width mm	S -0.05 mm	Clearance angle a below	Clearance angle a above	a ± 0.02 mm	suitable tool holder		art.no.	€
DED.0050.00-D	0.5	0.57	0.5°	1°	0.06	R/L..1-D	5	**360001** 0050	15,40
DED.0060.00-D	0.6	0.67	0.5°	1°	0.07	R/L..1-D	5	360001 0060	15,40
DED.0070.00-D	0.7	0.77	0.5°	1°	0.08	R/L..1-D	5	360001 0070	15,40
DED.0080.00-D	0.8	0.87	0.5°	1°	0.08	R/L..1-D	5	360001 0080	15,40
DED.0090.00-D	0.9	0.97	0.5°	1°	0.08	R/L..1-D	5	360001 0090	15,40
DED.0100.00-D	1.0	1.07	0.5°	1°	0.09	R/L..1-D	5	360001 0100	15,40
DED.0110.00-D	1.1	1.24	3°	3°	0.15	R/L..1-D	5	360001 0110	15,40
DED.0130.00-D	1.3	1.44	3°	3°	0.15	R/L..1-D	5	360001 0130	15,40
DED.0160.00-D	1.6	1.74	3°	3°	0.20	R/L..1-D	5	360001 0160	15,40
DED.0185.00-D	1.85	1.99	3°	3°	0.20	R/L..1-D	5	360001 0185	15,40
DED.0215.00-D	2.15	2.29	3°	3°	0.20	R/L..2-D	5	360001 0215	15,40
DED.0265.00-D	2.65	2.79	3°	3°	0.20	R/L..2-D	5	360001 0265	15,40
DED.0315.00-D	3.15	3.29	3°	3°	0.20	R/L..3-D	5	360001 0315	16,50
DED.0415.00-D	4.15	4.29	3°	3°	0.20	R/L..4-D	5	360001 0415	16,80
DED.0515.00-D	5.15	5.29	3°	3°	0.20	R/L..4-D	5	360001 0515	17,40

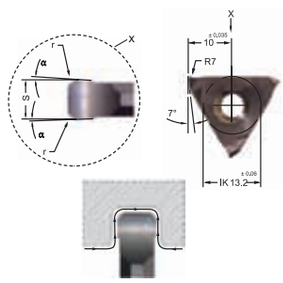
3131

For copy and precision turning

ISO P M K N S

Designation	S -0.05 mm	r mm	Clearance angle a below	Clearance angle a above	suitable tool holder		art.no.	€
DED.0150.02-D	1.5	0.2	4°	3°	R/L..1-D	5	**360002** 0150	19,10
DED.0200.02-D	2.0	0.2	4°	3°	R/L..1-D	5	360002 0202	19,10
DED.0200.04-D	2.0	0.4	4°	3°	R/L..1-D	5	360002 0204	19,70
DED.0300.02-D	3.0	0.2	4°	3°	R/L..2-D	5	360002 0302	19,70
DED.0300.06-D	3.0	0.6	4°	3°	R/L..2-D	5	360002 0306	20,20
DED.0300.08-D	3.0	0.8	4°	3°	R/L..2-D	5	360002 0308	*20,20*
DED.0400.02-D	4.0	0.2	4°	3°	R/L..3-D	5	360002 0402	20,40
DED.0400.08-D	4.0	0.8	4°	3°	R/L..3-D	5	360002 0408	*20,40*
DED.0400.12-D	4.0	1.2	4°	3°	R/L..3-D	5	360002 0412	20,40

3131



Full radius for recess turning grooves with widths from 0.5 to 1.6 mm

ISO P M K N S

Designation	S -0.05 mm	r mm	a mm	suitable tool holder		art.no.	€
DED.0002.05-D	0.5	0.25	0.07	R/L..1-D	5	**360004** 0002	21,–
DED.0005.10-D	1.0	0.5	0.09	R/L..1-D	5	360004 0005	21,–
DED.0006.12-D	1.2	0.6	0.20	R/L..1-D	5	360004 0006	*21,–*
DED.0008.16-D	1.6	0.8	0.25	R/L..1-D	5	360004 0008	21,–

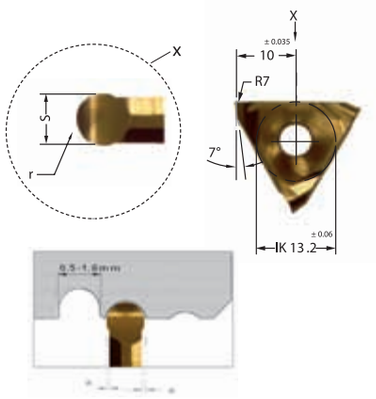
3131

Full radius for recess turning grooves with widths from 2.0 to 5.0 mm

ISO P M K N S

Designation	S -0.05 mm	r mm	suitable tool holder		art.no.	€
DED.0010.20-D	2.0	1.0	R/L..2-D	5	**360003** 0010	23,60
DED.0012.25-D	2.5	1.25	R/L..2-D	5	360003 0012	24,30
DED.0015.30-D	3.0	1.5	R/L..3-D	5	360003 0015	25,–
DED.0020.40-D	4.0	2.0	R/L..4-D	5	360003 0020	24,90
DED.0025.50-D	5.0	2.5	R/L..4-D	5	360003 0025	25,30

3131



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ATORN® Recess turning with *A-CUT*

INFO

The A-CUT system addresses a broad selection of machining processes. It is unique in its flexibility and cost-effectiveness.
Five different cutting insert designs and a wide range of holders are available.

The work processes made possible with the A-CUT system:

- Cutting-off and grooving
- Deep precision grooving
- Turning and copying
- Scoring and face turning
- Slot milling
- Axial grooving

A-CUT cutting inserts are offered with chip breakers in four different designs.
Each is designed to provide optimum performance in a specific field.
Select the geometry that is best suited to your application.

Selection of carbide metal quality

A-CUT **- Quality**		**ISO**	**Physical properties HRa, BBF= Resistance to bending fracture N/mm²**	**Material**	**Recommended field of use**
uncoated	**HW 3410**	K10-K20	HRa 92.5 BBF* 2250 N/mm²	Grey cast iron via HB 220, malleable cast iron,aluminium and aluminium-silicium,copper alloys, phenolic resin laminates and high-temperature resistant alloys	For medium machining and finshing work with medium cutting speeds and feed rates
coated	**HC 3630**	P20-P40	CVD-coated Multilayer TiC+TiCN+TiN	Carbon steel, alloyed steel, cast steel, malleable cast iron, austenitic INOX steel, martensitic INOX Stahl, free machining steel	Suitable for medium finishingand roughing, machining with interrupted cut
	HC 3635	P25-P45 M20-M30 K20-K40	PVD-coated TiCN	Steel, alloyed steel, INOX steel	For general applications at medium cutting speeds and with unstable machining conditions
	HC 3540	P30-P50 M20-M30	CVD-coated Multilayer TiC+TiCN+TiN	austenitic INOX steel, carbon steel and alloyed steel	A very tough coated sort medium and low cutting speeds and high feed rate, especially for parting-off up to to the middle

Geometry C
AIMC cutting inserts are ideal for grooving and parting-off with most steel-based materials, alloyed steels and stainless steels. They have a strong cutting edge, which makes the best choice for hard materials and rough conditions with medium to high feed rates.

Geometry J
AIMJ cutting inserts are ideal for grooving and parting-off when performing general tasks with low feed rates on carbon steel, alloyed steel and austenitic stainless steel. The cutting edge has a positive rake angle, which makes this model the best choice for soft materials, small diameters and thin-walled parts.

Geometry V
AIPV cutting inserts have been developed for precision grooving, facing and profile machining (width tolerance ± 0.02 mm). These cutting inserts are available with different corner radii.
The V-design has a multidirectional chip groove.

Geometry F
AIMF cutting inserts have been specially developed for axial and front-sided grooving. The height of the cutting edges with small diameters has been centre-aligned to enable grooves to be expanded with a series of overlapping grooving blades.

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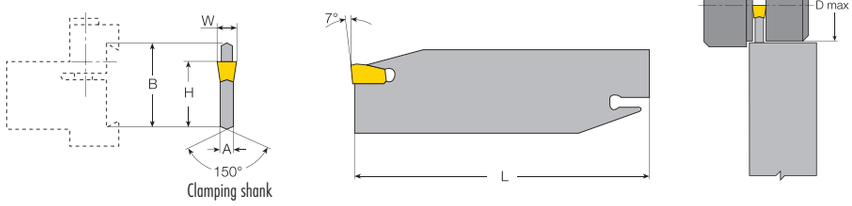
ATORN® A-CUT recessing blade

- **AH 101**
- Parting-off and deep grooving
- For use with recessing inserts of type ***AIMC, AIMJ*** and ***AIPV***
- **Note:** Tool holders should **not** be used for turning or copy turning operations.
- Supplied with ejector, without recessing inserts
- *) A = 1.2 mm only in relation to the recess depth. The total thickness is 1.6 mm
- **) A = 1.6 mm only in relation to the recess depth. The total thickness is 2.4 mm



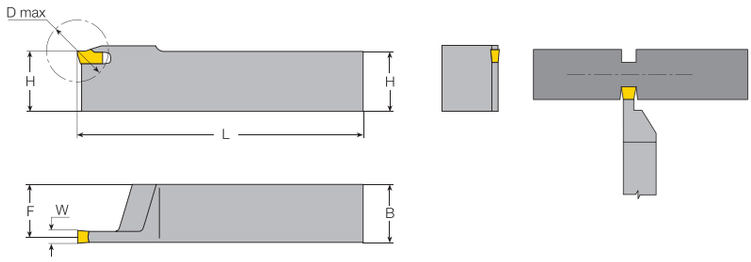
AH 101

Designation	W mm	B mm	A mm	L mm	H mm	max. workpiece Ø D max. mm	suitable clamping shanks	art.no.	€
AH 101 19 1	1.30 to 2.40	19	1.2*)	86	15.7	32.0	AGTBR 19-2/AGTBN 16-2	**354001** 1901	95,50
AH 101 19 2	1.85 to 2.50	19	1.6	86	15.7	38.0	AGTBR 19-2/AGTBN 16-2	354001 1902	95,50
AH 101 26 1	1.30 to 2.40	26	1.2*)	110	21.4	35.0	AGTBN 16-5/AGTBN 19-5/AGTBN 20-5	354001 2601	95,50
AH 101 26 2	1.85 to 2.50	26	1.6	110	21.4	50.0	AGTBN 16-5/AGTBN 19-5/AGTBN 20-5	354001 2602	95,50
AH 101 26 3	2.70 to 3.90	26	2.4	110	21.4	75.0	AGTBN 16-5/AGTBN 19-5/AGTBN 20-5	354001 2603	95,50
AH 101 26 4	3.70 to 4.70	26	3.2	110	21.4	80.0	AGTBN 16-5/AGTBN 19-5/AGTBN 20-5	354001 2604	95,50
AH 101 32 2	1.85 to 2.50	32	1.6**)	150	24.8	50.0	AGTBN 20-6/AGTBN 25-6/AGTBN 32-6	354001 3202	99,–
AH 101 32 3	2.70 to 3.90	32	2.4	150	24.8	100.0	AGTBN 20-6/AGTBN 25-6/AGTBN 32-6	354001 3203	99,–
AH 101 32 4	3.70 to 4.70	32	3.2	150	24.8	100.0	AGTBN 20-6/AGTBN 25-6/AGTBN 32-6	354001 3204	99,–
AH 101 32 5	4.50 to 5.50	32	4	150	24.8	125.0	AGTBN 20-6/AGTBN 25-6/AGTBN 32-6	354001 3205	99,–
AH 101 32 6	5.70 to 6.50	32	5.2	150	24.8	125.0	AGTBN 20-6/AGTBN 25-6/AGTBN 32-6	354001 3206	99,–

3117

ATORN® A-CUT parting-off and grooving tool holder

- **AHR/L 201**
- Parting-off and grooving
- For use with type **AIMC, AIMJ and AIPV** recessing inserts
- **Note:** These tool holders should not be used for turning operations (for this purpose, select tool holder type AHR/L 211),
- Supplied with ejector, without recessing inserts



AHR/L 201

Designation	W mm	H mm	B mm	L mm	F mm	max. workpiece Ø D max. mm	Right-hand AHR 201 art.no.	€	Left-hand AHL 201 art.no.	€
AHR/L 201 1212 2	1.85 to 2.50	12	12	110	11.2	32.0	**354002** 1202	109,–	**354003** 1202	109,–
AHR/L 201 1212 3	2.70 to 3.90	12	12	110	10.8	32.0	354002 1203	109,–		
AHR/L 201 1616 2	1.85 to 2.50	16	16	110	15.2	32.0	354002 1602	109,–	354003 1602	109,–
AHR/L 201 1616 3	2.70 to 3.90	16	16	110	14.8	35.0	354002 1603	109,–	354003 1603	109,–
AHR/L 201 2020 2	1.85 to 2.50	20	20	110	19.2	35.0	354002 2002	125,–	354003 2002	125,–
AHR/L 201 2020 3	2.70 to 3.90	20	20	120	18.8	52.0	354002 2003	125,–	354003 2003	125,–
AHR/L 201 2020 4	3.70 to 4.70	20	20	120	18.4	57.0	354002 2004	125,–	354003 2004	125,–
AHR/L 201 2525 3	2.70 to 3.90	25	25	150	23.8	56.0	354002 2503	131,–	354003 2503	131,–
AHR/L 201 2525 4	3.70 to 4.70	25	25	150	23.4	65.0	354002 2504	131,–	354003 2504	131,–

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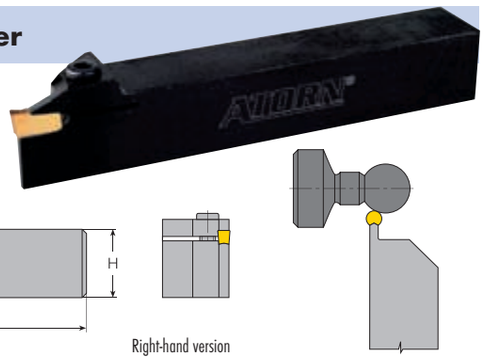
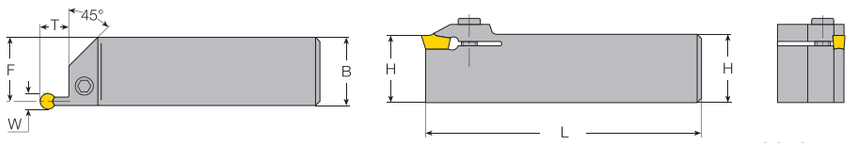
ATORN® A-CUT parting-off, grooving and turning tool holder



- **AHR/L 211**
- Parting-off, grooving and turning
- For use with type **AIMC, AIMJ and AIPV** recessing inserts
- **Note:** Type AIMC and AIMJ recessing inserts should **only** be used for grooving.
- Supplied without cutting inserts



Right-hand version

AHR/L 211

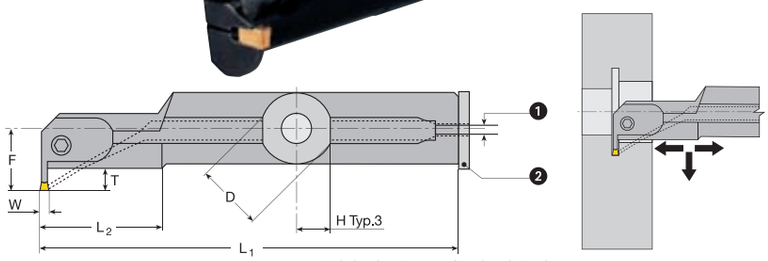
Designation	W mm	H mm	B mm	L mm	F mm	T mm	suitable clamping screw		Right-hand AHR 211 art.no.	€	Left-hand AHL 211 art.no.	€
AHR/L 211 1616 3	2.70 to 3.90	16	16	100	14.7	9.9	M5 x 16	A1	**354004** 1603	128,–		
AHR/L 211 1616 3	2.65 to 5.10	16	16	100	14.7	9.9	M5 x 16	A1			**354005** 1603	128,–
AHR/L 211 1616 4	3.70 to 4.70	16	16	100	14.2	13.0	M5 x 16	A1	354004 1604	128,–		
AHR/L 211 2020 3	2.70 to 3.90	20	20	125	18.7	9.9	M5 x 20	A2	354004 2003	147,–		
AHR/L 211 2020 3	2.65 to 5.10	20	20	125	18.7	9.9	M5 x 20	A2			354005 2003	147,–
AHR/L 211 2020 4	3.70 to 4.70	20	20	125	18.2	13.0	M5 x 20	A2	354004 2004	147,–		
AHR/L 211 2020 4	2.65 to 5.10	20	20	125	18.2	13.0	M5 x 20	A2			354005 2004	147,–
AHR/L 211 2525 3	1.85 to 2.50	25	25	150	23.7	9.9	M5 x 20	A2	354004 2503	159,–		
AHR/L 211 2525 3	2.65 to 5.10	25	25	150	23.7	9.9	M5 x 20	A2			354005 2503	159,–
AHR/L 211 2525 4	3.70 to 4.70	25	25	150	23.2	13.0	M5 x 25	A3	354004 2504	159,–		
AHR/L 211 2525 4	2.65 to 5.10	25	25	150	23.2	13.0	M5 x 25	A3			354005 2504	159,–
AHR/L 211 2525 5	4.50 to 5.50	25	25	150	22.7	13.0	M5 x 25	A3	354004 2505	159,–		
AHR/L 211 2525 5	2.65 to 5.10	25	25	150	22.7	13.0	M5 x 25	A3			354005 2505	159,–
AHR/L 211 2525 6	5.70 to 6.50	25	25	150	22.2	16.0	M5 x 25	A3	354004 2506	159,–		
AHR/L 211 2525 6	6.00 to 6.40	25	25	150	22.2	16.0	M5 x 25	A3			354005 2506	159,–
									3117		3117	

Spare parts

	Screw art.no.	€
A1	320901 0138	1,75
A2	320901 0139	1,75
A3	320901 0140	1,75
	3106	

ATORN® Boring bars A-CUT

- **AHR/L 619**
- Internal turning and grooving
- **With internal coolant supply**
- For use with type **AIMC, AIMJ and AIPV** recessing inserts
- **Note:** Type AIMC and AIMJ recessing inserts should ***only*** be used for grooving.
- Sealing thread: R 1/8"
- When using the seal, the boring bar can be shortened by max. 100 mm.
- Supplied with clamping screw, T20 Torx key and seal, without recessing inserts



Right-hand version 1 sealing thread 2 seal

AHR/L 619

Designation	W mm	D mm	Min. hole Ø mm	T max. mm	C mm	F mm	L1 mm	L2 mm	H mm	suitable clamping screw		Right-hand AHR 619 art.no.	€	Left-hand AHL 619 art.no.	€
AHR/L 619 25C 2	1.85 to 2.50	25	35.0	6.5	0.3	20	200	51	11.5	SR 76-1021	A2	**354008** 2502	215,–	**354009** 2502	215,–
AHR/L 619 25C 3	2.80 to 3.60	25	47.0	8.0	0.5	20.8	200	51	11.5	SR 76-1022	A1	354008 2503	215,–	354009 2503	215,–
AHR/L 619 25C 4	3.60 to 4.60	25	47.0	8.0	0.5	20.8	200	51	11.5	SR 76-1022	A1	354008 2504	215,–	354009 2504	215,–
AHR/L 619 32C 2	1.85 to 2.50	32	43.0	7.5	0.3	25	250	63.5	14.5	SR 76-1022	A1	354008 3202	255,–	354009 3202	255,–
AHR/L 619 32C 3	2.80 to 3.60	32	52.0	10.0	0.5	26.6	250	57	14.5	SR 76-1022	A1	354008 3203	255,–	354009 3203	255,–
AHR/L 619 32C 4	3.60 to 4.60	32	52.0	10.0	0.5	26.6	250	51	14	SR 76-1022	A1	354008 3204	255,–	354009 3204	255,–
AHR/L 619 40C 4	3.60 to 4.60	40	47.0	12.0	0.5	33	300	51	18	SR 76-1022	A1	354008 4004	345,–	354009 4004	345,–
												3117		3117	

Spare parts

	Screw art.no.	€
A1	320901 0137	9,95
A2	320901 0142	9,95
	3106	

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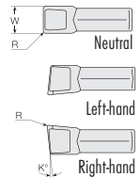
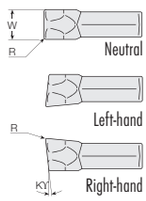


AIMC

- Parting-off and grooving
- With chip breaker
- Cutting width tolerance "W" ± 0.1 mm

Designation	W mm	R mm	K °	ISO K N HW3410 uncoated			ISO P M K HC3635 coated			ISO P HC3630 coated			ISO P M HC 3540 coated		
					art.no.	€		art.no.	€		art.no.	€		art.no.	€
AIMC 4 6L	4.1	0.25	6							5	**355001** 1464	12,80			
AIMC 1.6	1.6	0.16	0	5	**355001** 0103	9,20				5	355001 0164	12,–			
AIMC 2 6L	2.2	0.20	6	5	355001 0503	9,20				5	355001 0564	12,–			
AIMC 2 6R	2.2	0.20	6	5	355001 0603	9,20				5	355001 0664	12,–			
AIMC 2	2.2	0.20	0	5	355001 0403	9,20	5	**355001** 0449	12,–	5	355001 0464	12,–	5	**355001** 0462	12,–
AIMC 3 6L	3.1	0.20	6	5	355001 1103	9,20	5	355001 1149	12,65	5	355001 1164	12,–	5	355001 1162	12,–
AIMC 3 6R	3.1	0.20	6	5	355001 1203	9,20	5	355001 1249	12,–	5	355001 1264	12,–	5	355001 1262	12,–
AIMC 3	3.1	0.20	0	5	355001 1003	9,20	5	355001 1049	12,–	5	355001 1064	12,–	5	355001 1062	12,–
AIMC 4 6R	4.1	0.25	6	5	355001 1503	9,95				5	355001 1564	12,80			
AIMC 4	4.1	0.25	0	5	355001 1303	9,95	5	355001 1349	12,80	5	355001 1364	12,80	5	355001 1362	12,80
AIMC 5 6L	5.1	0.30	6	5	355001 2003	*10,70*				5	355001 2064	*13,80*			
AIMC 5 6R	5.1	0.30	6	5	355001 2103	*10,70*									
AIMC 5	5.1	0.30	0	5	355001 1903	10,70	5	355001 1949	13,80	5	355001 1964	13,80			
AIMC 6	6.4	0.35	0				5	355001 2249	15,20	5	355001 2264	15,20			
					3118			3118			3118			3118	



AIMJ

- Parting-off and grooving
- With chip breaker
- Cutting width tolerance "W" ± 0.1 mm

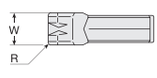
Designation	W mm	R mm	K °	ISO K N HW3410 uncoated			ISO P M K HC3635 coated			ISO P HC3630 coated			ISO P M HC 3540 coated		
					art.no.	€		art.no.	€		art.no.	€		art.no.	€
AIMJ 2	2.2	0.20	0	5	**355002** 0403	9,20	5	**355002** 0449	12,–	5	**355002** 0464	12,–	5	**355002** 0462	12,–
AIMJ 2 6L	2.2	0.20	6	5	355002 0503	*9,20*	5	355002 0549	12,–				5	355002 0562	12,–
AIMJ 2 6R	2.2	0.20	6	5	355002 0603	9,20	5	355002 0649	12,–	5	355002 0664	*11,40*	5	355002 0662	12,–
AIMJ 3	3.1	0.20	0	5	355002 1003	9,20	5	355002 1049	12,–	5	355002 1064	12,–	5	355002 1062	12,–
AIMJ 3 6L	3.1	0.20	6	5	355002 1103	9,20	5	355002 1149	12,–	5	355002 1164	12,–	5	355002 1162	12,–
AIMJ 3 6R	3.1	0.20	6	5	355002 1203	9,20	5	355002 1249	12,–	5	355002 1264	12,–	5	355002 1262	12,–
AIMJ 4	4.1	0.25	0	5	355002 1303	9,95	5	355002 1349	12,80	5	355002 1364	12,80	5	355002 1362	12,80
AIMJ 4 6L	4.1	0.25	6							5	355002 1464	12,80			
AIMJ 4 6R	4.1	0.25	6				5	355002 1549	*12,65*	5	355002 1564	12,80			
AIMJ 5	5.1	0.30	0							5	355002 1964	13,05			
					3118			3118			3118			3118	

AIPV

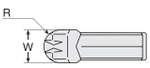
- Precision grooving and turning (E version, rounded)
- With chip breaker
- Cutting width tolerance "W" ± 0.02 mm

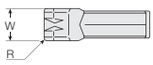
Designation	W mm	R mm	ISO P M K HC3635 coated			ISO P M HC 3540 coated		
				art.no.	€		art.no.	€
AIPV 3.00E 0.40	3	0.40	5	**355003** 0149	13,90			
AIPV 4.00E 0.40	4	0.40	5	355003 0249	14,40			
AIPV 3.00E 1.50	3	1.50	5	355003 0649	14,60	5	**355003** 0662	13,45
AIPV 4.00E 2.00	4	2.00	5	355003 0749	15,70			
AIPV 6.00E 3.00	6	3.00	5	355003 0949	20,40			
				3118			3118	

355003 0149 - 0549



355003 0649 - 0949





AIPV

- Precision grooving and turning (circlip)
- With chip breaker
- Cutting width tolerance "W" ± 0.02 mm

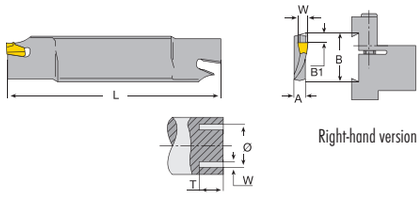
Designation	W mm	R mm		ISO P M K HC3635 coated art.no.	€		ISO P M HC 3540 coated art.no.	€
AIPV 1.85 0.10	1.85	0.10	5	**355004** 0149	13,25	5	**355004** 0162	*12,25*
AIPV 2.00 0.20	2.00	0.20	5	355004 0249	13,25	5	355004 0262	*12,25*
AIPV 2.15 0.15	2.15	0.15	5	355004 0349	13,25			
AIPV 2.65 0.15	2.65	0.15	5	355004 0449	13,90			
AIPV 3.00 0.20	3.00	0.20	5	355004 0549	13,90	5	355004 0562	12,80
AIPV 4.00 0.20	4.00	0.20	5	355004 0749	14,40			
AIPV 4.15 0.15	4.15	0.15	5	355004 0849	14,40			
AIPV 5.00 0.20	5.00	0.20				5	355004 0962	*13,95*
				3118			3118	

ATORN® A-CUT axial grooving blade

- **AH 106 R**
- **For use with AIMF recessing inserts**
- **Only for axial (front face) machining**
- For fitting in AGTBN clamping shanks
- For machining diameters from 35 to 700 mm

AH 106 R

Designation	Insert size mm	W mm	B mm	D min. mm	T max. mm	D max. mm	A mm	B1 mm	L mm	Right-hand AH 106R art.no.	€
AH 106 35R-2	AIMF 2N	2.1	32.0	35	20.0	46	5.2	0.8	150.0	**354012** 3502	164,–
AH 106 45R-2	AIMF 2N	2.1	32.0	45	20.0	61	5.2	0.8	150.0	354012 4502	156,–
AH 106 60R-2	AIMF 2N	2.1	32.0	60	20.0	80	5.2	0.8	150.0	354012 6002	156,–
AH 106 80R-2	AIMF 2N	2.1	32.0	79	20.0	102	4.0	0.8	150.0	354012 8002	156,–
AH 106 100R-2	AIMF 2N	2.1	32.0	101	20.0	132	4.0	0	150.0	354012 1002	*156,–*
AH 106 75R-3	AIMF 3N	3.0	32.0	65	20.0	92	5.2	1.0	150.0	354012 7503	156,–
AH 106 90R-3	AIMF 3N	3.0	32.0	90	20.0	122	5.2	0.2	150.0	354012 9003	156,–
AH 106 120R-3	AIMF 3N	3.0	32.0	120	25.0	160	5.2	0	150.0	354012 1203	156,–
AH 106 80R-4	AIMF 4N	4.0	32.0	80	30.0	155	5.2	2.5	150.0	354012 8004	156,–
AH 106 150R-4	AIMF 4N	4.0	32.0	150	30.0	500	5.2	2.5	150.0	354012 1504	156,–
AH 106 80R-5	AIMF 5N	5.0	32.0	80	32.0	162	5.2	2.5	150.0	354012 8005	156,–
AH 106 150R-5	AIMF 5N	5.0	32.0	150	35.0	600	5.2	2.5	150.0	354012 1505	156,–
AH 106 90R-6	AIMF 6N	6.0	32.0	90	32.0	150	5.2	2.5	150.0	354012 9006	172,–
										3117	

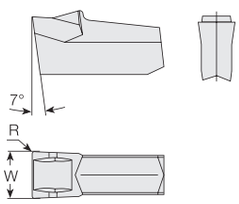


Right-hand version

ATORN® A-CUT axial grooving inserts

Vc/fz

- **AIMF**
- AIMF inserts are not interchangeable with type AIMC, AIMJ or AIPV inserts
- Cutting width tolerance "W" ± 0.1 mm
- **Note:** Once the initial groove is created, its width can be increased in either direction



AIMF

Designation	Design	W mm	R mm	Ø mm		ISO P HC3630 coated art.no.	€
AIMF 2N	Neutral	2.1	0.20	From 35	5	**355005** 0449	11,40
AIMF 3N	Neutral	3.0	0.30	From 54	5	355005 0749	11,95
AIMF 4N	Neutral	4.0	0.25	From 35	5	355005 1049	12,75
AIMF 5N	Neutral	5.0	0.25	From 40	5	355005 1149	13,45
AIMF 6N	Neutral	6.0	0.25	From 44	5	355005 1249	14,75
						3118	

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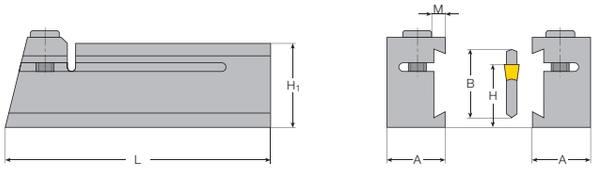
ATORN® A-CUT / D-Grip / D-Clamp recessing blade holding fixture

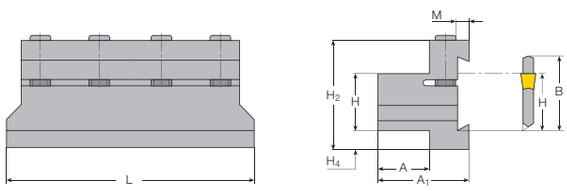


AGTBR

- For A-CUT recessing blade AH101
- For D-GRIP recessing blade KGIH

Designation	A mm	B mm	M mm	H mm	H1 mm	L mm	suitable clamping screw	suitable cutting edge holder	**Right-hand** art.no.	€
AGTBR 19-2	19	19	2	19	25.0	100	SR-M6 x 25	B = 19	**352010** 0001	122,–
AGTBR 25-6	20	26	5	25	32.0	120	SR-M6 x 30	B = 26	352010 0002	142,–

3121



AGTBN

- For **A-CUT** recessing blade AH101, AH106
- For **D-CLAMP** recessing blade DGB
- For **D-GRIP** recessing blade KGIH

Designation	H mm	A mm	B mm	M mm	L mm	A1 mm	H4 mm	H2 mm	suitable clamping screw	suitable cutting edge holder	art.no.	€
AGTBN16-2	16	16	19	2.0	76	26.0	4.0	30.0	SR-M5 x 25	Dimension B = 19	**352015** 0001	189,–
AGTBN16-5	16	16	26	4.0	76	30.0	12.0	38.0	SR-M6 x 30	Dimension B = 26	352015 0002	189,–
AGTBN19-5	19	19	26	5.0	87	33.0	9.0	38.0	SR-M6 x 30	Dimension B = 26	352015 0003	198,–
AGTBN20-5	20	19	26	4.0	87	33.0	8.0	38.0	SR-M6 x 30	Dimension B = 26	352015 0004	198,–
AGTBN20-6	20	19	32	5.5	100	35.0	13.0	48.0	SR-M6 x 40	Dimension B = 32	352015 0005	198,–
AGTBN25-6	25	20	32	5.5	110	36.0	8.0	48.0	SR-M6 x 40	Dimension B = 32	352015 0006	205,–
AGTBN32-6	32	28	32	5.5	120	44.0	3.0	48.0	SR-M6 x 40	Dimension B = 32	352015 0008	215,–

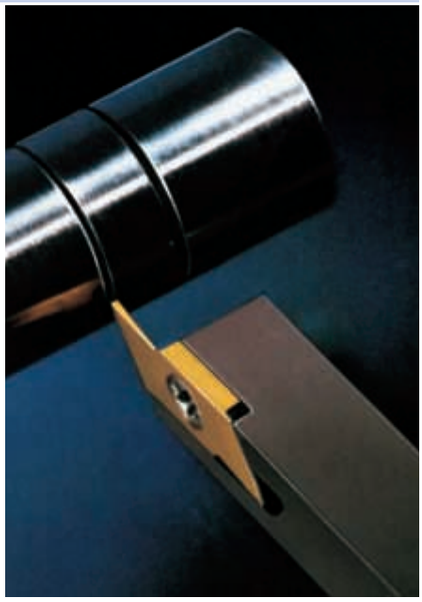
3121

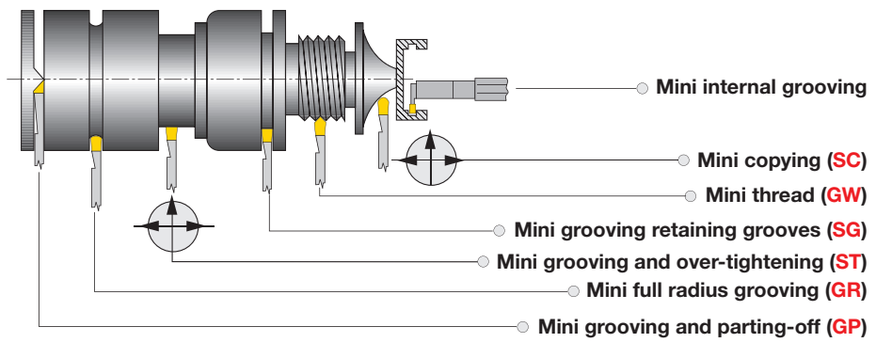
Safety in the workplace

Please protect your eyes, ears and respiratory system!

SARA® SARA-MINI grooving and parting-off system for internal and external machining

- Just one system for all grooving and parting-off work up to 2.0 mm. The SARA-MINI system offers two cutting edges on each indexable cutting insert (type G - internal and external) for extremely small-scale grooving and parting-off work. Practically the entire spectrum of operations involved in grooving and parting-off work up to 2.0 mm is covered with a minimum of equipment.
- The design of the insert seat in the holder, clamped in place by means of a Torx screw, ensures a high level of cutting edge precision and positioning accuracy and enables all of the indexable cutting inserts listed below to be used. The standard range on offer encompasses all sizes from 0.5 to 2.0 mm, in both uncoated and coated versions.
- The entire range of inserts can be used for internal machining, with only an appropriate holder required.





Types SC and ST available on request.

External machining

Designation	B mm	H mm	L mm			Right-hand art.no.	Right-hand €	Left-hand art.no.	Left-hand €
THE 0808	8	8	100	A1	B1	**361001** 0808	89,50	**361002** 0808	*89,50*
THE 1010	10	10	120	A1	B1	361001 1010	89,50	361002 1010	*89,50*
THE 1212	12	12	120	A1	B1	361001 1212	89,50	361002 1212	89,50
THE 1616	16	16	125	A1	B1	361001 1616	97,50	361002 1616	97,50
THE 2020	20	20	125	A1	B1	361001 2020	136,–	361002 2020	136,–
THE 2525	25	25	125	A1	B1	361001 2525	142,–	361002 2525	142,–
						3123		3123	

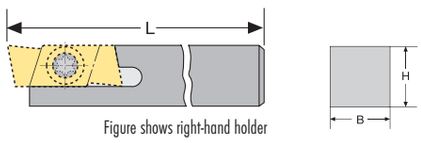
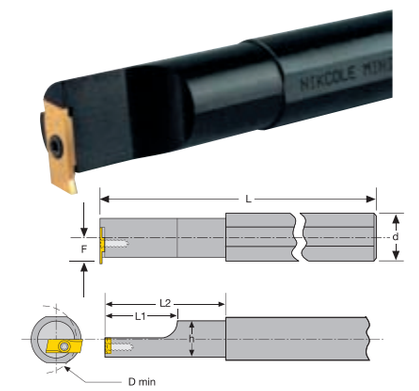


Figure shows right-hand holder

Internal machining

- For internal machining, please select right-hand inserts and left-hand holders, or left-hand inserts and right-hand holders.

Designation	D mm	H mm	L mm	L1 mm	L2 mm	F mm	D min. mm			Right-hand art.no.	Right-hand €	Left-hand art.no.	Left-hand €
THI -7-20	20.0	19.05	140	25	50	13.34	25.0	A1	B1	**361015** 0720	150,–	**361016** 0720	150,–
THI -7-25	25.0	19.05	150	32	63	13.34	27.0	A1	B1	361015 0725	163,–	361016 0725	163,–
										3123		3123	



Spare parts

	Screw art.no.	Screw €
A1	361060 0001	3,10
	3123	

	Steel grey art.no.	Steel grey €
B1	703038 0080	1,72
	7111	

SARA® SARA-MINI grooving and parting-off set

- For producing retaining grooves (SG)
- Two cutting edges on each indexable cutting insert
- From insert thickness 1.1 mm, also suitable for parting-off operations up to a depth of T max. 6 mm
- TiN-coated indexable cutting inserts, ISO P and ISO M
- Insert seat with clamping via Torx screw ensures a high level of cutting edge precision and positioning accuracy

Contents	art.no.	€
1 holder 12 x 12 x 120 mm, right-hand 1 carbide plate for each retaining groove: 0.9 - 1.1 - 1.3 - 1.6 - 1.85 mm carbide quality grade P25/PVD TiN-coated (ISO P M)	**362001** 0001	196,–
	3123	

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Vc/fz

- All figures show right-hand versions

RN neutral

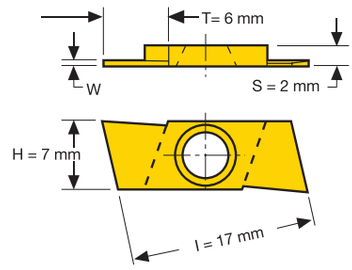
- For RH external holders + LH internal holders

Designation	W+0.02 mm	ISO K N K10			ISO P M P25 PVD			ISO P M P40 PVD		
			art.no.	€		art.no.	€		art.no.	€
GIE-7-GP 1.0 RN	1.0	10	**361501** 1020	20,70	10	**361501** 1030	23,40	10	**361501** 1040	23,40
GIE-7-GP 1.5 RN	1.5	10	361501 1520	20,70	10	361501 1530	23,40	10	361501 1540	23,40
GIE-7-GP 2.0 RN	2.0	10	361501 2020	20,70	10	361501 2030	23,40	10	361501 2040	23,40
		3124			3124			3124		

LN neutral

- For LH external holders + RH internal holders

Designation	W+0.02 mm	ISO K N K10			ISO P M P25 PVD			ISO P M P40 PVD		
			art.no.	€		art.no.	€		art.no.	€
GIE-7-GP 1.0 LN	1.0	10	**361505** 1020	20,70	10	**361505** 1030	23,40	10	**361505** 1040	23,40
GIE-7-GP 1.5 LN	1.5	10	361505 1520	20,70	10	361505 1530	23,40	10	361505 1540	23,40
GIE-7-GP 2.0 LN	2.0	10	361505 2020	20,70	10	361505 2030	23,40	10	361505 2040	23,40
		3124			3124			3124		



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RR 7° right-hand

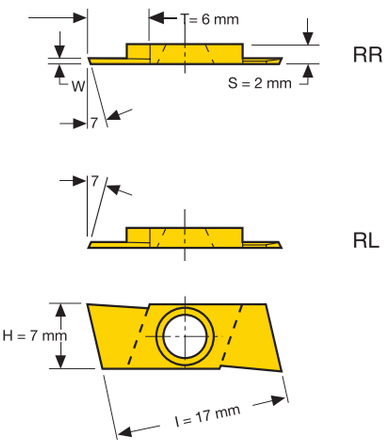
- For RH external holders + LH internal holders

Designation	W+0.02 mm	ISO K N K10			ISO P M P25 PVD			ISO P M P40 PVD		
			art.no.	€		art.no.	€		art.no.	€
GIE-7-GP 1.0 RR	1.0	10	**361502** 1020	20,70	10	**361502** 1030	23,40	10	**361502** 1040	23,40
GIE-7-GP 1.5 RR	1.5	10	361502 1520	20,70	10	361502 1530	23,40	10	361502 1540	23,40
GIE-7-GP 2.0 RR	2.0	10	361502 2020	20,70	10	361502 2030	23,40	10	361502 2040	23,40
		3124			3124			3124		

RL 7° left-hand

- For RH external holders + LH internal holders

Designation	W+0.02 mm	ISO K N K10			ISO P M P25 PVD			ISO P M P40 PVD		
			art.no.	€		art.no.	€		art.no.	€
GIE-7-GP 1.0 RL	1.0	10	**361506** 1020	20,70	10	**361506** 1030	23,40	10	**361506** 1040	23,40
GIE-7-GP 1.5 RL	1.5	10	361506 1520	20,70	10	361506 1530	23,40	10	361506 1540	23,40
GIE-7-GP 2.0 RL	2.0	10	361506 2020	20,70	10	361506 2030	23,40	10	361506 2040	23,40
		3124			3124			3124		



LR 7° right-hand

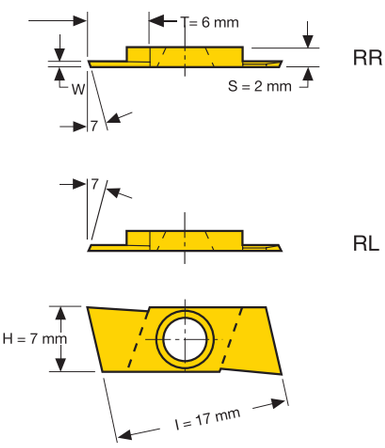
- For LH external holders + RH internal holders

Designation	W+0.02 mm	ISO K N K10			ISO P M P25 PVD			ISO P M P40 PVD		
			art.no.	€		art.no.	€		art.no.	€
GIE-7-GP 1.0 LR	1.0	10	**361503** 1020	20,70	10	**361503** 1030	23,40	10	**361503** 1040	23,40
GIE-7-GP 1.5 LR	1.5	10	361503 1520	20,70	10	361503 1530	23,40	10	361503 1540	23,40
GIE-7-GP 2.0 LR	2.0	10	361503 2020	20,70	10	361503 2030	23,40	10	361503 2040	23,40
		3124			3124			3124		

LL 7° left-hand

- For LH external holders + RH internal holders

Designation	W+0.02 mm	ISO K N K10			ISO P M P25 PVD			ISO P M P40 PVD		
			art.no.	€		art.no.	€		art.no.	€
GIE-7-GP 1.0 LL	1.0	10	**361507** 1020	20,70	10	**361507** 1030	23,40	10	**361507** 1040	23,40
GIE-7-GP 1.5 LL	1.5	10	361507 1520	20,70	10	361507 1530	23,40	10	361507 1540	23,40
GIE-7-GP 2.0 LL	2.0	10	361507 2020	20,70	10	361507 2030	23,40	10	361507 2040	23,40
		3124			3124			3124		



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RR 15° right-hand

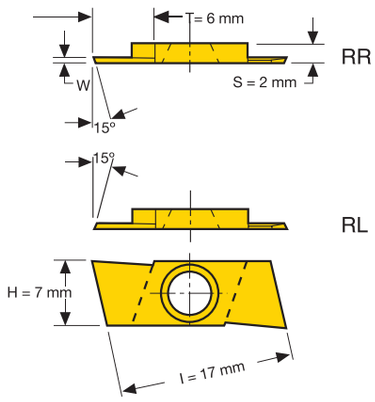
- For RH external holders + LH internal holders

Designation	W+0.02 mm		ISO P M P25 PVD art.no.	€		ISO P M P40 PVD art.no.	€
GIE-7-GP 1.0 RR	1.0	10	**361510** 1030	26,10	10	**361510** 1040	26,10
GIE-7-GP 1.5 RR	1.5	10	361510 1530	26,10	10	361510 1540	26,10
GIE-7-GP 2.0 RR	2.0	10	361510 2030	26,10	10	361510 2040	26,10
			3124			3124	

LL 15° left-hand

- For LH external holders + RH internal holders

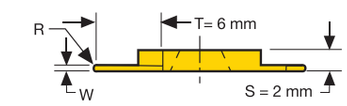
Designation	W+0.02 mm		ISO P M P25 PVD art.no.	€		ISO P M P40 PVD art.no.	€
GIE-7-GP 1.0 LL	1.0	10	**361516** 1030	26,10	10	**361516** 1040	26,10
GIE-7-GP 1.5 LL	1.5	10	361516 1530	26,10	10	361516 1540	26,10
GIE-7-GP 2.0 LL	2.0	10	361516 2030	26,10	10	361516 2040	26,10
			3124			3124	



SARA® SARA-MINI radius grooving inserts (GR)

Vc/fz

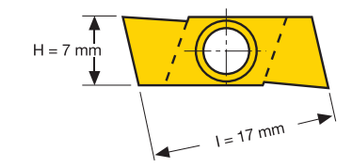
- All figures show right-hand versions



R right-hand

- For RH external holders + LH internal holders

Designation	W+0.02 mm	R mm		ISO P M P25 PVD art.no.	€
GIE-7-GR 1.0 R	1.0	0.5	10	**361530** 1030	23,40
GIE-7-GR 1.5 R	1.5	0.75	10	361530 1530	23,40
GIE-7-GR 2.0 R	2.0	1.0	10	361530 2030	23,40
				3124	



L left-hand

- For LH external holders + RH internal holders

Designation	W+0.02 mm	R mm		ISO P M P25 PVD art.no.	€
GIE-7-GR 1.0 L	1.0	0.5	10	**361531** 1030	23,40
GIE-7-GR 1.5 L	1.5	0.75	10	361531 1530	23,40
GIE-7-GR 2.0 L	2.0	1.0	10	361531 2030	23,40
				3124	

...dreams come true.

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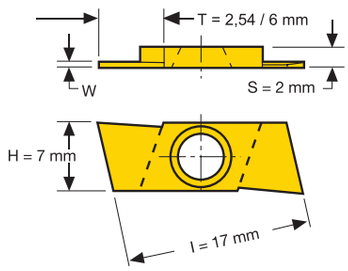
SARA® SARA-MINI grooving inserts for retaining grooves (SG)

Vc/fz

- All figures show right-hand versions



R right-hand

- For RH external holders + LH internal holders

Designation	W+0.02 mm	T mm	ISO P M P25 PVD			ISO P M P40 PVD		
				art.no.	€		art.no.	€
GIE-7-SG 0.5 R	0.5	2.54	10	**361540** 0530	23,40	10	**361540** 0540	23,40
GIE-7-SG 0.7 R	0.7	2.54	10	361540 0730	23,40	10	361540 0740	23,40
GIE-7-SG 0.8 R	0.8	2.54	10	361540 0830	23,40	10	361540 0840	23,40
GIE-7-SG 0.9 R	0.9	2.54	10	361540 0930	23,40	10	361540 0940	*23,40*
GIE-7-SG 1.1 R	1.1	6.0	10	361540 1130	23,40	10	361540 1140	23,40
GIE-7-SG 1.3 R	1.3	6.0	10	361540 1330	23,40	10	361540 1340	23,40
GIE-7-SG 1.6 R	1.6	6.0	10	361540 1630	23,40	10	361540 1640	*23,40*
GIE-7-SG 1.85 R	1.85	6.0	10	361540 1830	23,40	10	361540 1840	*23,40*
				3124			3124	

L left-hand

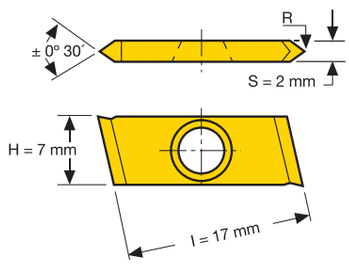
- For LH external holders + RH internal holders

Designation	W+0.02 mm	T mm	ISO P M P25 PVD			ISO P M P40 PVD		
				art.no.	€		art.no.	€
GIE-7-SG 0.5 L	0.5	2.54	10	**361541** 0530	*23,40*	10	**361541** 0540	23,40
GIE-7-SG 0.7 L	0.7	2.54	10	361541 0730	*23,40*	10	361541 0740	*23,40*
GIE-7-SG 0.8 L	0.8	2.54	10	361541 0830	23,40	10	361541 0840	*23,40*
GIE-7-SG 0.9 L	0.9	2.54	10	361541 0930	23,40	10	361541 0940	*23,40*
GIE-7-SG 1.1 L	1.1	6.0	10	361541 1130	23,40	10	361541 1140	23,40
GIE-7-SG 1.3 L	1.3	6.0	10	361541 1330	23,40	10	361541 1340	23,40
GIE-7-SG 1.6 L	1.6	6.0	10	361541 1630	23,40	10	361541 1640	*23,40*
GIE-7-SG 1.85 L	1.85	6.0	10	361541 1830	23,40	10	361541 1840	23,40
				3124			3124	

SARA® SARA-MINI grooving inserts for threads (GW)

Vc/fz

- 55° grooving insert available on request
- All figures show right-hand versions



R 60° right-hand

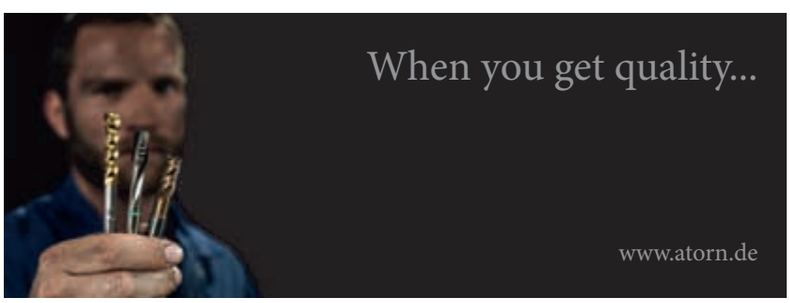
- For RH external holders + LH internal holders

Designation	Angle °	R mm	ISO K N K10			ISO P M P25 PVD			ISO P M P40 PVD		
				art.no.	€		art.no.	€		art.no.	€
GIE-7-GW 60 R	60	0.1 / 0.12	10	**361550** 6020	20,70	10	**361550** 6030	23,40	10	**361550** 6040	23,40
				3124			3124			3124	

L 60° left-hand

- For LH external holders + RH internal holders

Designation	Angle °	R mm	ISO P M P40 PVD		
				art.no.	€
GIE-7-GW 60 L	60	0.1 / 0.12	10	**361551** 6040	23,40
				3124	



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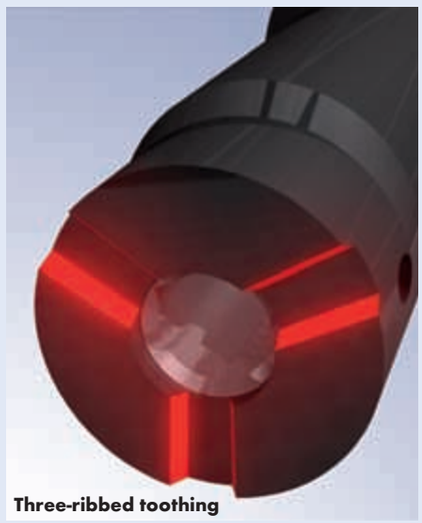
ATORN®
High quality for great performance

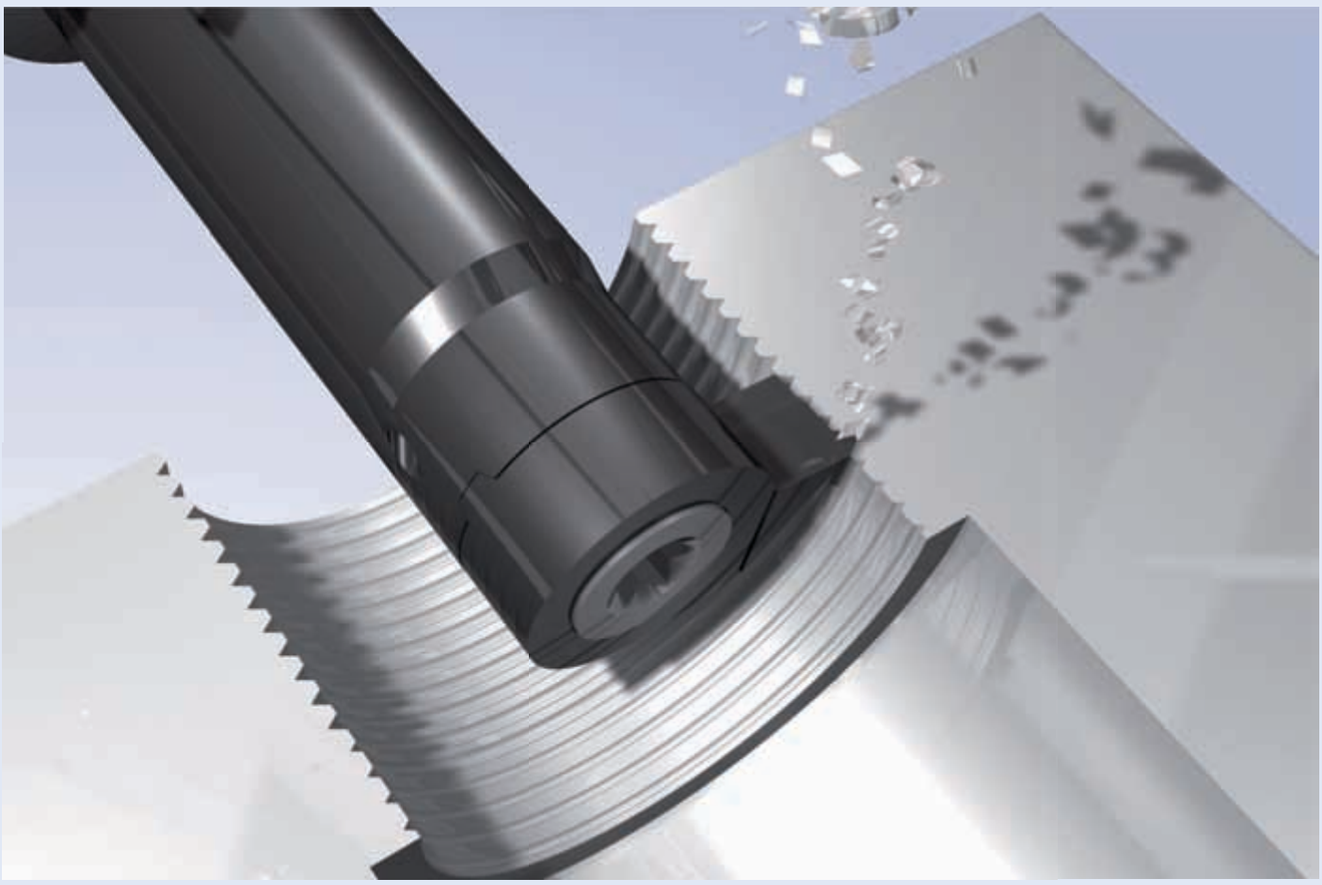


Three-ribbed toothing

ATORN® Minicut

The exchangeable carbide blades are screwed onto the front using the tried and tested three-ribbed toothing.

- Best repetition precision with easiest handling
- Best possible absorption of torque forces
- Very precise fixing of position of the blade at the centre of rotation



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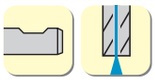
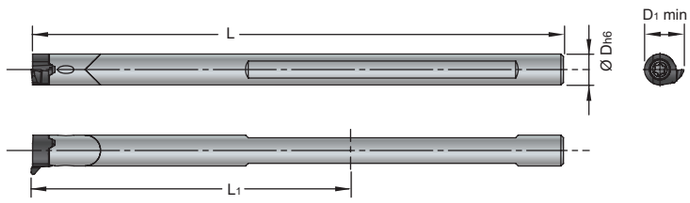
ATORN® Tool holder *MINI-CUT*



- **With internal cooling**
- For recess turning, internal turning and thread cutting (internal) from Ø 7.8 mm
- Spare clamping screws available on request
- **NEW FLEXO** tool holder, variable clamping range from ... to ... mm (see Clamping Length table = „ **L**" range from minimum to maximum in mm) suitable for carbide cutting inserts R/LS 08 and R/LS 11
- suitable **FLEXO** steel tool holder



FLEXO carbide tool holder

Designation	D h6 mm	D1 min. mm	L mm	Clamping depth mm	suitable cutting inserts	art.no.	€
V08.0006.2HM	6.0	8.0	65.0	18-42	R/LS08	**305012** 0081	215,–
V08.0006.4HM	6.0	8.0	103.0	40-80	R/LS08	305012 0082	240,–
V11.0008.2HM	8.0	11.0	79.0	20-55	R/LS11	305012 0111	270,–
V11.0008.4HM	8.0	11.0	129.0	50-105	R/LS11	305012 0112	305,–

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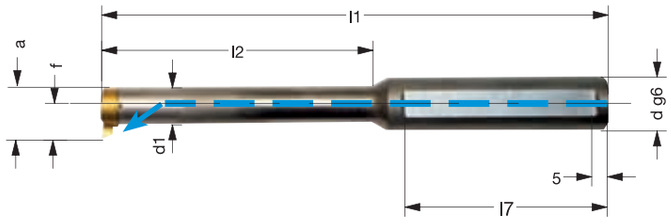

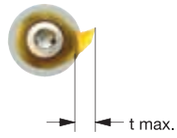

Carbide tool holder type 608...

Designation	d g6 mm	l2 mm	l1 mm	l 7 mm	d1 mm	f mm	a mm	suitable cutting inserts	t max. mm	D min. mm	suitable clamping screw		art.no.	€
608.0012.1 carbide	12	21	80	48	6	4.8	7.8	R/LS08	1.0	8	M2.6-MC	A1	**305001** 0001	139,–
608.0012.2 carbide	12	30	90	48	6	4.8	7.8	R/LS08	1.0	8	M2.6-MC	A1	305001 0002	151,–
608.0012.3 carbide	12	42	100	48	6	4.8	7.8	R/LS08	1.0	8	M2.6-MC	A1	305001 0003	177,–
608.0012.4 carbide	12	50	115	48	6	4.8	10.2	R/LS08	1.0	8	M2.6-MC	A1	305001 0004	205,–

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Carbide tool holder type 611...

Designation	d g6 mm	l2 mm	l1 mm	l 7 mm	d1 mm	f mm	a mm	suitable cutting inserts	t max. mm	D min. mm	suitable clamping screw		art.no.	€
611.0012.1 carbide	12	29	95	60	8	6.7	10.7	R/LS11	2.3	11	M3.5-MC	A2	**305002** 0001	139,–
611.0012.2 carbide	12	42	110	60	8	6.7	10.7	R/LS11	2.3	11	M3.5-MC	A2	305002 0002	151,–
611.0012.3 carbide	12	56	120	60	8	6.7	10.7	R/LS11	2.3	11	M3.5-MC	A2	305002 0003	177,–
611.0012.4 carbide	12	64	130	60	8	6.7	10.7	R/LS11	2.3	11	M3.5-MC	A2	305002 0004	205,–

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Carbide tool holder type 614...

Designation	d g6 mm	l2 mm	l1 mm	l 7 mm	d1 mm	f mm	a mm	suitable cutting inserts	t max. mm	D min. mm	suitable clamping screw		art.no.	€
614.0012.1 carbide	12	34	100	60	9.5 x 11	9	13.8	R/LS14/55/65	4.0/6.5	14/17	M4-MC	A3	**305003** 0001	170,–
614.0012.2 carbide	12	45	110	60	9.5 x 11	9	13.8	R/LS14/55/65	4.0/6.5	14/17	M4-MC	A3	305003 0002	191,–
614.0012.3 carbide	12	64	130	60	9.5 x 11	9	13.8	R/LS14/55/65	4.0/6.5	14/17	M4-MC	A3	305003 0003	225,–
614.0016.1 carbide	16	34	100	60	9.5 x 11	9	13.8	R/LS14/55/65	4.0/6.5	14/17	M4-MC	A3	305003 0004	198,–
614.0016.2 carbide	16	45	110	60	9.5 x 11	9	13.8	R/LS14/55/65	4.0/6.5	14/17	M4-MC	A3	305003 0005	225,–
614.0016.3 carbide	16	64	130	60	9.5 x 11	9	13.8	R/LS14/55/65	4.0/6.5	14/17	M4-MC	A3	305003 0006	260,–
614.0016.4 carbide	16	75	145	60	9.5 x 11	9	13.8	R/LS14/55/65	4.0/6.5	14/17	M4-MC	A3	305003 0007	280,–

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Carbide tool holder type 616...

Designation	d g6 mm	l2 mm	l1 mm	l 7 mm	d1 mm	f mm	a mm	suitable cutting inserts	t max. mm	D min. mm	suitable clamping screw		art.no.	€
616.0012.1 carbide	12	40	130	60	11	10.2	15.7	R/LS16	4.3	16	M5-MC	A4	**305004** 0001	179,–
616.0012.2 carbide	12	56	130	60	11	10.2	15.7	R/LS16	4.3	16	M5-MC	A4	305004 0002	191,–
616.0012.3 carbide	12	80	150	60	11	10.2	15.7	R/LS16	4.3	16	M5-MC	A4	305004 0003	225,–
616.0016.1 carbide	16	40	130	60	11	10.2	15.7	R/LS16	4.3	16	M5-MC	A4	305004 0004	220,–
616.0016.2 carbide	16	56	130	60	11	10.2	15.7	R/LS16	4.3	16	M5-MC	A4	305004 0005	225,–
616.0016.3 carbide	16	80	150	60	11	10.2	15.7	R/LS16	4.3	16	M5-MC	A4	305004 0006	260,–

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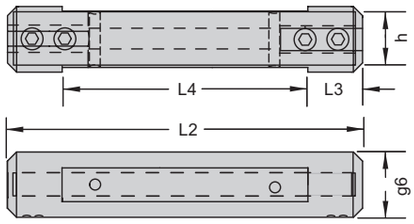

FLEXO steel tool holder

Designation	d g6 mm	L2 mm	L3 mm	L4 mm	h mm	art.no.	€
VG08-16	16	75	10	55	14	**305013** 0081	108,–
VG08-20	20	90	10	70	18	305013 0082	108,–
VG11-16	16	75	10	55	14	305013 0111	108,–
VG11-20	20	90	10	70	18	305013 0112	108,–

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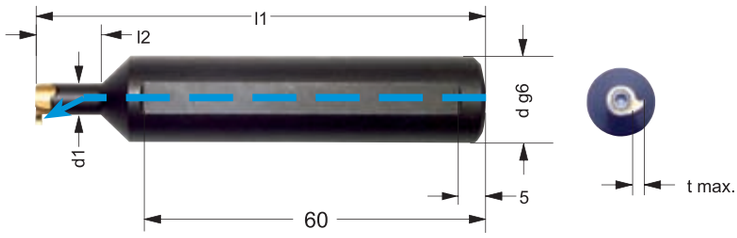

Steel tool holder, short

Designation	d g6 mm	l2 mm	l1 mm	d1 mm	f mm	a mm	suitable cutting inserts	t max. mm	D min. mm	suitable clamping screw		art.no.	€
608.0016.1 ST	16	12	80	6	4.8	7.8	R/LS08	1.0	8	M2.6-MC	A1	**305010** 0001	80,–
611.0016.2 ST	16	16	97	8	6.7	10.7	R/LS11	2.3	11	M3.5-MC	A2	305010 0002	80,–
614.0016.3 ST	16	18	100	9.5 x 11	9.0	13.8	R/LS14/55/65	4.0/6.5	14/17	M4-MC	A3	305010 0003	92,–
616.0016.3 ST	16	22	100	11	10.2	15.7	R/LS16	4.3	16	M5-MC	A4	305010 0004	80,–

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Steel tool holder, long

Designation	d g6 mm	l2 mm	l1 mm	d1 mm	f mm	a mm	suitable cutting inserts	t max. mm	D min. mm	suitable clamping screw		art.no.	€
611.0016.2E.ST	16	29	110	8 x 9.5	6.7	10.7	R/LS11	2.3	11	M3.5-MC	A2	**305011** 0002	92,–
614.0016.3E.ST	16	38	120	9.5 x 11	9.0	13.8	R/LS14/55/65	4.0/6.5	14/17	M4-MC	A3	305011 0003	92,–
616.0016.3E.ST	16	42	120	11 x 13.5	10.2	15.7	R/LS16	4.3	16	M5-MC	A4	305011 0004	92,–

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Spare parts

	Screw	
	art.no.	€
A1	305199 0026	3,15
A2	305199 0035	3,15
A3	305199 0040	3,15
A4	305199 0050	3,15

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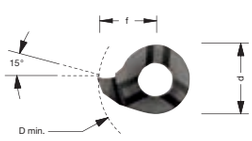
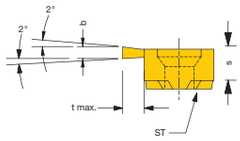
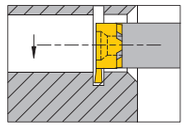
Vc/fz

Recess turning (internal)
- **For circlip grooves**
- **Carbide HC8620, TIALN-coated**
- ST = tool holder front face
- R = right-hand, as shown
- L = left-hand, mirror image







model	D min. mm	t max. mm	b +0.03 mm	d mm	f mm	s mm	suitable tool holder	**Right-hand** art.no.	€	**Left-hand** art.no.	€
R/LS008.0070	8	1.0	0.73	6.0	4.8	3.3	608	**305020** 0001	*14,50*	**306020** 0001	*14,50*
R/LS008.0080	8	1.0	0.83	6.0	4.8	3.3	608	305020 0002	**14,50**	306020 0002	**14,50**
R/LS008.0090	8	1.0	0.93	6.0	4.8	3.3	608	305020 0003	**14,50**	306020 0003	*14,50*
R/LS008.0110	8	1.0	1.20	6.0	4.8	3.3	608	305020 0004	**14,50**	306020 0004	*14,50*
R/LS008.0130	8	1.0	1.40	6.0	4.8	3.3	608	305020 0005	**14,50**	306020 0005	*14,50*
R/LS008.0160	8	1.0	1.70	6.0	4.8	3.3	608	305020 0006	*14,50*	306020 0006	*14,50*
R/LS011.0070	11	1.2	0.73	8.0	6.7	4.2	611	305020 0007	**14,50**	306020 0007	**14,50**
R/LS011.0080	11	1.3	0.83	8.0	6.7	4.2	611	305020 0008	*14,50*	306020 0008	*14,50*
R/LS011.0090	11	1.5	0.93	8.0	6.7	4.2	611	305020 0009	**14,50**	306020 0009	*14,50*
R/LS011.0110	11	2.3	1.20	8.0	6.7	4.2	611	305020 0010	**14,50**	306020 0010	**14,50**
R/LS011.0130	11	2.3	1.40	8.0	6.7	4.2	611	305020 0011	**14,50**	306020 0011	*14,50*
R/LS011.0160	11	2.3	1.70	8.0	6.7	4.2	611	305020 0012	**14,50**	306020 0012	*14,50*
R/LS014.0070	14	1.2	0.73	9.0	9.0	5.3	614	305020 0013	*14,50*	306020 0013	*14,50*
R/LS014.0080	14	1.3	0.83	9.0	9.0	5.3	614	305020 0014	*14,50*	306020 0014	*14,50*
R/LS014.0090	14	1.5	0.93	9.0	9.0	5.3	614	305020 0015	**14,50**	306020 0015	*14,50*
R/LS014.0110	14	4.0	1.20	9.0	9.0	5.3	614	305020 0016	**14,50**	306020 0016	*14,50*
R/LS014.0130	14	4.0	1.40	9.0	9.0	5.3	614	305020 0017	**14,50**	306020 0017	*14,50*
R/LS014.0160	14	4.0	1.70	9.0	9.0	5.3	614	305020 0018	**14,50**	306020 0018	*14,50*
R/LS016.0070	16	1.2	0.73	11.0	10.2	5.4	616	305020 0019	**17,70**	306020 0019	*17,70*
R/LS016.0080	16	1.3	0.83	11.0	10.2	5.4	616	305020 0020	*17,70*	306020 0020	*17,70*
R/LS016.0090	16	1.5	0.93	11.0	10.2	5.4	616	305020 0021	**17,70**	306020 0021	*17,70*
R/LS016.0110	16	4.3	1.20	11.0	10.2	5.4	616	305020 0022	**16,–**	306020 0022	**16,–**
R/LS016.0130	16	4.3	1.40	11.0	10.2	5.4	616	305020 0023	**16,–**	306020 0023	*16,–*
R/LS016.0160	16	4.3	1.70	11.0	10.2	5.4	616	305020 0024	*16,–*	306020 0024	*16,–*
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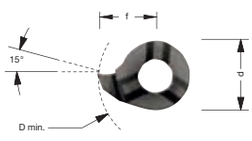
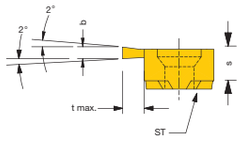
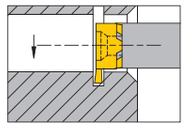
Recess turning (internal)
- **General recess turning**
- **Carbide HC8620, TIALN-coated**
- ST = tool holder front face
- R = right-hand, as shown
- L = left-hand, mirror image







model	D min. mm	t max. mm	b +0.03 mm	d mm	f mm	s mm	suitable tool holder	**Right-hand** art.no.	€	**Left-hand** art.no.	€
R/LS008.0100	8	1.0	1.0	6.0	4.8	3.3	608	**305021** 0001	**14,50**	**306021** 0001	*14,50*
R/LS008.0150	8	1.0	1.5	6.0	4.8	3.3	608	305021 0002	**14,50**	306021 0002	**14,50**
R/LS008.0200	8	1.0	2.0	6.0	4.8	3.3	608	305021 0003	**14,50**	306021 0003	**14,50**
R/LS011.0100	11	2.3	1.0	8.0	6.7	4.2	611	305021 0004	**14,50**	306021 0004	**14,50**
R/LS011.0150	11	2.3	1.5	8.0	6.7	4.2	611	305021 0005	**14,50**	306021 0005	**14,50**
R/LS011.0200	11	2.3	2.0	8.0	6.7	4.2	611	305021 0006	**14,50**	306021 0006	**14,50**
R/LS011.0250	11	2.3	2.5	8.0	6.7	4.2	611	305021 0007	**14,50**	306021 0007	*14,50*
R/LS011.0300	11	2.3	3.0	8.0	6.7	4.2	611	305021 0008	**14,50**	306021 0008	*14,50*
R/LS014.0150	14	4.0	1.5	9.0	9.0	5.3	614	305021 0009	**14,50**	306021 0009	*14,50*
R/LS014.0200	14	4.0	2.0	9.0	9.0	5.3	614	305021 0010	**14,50**	306021 0010	**14,50**
R/LS014.0250	14	4.0	2.5	9.0	9.0	5.3	614	305021 0011	**14,50**	306021 0011	*14,50*
R/LS014.0300	14	4.0	3.0	9.0	9.0	5.3	614	305021 0012	**14,50**	306021 0012	**14,50**
R/LS016.0150	16	4.3	1.5	11.0	10.2	5.4	616	305021 0013	**16,–**	306021 0013	*16,–*
R/LS016.0200	16	4.3	2.0	11.0	10.2	5.4	616	305021 0014	**16,–**	306021 0014	**16,–**
R/LS016.0250	16	4.3	2.5	11.0	10.2	5.4	616	305021 0015	**16,–**	306021 0015	**16,–**
R/LS016.0300	16	4.3	3.0	11.0	10.2	5.4	616	305021 0016	**16,–**	306021 0016	*16,–*
R/LS016.0350	16	4.3	3.5	11.0	10.2	5.4	616	305021 0017	**16,–**	306021 0017	*16,–*
R/LS016.0400	16	4.3	4.0	11.0	10.2	5.4	616	305021 0018	**16,–**	306021 0018	*16,–*
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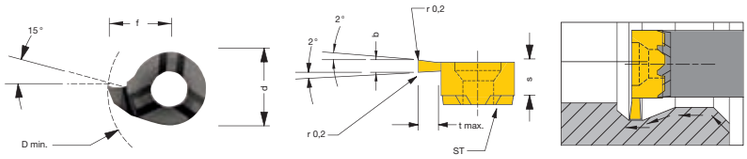
NC precision turning (internal)

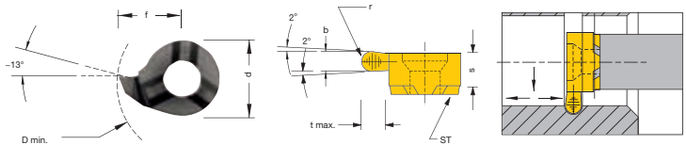
- **Carbide HC8620, TIALN-coated**
- **Ap max. = 0.2 mm (maximum cutting depth)**
- ST = tool holder front face
- R = right-hand, as shown
- L = left-hand, mirror image



model	D min. mm	t max. mm	b +0.05 mm	d mm	f mm	s mm	suitable tool holder	Right-hand art.no.	€	Left-hand art.no.	€
R/LS08.150.02	8	1.0	1.5	6.0	4.8	3.3	608	**305025** 0001	*16,20*	**306025** 0001	**16,20**
R/LS08.200.02	8	1.0	2.0	6.0	4.8	3.3	608	305025 0002	*16,20*	306025 0002	*16,20*
R/LS11.150.02	11	2.3	1.5	8.0	6.7	4.2	611	305025 0003	*17,80*	306025 0003	*17,80*
R/LS11.200.02	11	2.3	2.0	8.0	6.7	4.2	611	305025 0004	**16,30**	306025 0004	**16,30**
R/LS14.150.02	14	4.0	1.5	9.0	9.0	5.3	614	305025 0005	*16,30*	306025 0005	*16,30*
R/LS14.200.02	14	4.0	2.0	9.0	9.0	5.3	614	305025 0006	**16,30**	306025 0006	**16,30**
R/LS16.200.02	16	4.3	2.0	11.0	10.2	5.4	616	305025 0007	**17,80**	306025 0007	**17,80**
								3127		3127	

Recess turning (internal)

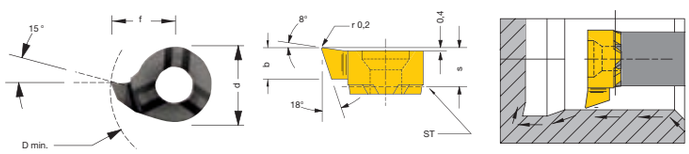
- **Full radius**
- **Carbide HC8620, TIALN-coated**
- ST = tool holder front face
- R = right-hand, as shown
- L = left-hand, mirror image



model	D min. mm	t max. mm	b +0.05 mm	d mm	f mm	s mm	suitable tool holder	Right-hand art.no.	€	Left-hand art.no.	€
R/LS08.008R04	8	1	0.8	6.0	4.8	3.3	608	**305030** 0001	**17,20**	**306030** 0001	*17,20*
R/LS08.012R06	8	1	1.2	6.0	4.8	3.3	608	305030 0002	**17,20**	306030 0002	**17,20**
R/LS08.018R09	8	1	1.8	6.0	4.8	3.3	608	305030 0003	*17,20*	306030 0003	*17,20*
R/LS11.008R04	11	2.3	0.8	8.0	6.7	4.2	611	305030 0004	**17,80**	306030 0004	*17,80*
R/LS11.012R06	11	2.3	1.2	8.0	6.7	4.2	611	305030 0005	**17,80**	306030 0005	*17,80*
R/LS11.018R09	11	2.3	1.8	8.0	6.7	4.2	611	305030 0006	*17,80*	306030 0006	*17,80*
R/LS11.020R10	11	2.3	2.0	8.0	6.7	4.2	611	305030 0007	**17,80**	306030 0007	*17,80*
R/LS11.030R15	11	2.3	3.0	8.0	6.7	4.2	611	305030 0008	**17,80**	306030 0008	**17,80**
R/LS14.012R06	14	4.0	1.2	9.0	9.0	5.3	614	305030 0009	**18,60**	306030 0009	*18,60*
R/LS14.018R09	14	4.0	1.8	9.0	9.0	5.3	614	305030 0010	**18,60**	306030 0010	*18,60*
R/LS14.020R10	14	4.0	2.0	9.0	9.0	5.3	614	305030 0011	**18,60**	306030 0011	*18,60*
R/LS14.022R11	14	4.0	2.2	9.0	9.0	5.3	614	305030 0012	*18,60*	306030 0012	*18,60*
R/LS14.030R15	14	4.0	3.0	9.0	9.0	5.3	614	305030 0013	**18,60**	306030 0013	*18,60*
R/LS16.018R09	16	4.3	1.8	11.0	10.2	5.4	616	305030 0014	*19,10*	306030 0014	*19,10*
R/LS16.022R11	16	4.3	2.2	11.0	10.2	5.4	616	305030 0015	**19,10**	306030 0015	*19,10*
R/LS16.030R15	16	4.3	3.0	11.0	10.2	5.4	616	305030 0016	**19,10**	306030 0016	*19,10*
R/LS16.040R20	16	4.3	4.0	11.0	10.2	5.4	616	305030 0017	*19,10*	306030 0017	*19,10*
								3127		3127	

Turning and copying (internal)

- **Carbide HC8620, TIALN-coated**
- Ap max. = maximum cutting depth
- ST = tool holder front face
- R = right-hand, as shown
- L = left-hand, mirror image



model	D min. mm	ap max. mm	b mm	d mm	f mm	s mm	suitable tool holder	Right-hand art.no.	€	Left-hand art.no.	€
R/LS08.1846.02	7.8	0.6	3.3	6.0	4.65	3.5	608	**305035** 0001	**16,30**	**306035** 0001	*16,30*
R/LS11.1855.02	9.8	1.0	3.9	8.0	5.50	4.2	611	305035 0002	**16,30**	306035 0002	**16,30**
R/LS11.1867.02	11.0	1.0	3.9	8.0	6.70	4.2	611	305035 0003	**15,80**	306035 0003	**15,80**
R/LS14.1867.02	13.8	1.5	5.0	9.0	8.70	5.3	614	305035 0004	**15,80**	306035 0004	**15,80**
R/LS16.1897.02	15.5	1.5	5.0	11.0	9.70	5.4	616	305035 0005	**17,30**	306035 0005	**17,30**
								3127		3127	

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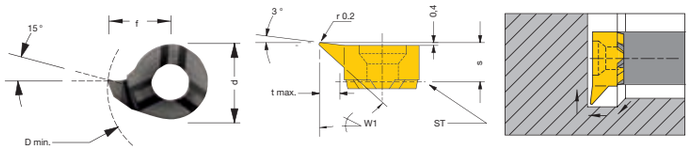
Internal turning, internal thread undercuts (DIN 509)

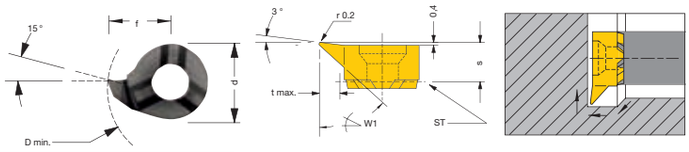
- **Carbide HC8620, TIALN-coated**
- Ap max. = maximum cutting depth
- ST = tool holder front face
- R = right-hand, as shown
- L = left-hand, mirror image
- **Internal turning and internal thread undercuts (DIN 509), angle W1 = 47°**



model	D min. mm	t max. mm	ap max. mm	d mm	f mm	s mm	suitable tool holder	Right-hand art.no.	€	Left-hand art.no.	€
R/LS08.4746.02	7.8	1.2	0.4	6.0	4.65	3.5	608	**305040** 0001	16,50	**306040** 0001	*16,50*
R/LS11.4767.02	11.0	2.3	0.6	8.0	6.70	4.2	611	305040 0002	16,–	306040 0002	16,–
R/LS14.4787.02	13.7	3.0	0.8	9.0	8.70	5.3	614	305040 0003	16,50	306040 0003	*16,50*
								3127		3127	

Copying

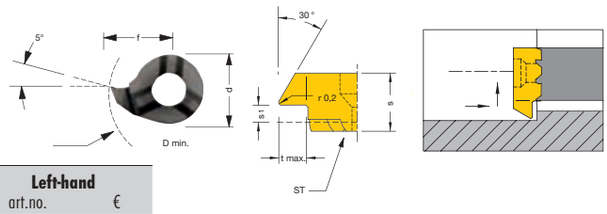
- **Carbide HC8620, TIALN-coated**
- Ap max. = maximum cutting depth
- ST = tool holder front face
- R = right-hand, as shown
- L = left-hand, mirror image
- **Copying, angle W1 = 30°**



model	D min. mm	t max. mm	ap max. mm	d mm	f mm	s mm	suitable tool holder	Right-hand art.no.	€	Left-hand art.no.	€
R/LS08.2555.02	7.8	1.2	0.4	6.0	4.65	3.5	608	**305045** 0001	*18,90*	**306045** 0001	*18,90*
R/LS11.2755.02	11.0	2.3	0.6	8.0	6.70	4.2	611	305045 0002	*18,50*	306045 0002	*18,50*
R/LS14.3555.02	13.7	4.0	0.8	9.0	8.70	5.3	614	305045 0003	18,90	306045 0003	*18,90*
R/LS16.4055.02	15.8	4.3	0.8	11.0	10.20	5.4	616	305045 0004	20,70	306045 0004	*20,70*
								3127		3127	

Reverse turning (internal)

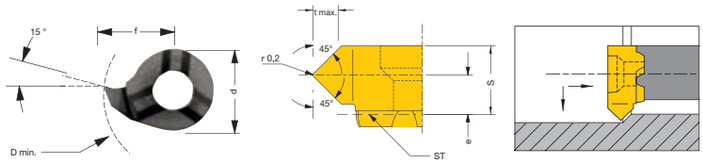
- **Carbide HC8620, TIALN-coated**
- Ap max. = maximum cutting depth
- ST = tool holder front face
- R = right-hand, as shown
- L = left-hand, mirror image



model	D min. mm	t max. mm	ap max. mm	s1 mm	d mm	f mm	s mm	suitable tool holder	Right-hand art.no.	€	Left-hand art.no.	€
R/LS08.3046.02	7.8	1.3	0.6	1.0	6.0	4.65	3.5	608	**305050** 0001	18,80	**306050** 0001	*18,80*
R/LS11.3067.02	11.0	2.3	1.0	1.6	8.0	6.70	4.3	611	305050 0002	*18,20*	306050 0002	*18,20*
R/LS14.3087.02	13.8	3.5	1.5	2.4	9.0	8.70	5.4	614	305050 0003	18,80	306050 0003	18,80
								3127		3127	

Chamfering and turning (internal)

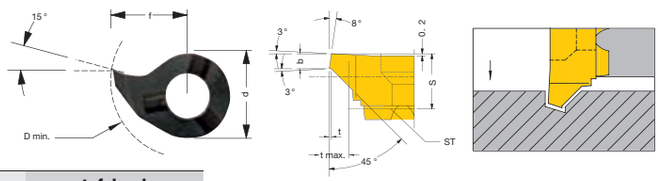
- **Carbide HC8620, TIALN-coated**
- Ap max. = maximum cutting depth
- ST = tool holder front face
- R = right-hand, as shown
- L = left-hand, mirror image



model	D min. mm	t max. mm	ap max. mm	e mm	d mm	f mm	s mm	suitable tool holder	Right-hand art.no.	€	Left-hand art.no.	€
R/LS08.4545.02	8.0	1.4	0.6	1.8	6.0	4.8	3.5	608	**305055** 0001	15,50	**306055** 0001	*15,50*
R/LS11.4545.02	11.0	1.5	1.0	2.2	8.0	6.7	4.3	611	305055 0002	15,50	306055 0002	*15,50*
R/LS14.4545.02	14.0	1.5	1.2	2.8	9.0	9.0	5.4	614	305055 0003	16,70	306055 0003	*16,70*
								3127		3127	

Roughing and chamfering (internal)

- **Carbide HC8620, TIALN-coated**
- ST = tool holder front face
- R = right-hand, as shown
- L = left-hand, mirror image
- **t = 0.2 mm**



model	D min. mm	t max. mm	b mm	d mm	f mm	s mm	suitable tool holder	Right-hand art.no.	€	Left-hand art.no.	€
R/LS08.0810.45	8.0	1.0	1.0	6.0	4.8	3.3	608	**305060** 0001	16,–	**306060** 0001	*16,–*
R/LS11.0810.45	11.0	1.5	1.0	8.0	6.7	4.2	611	305060 0002	16,–	306060 0002	*16,–*
R/LS14.0815.45	14.0	1.5	1.0	9.0	9.0	5.3	614	305060 0003	16,–	306060 0003	*16,–*
R/LS16.0815.45	16.0	1.5	1.0	11.0	10.2	5.4	616	305060 0004	16,–	306060 0004	*16,–*
								3127		3127	

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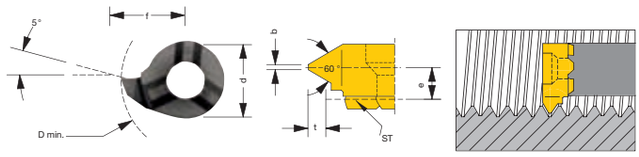
Thread turning (internal), coarse-pitch thread, partial profile

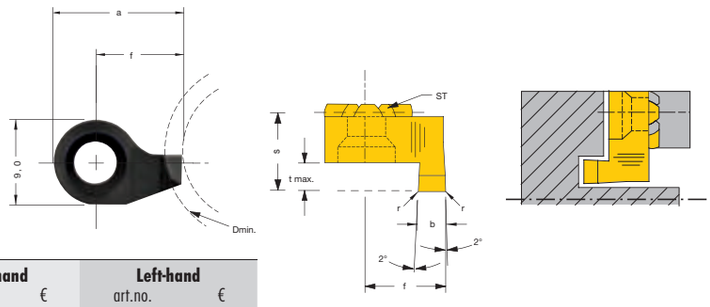
- **Carbide HC8620, TIALN-coated**
- ST = tool holder front face
- R = right-hand, as shown
- L = left-hand, mirror image
- **t = 0.2 mm**
- All other thread types are available on request



model	D min. mm	Pitch mm	t mm	e mm	b mm	f mm	s mm	suitable tool holder	**Right-hand** art.no.	€	**Left-hand** art.no.	€
R/LS08.0815.01	8.0	1.5-1.75	0.95	2.5	0.18	4.8	3.5	608	**305065** 0001	19,10	**306065** 0001	*19,10*
R/LS11.1020.01	11.0	2.0-2.5	1.08	3.0	0.25	6.7	4.3	611	305065 0002	19,10	306065 0002	*19,10*
R/LS11.1325.01	11.0	2.5-3.0	1.35	3.0	0.31	6.7	4.3	611	305065 0003	19,10	306065 0003	*19,10*
R/LS14.1020.01	14.0	2.0-2.5	1.08	4.2	0.25	9.0	5.4	614	305065 0004	19,10	306065 0004	*19,10*
R/LS14.1325.01	14.0	2.5-3.0	1.35	4.7	0.31	9.0	5.4	614	305065 0005	*19,10*	306065 0005	*19,10*
R/LS16.1325.01	16.0	2.5-3.0	1.35	4.2	0.31	10.2	5.5	616	305065 0006	*19,10*	306065 0006	*19,10*
									3127		3127	

Axial grooving, left-hand cutting past pins

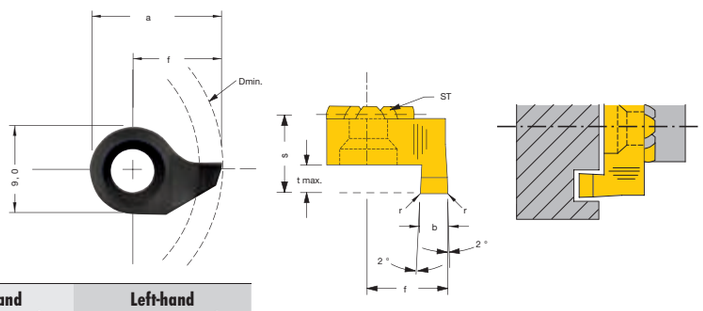
- **Carbide HC8620, TIALN-coated**
- ST = tool holder front face
- R = right, left-hand cutting insert as shown
- L = left, mirror image right-hand cutting insert



model	D min. mm	t max. mm	b +0.03 mm	a mm	r mm	f mm	s mm	suitable tool holder	**Right-hand** art.no.	€	**Left-hand** art.no.	€
R/LS014.1210.00	12.0	1.5	1.0	11.5	-	7.0	8.3	614	**305095** 0001	16,–	**306095** 0001	16,–
R/LS014.1215.02	12.0	2.5	1.5	12.0	0.2	7.5	8.3	614	305095 0002	16,30	306095 0002	16,30
R/LS014.1220.02	12.0	3.0	2.0	12.5	0.2	8.0	8.3	614	305095 0003	16,30	306095 0003	16,30
R/LS014.1220.52	12.0	5.0	2.0	12.5	0.2	8.0	10.3	614	305095 0006	18,70	306095 0006	*18,70*
R/LS014.1225.02	12.0	3.0	2.5	13.0	0.2	8.5	8.3	614	305095 0004	16,30	306095 0004	16,30
R/LS014.1225.52	12.0	5.0	2.5	13.0	0.2	8.5	10.3	614	305095 0007	18,70	306095 0007	*18,70*
R/LS014.1230.02	12.0	3.0	3.0	13.5	0.2	9.0	8.3	614	305095 0005	16,30	306095 0005	*16,30*
R/LS014.1230.52	12.0	5.0	3.0	13.5	0.2	9.0	10.3	614	305095 0008	18,70	306095 0008	18,70
									3127		3127	

Axial grooving, right-hand cutting

- **Carbide HC8620, TIALN-coated**
- ST = tool holder front face
- R = right, right-hand cutting insert as shown
- L = left, mirror image left-hand cutting insert



model	D min. mm	t max. mm	b +0.03 mm	a mm	r mm	f mm	s mm	suitable tool holder	**Right-hand** art.no.	€	**Left-hand** art.no.	€
R/LS014.1410.00	14.0	1.5	1.0	13.5	-0,2	9.0	8.3	614	**305100** 0001	15,40	**306100** 0001	*15,40*
R/LS014.1415.02	14.0	2.5	1.5	13.5	0.2	9.0	8.3	614	305100 0002	15,40	306100 0002	15,40
R/LS014.1420.02	14.0	3.0	2.0	13.5	0.2	9.0	8.3	614	305100 0003	15,40	306100 0003	*15,40*
R/LS014.1420.52	14.0	5.0	2.0	13.5	0.2	9.0	10.3	614	305100 0006	17,80	306100 0006	17,80
R/LS014.1425.02	14.0	3.0	2.5	13.5	0.2	9.0	8.3	614	305100 0004	*15,40*	306100 0004	*15,40*
R/LS014.1425.52	14.0	5.0	2.5	13.5	0.2	9.0	10.3	614	305100 0007	17,80	306100 0007	17,80
R/LS014.1430.02	14.0	3.0	3.0	13.5	0.2	9.0	8.3	614	305100 0005	15,40	306100 0005	*15,40*
R/LS014.1430.52	14.0	5.0	3.0	13.5	0.2	9.0	10.3	614	305100 0008	17,80	306100 0008	*17,80*
									3127		3127	

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Carbide metal internal turning tools *mini-børe*

INFO

from a diameter of 0.6 mm, with internal coolant supply

Hollow turning, internal plunge turning, internal turning and chamfering, roughing and internal chamfering for subsequent parting as well as internal threading for small bore diameters continually pose new problems for production – problems that can often be solved only with special tools.

mini-børe has been developed specifically to solve these problems and offers optimum conditions for cost-effective bore machining with diameters starting from 0.6 mm. The favourable cost-breakdown of the cutting inserts means that custom productions are no longer worthwhile.

The cutting inserts, available in right-hand and left-hand designs, are supported by a tool holder that can be used for both designs. The tool holder and cutting inserts are fitted with an internal coolant supply.

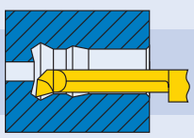
Cutting material

K10F uncoated, all-purpose fine-grain carbide metal, suitable for application at low and medium cutting speeds and for machining non-ferrous metals

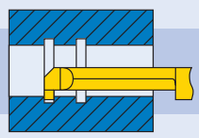
CN45F TiN coated
All-rounder, for medium to high cutting speeds, with restrictions for non-ferrous metals

AL41F TiAlN coated
High temperature resistance at high hardness levels, also very well suited to non-ferrous metals

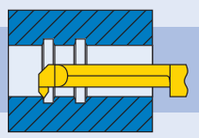
Special designs
If you have internal machining problems that cannot be handled with the cutting insert sizes listed here, we will be pleased to present you with possible solutions.



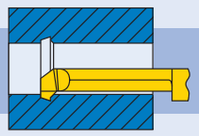
Hollow turning
from diameters of 0.6 mm / up to 7 x D



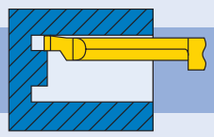
Internal plunge turning
from diameters of 4 mm / up to 7 x D



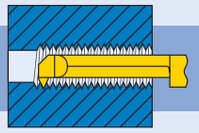
Hollow turning and chamfering
from diameters of 5 mm



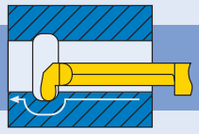
Internal roughing and chamfering for
subsequent parting-off from diameters of 5 mm



Axial groove turning
from external groove diameters of 15 mm



Internal threading
from diameters of 4 mm



Internal plunge turning
from diameters of 4 mm, full radius (on request)

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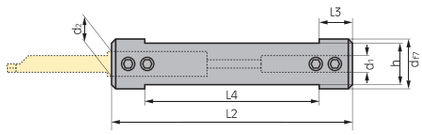
Tool holder *mini-bore*



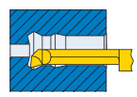
- **With internal coolant supply**
- For holding right-hand and left-hand cutting inserts
- Two different holder Ø measurements (d1 and d2)
- Central coolant supply through the tool holder
- Axial position of the cutting inserts in the tool holder can be precisely reproduced via a built-in depth stop
- Radial position of the cutting edge is guaranteed by tension applied to the lateral clamping surface of the cutting inserts by the clamping screws
- Size 0316 and 0320 for 304450.... and 304455.... and high-pressure applications with central cooling hole

Designation	suitable cutting inserts	d f7 mm	L2 mm	L3 mm	L4 mm	h mm	art.no.	€
645.0012-D	4 / 5	12.0	75	10	55	10.3	**304001** 0012	86,50
645.0016-D	4 / 5	16.0	75	10	55	14.0	304001 0016	91,–
645.0020-D	4 / 5	20.0	90	10	70	18.0	304001 0020	98,–
676.0016-D	6 / 7	16.0	75	10	55	14.0	304001 0216	91,–
676.0020-D	6 / 7	20.0	90	10	70	18.0	304001 0220	98,–
687.0016-D	7 / 8	16.0	75	10	55	14.0	304001 0316	101,–
687.0020-D	7 / 8	20.0	90	10	70	18.0	304001 0320	108,–
								3125

Cutting inserts *mini-bore*

- **With internal coolant supply**
- Straight shank and lateral clamping surface
- Right-hand and left-hand versions
- **Cutting material:**
  K10F finest grain carbide, uncoated,
  CN45F finest grain carbide **TiN coated,**
  AL41F superfine grain carbide **TiAlN**

From Ø 0.6 mm L1 to 7 x D



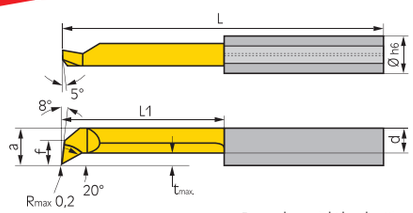
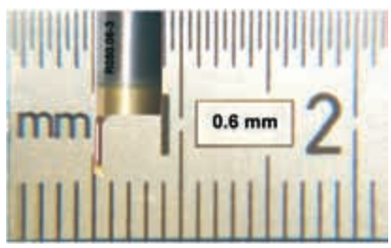


Figure shows right-hand cutting



Internal turning

- From 0.6 mm bore diameter

Designation	D h6 mm	f mm	r mm	d mm	a mm	L mm	L1 mm	t max. mm	D min. mm	suitable tool holder	ISO K N **K10F right-hand** art.no.	€	ISO K N **K10F left-hand** art.no.	€	ISO P M K **CN45F TiN right-hand** art.no.	€	ISO P M K **CN45F TiN left-hand** art.no.	€
R/L 050.06-2	4.0		0.04	0.4	0.5	20	2	0.08	0.6	645...					**304110** 0050	28,–	**304115** 0050	28,–
R/L 050.06-3	4.0		0.04	0.4	0.5	20	3	0.08	0.6	645...					304110 0051	28,90	304115 0051	28,90
R/L 050.15-5	4.0		0.05	1.15	1.3	19	5	0.1	1.5	645...					304110 0060	26,70	304115 0060	26,70
R/L 050.15-10	4.0		0.05	1.15	1.3	24	10	0.1	1.5	645...					304110 0061	27,40	304115 0061	27,40
R/L 050.2-5	4.0		0.05	1.5	1.7	19	5	0.1	2.0	645...	**304101** 0101	18,90	**304105** 0101	18,90	304110 0101	22,70	304115 0101	22,70
R/L 050.2-10	4.0		0.05	1.5	1.7	24	10	0.1	2.0	645...	304101 0102	19,50	304105 0102	19,50	304110 0102	23,30	304115 0102	23,30
R/L 050.2-15	4.0		0.05	1.5	1.7	29	15	0.1	2.0	645...	304101 0103	20,80	304105 0103	20,80	304110 0103	24,50	304115 0103	24,50
R/L 050.3-10	4.0	0.6	0.1	2.3	2.6	24	10	0.2	2.8	645...	304101 0001	18,80	304105 0001	18,80	304110 0001	22,60	304115 0001	22,60
R/L 050.3-16	4.0	0.6	0.1	2.3	2.6	30	16	0.2	2.8	645...	304101 0403	20,10	304105 0403	20,10	304110 0403	23,90	304115 0403	23,90
R/L 050.3-20	4.0	0.6	0.1	2.3	2.6	34	20	0.2	2.8	645...	304101 0003	24,90	304105 0003	24,90	304110 0003	28,70	304115 0003	28,70
R/L 050.4-10	4.0	1.5	0.1	3.0	3.5	24	10	0.3	4.0	645...	304101 0010	18,80	304105 0010	18,80	304110 0010	22,60	304115 0010	22,60
R/L 050.4-16	4.0	1.5	0.1	3.0	3.5	30	16	0.3	4.0	645...	304101 0404	20,10	304105 0404	20,10	304110 0404	23,90	304115 0404	23,90
R/L 050.4-20	4.0	1.5	0.1	3.0	3.5	34	20	0.3	4.0	645...	304101 0012	23,40	304105 0012	23,40	304110 0012	27,20	304115 0012	27,20
R/L 050.4-24	4.0	1.5	0.1	3.0	3.5	38	24	0.3	4.0	645...					304110 0070	30,30		
R/L 050.4-24	4.0	1.5	0.15	3.0	3.5	38	24	0.3	4.0	645...							304115 0070	30,30
R/L 050.4-28	4.0	1.5	0.1	3.0	3.5	42	28	0.3	4.0	645...					304110 0071	33,80		
R/L 050.4-28	4.0	1.5	0.15	3.0	3.5	42	28	0.3	4.0	645...							304115 0071	33,80
R/L 050.5-10	5.0	1.9	0.15	3.8	4.4	25	10	0.5	5.0	645...	304101 0020	17,50	304105 0020	17,50	304110 0020	21,20	304115 0020	21,20
R/L 050.5-15	5.0	1.9	0.15	3.8	4.4	30	15	0.5	5.0	645...	304101 0021	18,80	304105 0021	18,80	304110 0021	22,60	304115 0021	22,60
R/L 050.5-20	5.0	1.9	0.15	3.8	4.4	35	20	0.5	5.0	645...	304101 0505	22,20	304105 0505	22,20	304110 0505	26,–	304115 0505	26,–
R/L 050.5-25	5.0	1.9	0.15	3.8	4.4	40	25	0.5	5.0	645...	304101 0023	25,80	304105 0023	25,80	304110 0023	29,50	304115 0023	29,50
R/L 050.5-30	5.0	1.9	0.15	3.8	4.4	45	30	0.5	5.0	645...	304101 0024	29,50	304105 0024	29,50	304110 0024	33,20	304115 0024	33,20
R/L 050.5-35	5.0	1.9	0.15	3.8	4.4	50	35	0.5	5.0	645...					304110 0080	36,90	304115 0080	36,90
R/L 050.6-15	6.0	2.3	0.15	4.5	5.3	30	15	0.5	6.0	676...	304101 0030	18,80	304105 0030	18,80	304110 0030	22,60	304115 0030	22,60
R/L 050.6-22	6.0	2.3	0.15	4.5	5.3	37	22	0.5	6.0	676...	304101 0606	22,20	304105 0606	22,20	304110 0606	26,–	304115 0606	26,–
											3125		3125		3125		3125	

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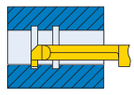
Designation	D h6 mm	f mm	r mm	d mm	a mm	L mm	L1 mm	t max. mm	D min. mm	suitable tool holder	ISO K N K10F right-hand art.no.	€	ISO K N K10F left-hand art.no.	€	ISO P M K CN45F TiN right-hand art.no.	€	ISO P M K CN45F TiN left-hand art.no.	€
R/L 050.6-25	6.0	2.3	0.15	4.5	5.3	40	25	0.5	6.0	676...	304101 0032	25,80	304105 0032	25,80	304110 0032	29,50	304115 0032	29,50
R/L 050.6-30	6.0	2.3	0.15	4.5	5.3	45	30	0.5	6.0	676...	304101 0033	29,50	304105 0033	29,50	304110 0033	33,20	304115 0033	33,20
R/L 050.6-35	6.0	2.3	0.15	4.5	5.3	50	35	0.5	6.0	676...					304110 0150	36,90	304115 0150	36,90
R/L 050.6-42	6.0	2.3	0.15	4.5	5.3	57	42	0.5	6.0	676...					304110 0151	41,10	304115 0151	41,10
R/L 050.7-20	7.0	2.8	0.15	5.5	6.3	35	20	0.6	6.8	676...	304101 0040	22,40	304105 0040	22,40	304110 0040	26,20	304115 0040	26,20
R/L 050.7-25	7.0	2.8	0.15	5.5	6.3	40	25	0.6	6.8	676...	304101 0041	26,10	304105 0041	26,10	304110 0041	29,90	304115 0041	29,90
R/L 050.7-30	7.0	2.8	0.15	5.5	6.3	45	30	0.6	6.8	676...	304101 0042	29,90	304105 0042	29,90	304110 0042	33,70	304115 0042	33,70
R/L 050.7-35	7.0	2.8	0.15	5.5	6.3	50	35	0.6	7.0	676...					304110 0160	37,50	304115 0160	37,50
R/L 050.7-40	7.0	2.8	0.15	5.5	6.3	55	40	0.6	7.0	676...					304110 0161	41,80	304115 0161	41,80
R/L 050.7-45	7.0	2.8	0.15	5.5	6.3	60	45	0.6	7.0	676...					304110 0162	44,20	304115 0162	44,20
R/L 050.7-50	7.0	2.8	0.15	5.5	6.3	65	50	0.6	7.0	676...					304110 0163	47,70	304115 0163	47,70
											3125		3125		3125		3125	

L1 to 7 x D



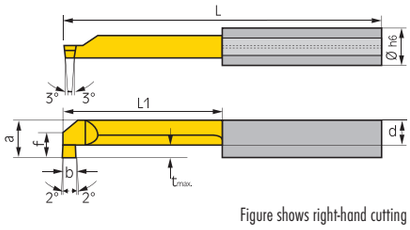


Figure shows right-hand cutting

Internal recess turning

- From 4 mm bore diameter

Designation	D h6 mm	b +0.05 mm	f mm	d mm	a mm	L mm	L1 mm	t max. mm	D min. mm	suitable tool holder	ISO P M K CN45F TiN right-hand art.no.	€	ISO P M K CN45F TiN left-hand art.no.	€
R/L 004.0100-10	4.0	1.0	1.5	2.4	3.5	24	10	0.8	4.0	645...	**304210** 0001	23,30	**304215** 0001	23,30
R/L 004.0100-16	4.0	1.0	1.5	2.4	3.5	30	16	0.8	4.0	645...	304210 0404	27,–	304215 0404	27,–
R/L 004.0100-20	4.0	1.0	1.5	2.4	3.5	34	20	0.8	4.0	645...	304210 0003	29,90	304215 0003	29,90
R/L 005.0100-10	5.0	1.0	1.9	3.3	4.4	25	10	1.0	5.0	645...	304210 0010	22,–	304215 0010	22,–
R/L 005.0100-15	5.0	1.0	1.9	3.3	4.4	30	15	1.0	5.0	645...	304210 0011	25,50	304215 0011	25,50
R/L 005.0100-20	5.0	1.0	1.9	3.3	4.4	35	20	1.0	5.0	645...	304210 0505	28,60	304215 0505	28,60
R/L 005.0100-25	5.0	1.0	1.9	3.3	4.4	40	25	1.0	5.0	645...	304210 0013	31,30	304215 0013	31,30
R/L 005.0100-30	5.0	1.0	1.9	3.3	4.4	45	30	1.0	5.0	645...	304210 0014	34,90	304215 0014	34,90
R/L 005.0100-35	5.0	1.0	1.9	3.3	4.4	50	35	1.0	5.0	645...	304210 0015	38,70	304215 0015	38,70
R/L 005.0150-10	5.0	1.5	1.9	3.3	4.4	25	10	1.0	5.0	645...	304210 0020	22,–	304215 0020	22,–
R/L 005.0150-15	5.0	1.5	1.9	3.3	4.4	30	15	1.0	5.0	645...	304210 0021	25,50	304215 0021	25,50
R/L 005.0150-20	5.0	1.5	1.9	3.3	4.4	35	20	1.0	5.0	645...	304210 0515	28,60	304215 0515	28,60
R/L 005.0150-25	5.0	1.5	1.9	3.3	4.4	40	25	1.0	5.0	645...	304210 0023	31,30	304215 0023	31,30
R/L 005.0150-30	5.0	1.5	1.9	3.3	4.4	45	30	1.0	5.0	645...	304210 0024	34,90	304215 0024	34,90
R/L 005.0200-10	5.0	2.0	1.9	3.3	4.4	25	10	1.0	5.0	645...	304210 0030	22,–	304215 0030	22,–
R/L 005.0200-15	5.0	2.0	1.9	3.3	4.4	30	15	1.0	5.0	645...	304210 0031	25,50	304215 0031	25,50
R/L 005.0200-20	5.0	2.0	1.9	3.3	4.4	35	20	1.0	5.0	645...	304210 0525	28,60	304215 0525	28,60
R/L 005.0200-25	5.0	2.0	1.9	3.3	4.4	40	25	1.0	5.0	645...	304210 0033	31,30	304215 0033	31,30
R/L 005.0200-30	5.0	2.0	1.9	3.3	4.4	45	30	1.0	5.0	645...	304210 0034	34,90	304215 0034	34,90
R/L 006.0100-10	6.0	1.0	2.3	3.4	5.3	25	10	1.8	6.0	676...	304210 0040	22,–	304215 0040	22,–
R/L 006.0100-15	6.0	1.0	2.3	3.4	5.3	30	15	1.8	6.0	676...	304210 0041	25,50	304215 0041	25,50
R/L 006.0100-22	6.0	1.0	2.3	3.4	5.3	37	22	1.8	6.0	676...	304210 0606	28,60	304215 0606	28,60
R/L 006.0100-25	6.0	1.0	2.3	3.4	5.3	40	25	1.8	6.0	676...	304210 0043	31,30	304215 0043	31,30
R/L 006.0100-30	6.0	1.0	2.3	3.4	5.3	45	30	1.8	6.0	676...	304210 0044	34,90	304215 0044	34,90
R/L 006.0100-35	6.0	1.0	2.3	3.4	5.3	50	35	1.8	6.0	676...	304210 0045	38,70	304215 0045	38,70
R/L 006.0100-42	6.0	1.0	2.3	3.4	5.3	57	42	1.8	6.0	676...	304210 0046	42,60	304215 0046	42,60
R/L 006.0150-10	6.0	1.5	2.3	3.4	5.3	25	10	1.8	6.0	676...	304210 0050	22,–	304215 0050	22,–
R/L 006.0150-15	6.0	1.5	2.3	3.4	5.3	30	15	1.8	6.0	676...	304210 0051	25,50	304215 0051	25,50
R/L 006.0150-22	6.0	1.5	2.3	3.4	5.3	37	22	1.8	6.0	676...	304210 0616	28,60	304215 0616	28,60
R/L 006.0150-25	6.0	1.5	2.3	3.4	5.3	40	25	1.8	6.0	676...	304210 0053	31,30	304215 0053	31,30
R/L 006.0150-30	6.0	1.5	2.3	3.4	5.3	45	30	1.8	6.0	676...	304210 0054	34,90	304215 0054	34,90
R/L 006.0150-35	6.0	1.5	2.3	3.4	5.3	50	35	1.8	6.0	676...	304210 0055	38,70	304215 0055	38,70
R/L 006.0200-10	6.0	2.0	2.3	3.4	5.3	25	10	1.8	6.0	676...	304210 0060	22,–	304215 0060	22,–
R/L 006.0200-15	6.0	2.0	2.3	3.4	5.3	30	15	1.8	6.0	676...	304210 0061	25,50	304215 0061	25,50
R/L 006.0200-22	6.0	2.0	2.3	3.4	5.3	37	22	1.8	6.0	676...	304210 0626	28,60	304215 0626	28,60
R/L 006.0200-25	6.0	2.0	2.3	3.4	5.3	40	25	1.8	6.0	676...	304210 0063	31,30	304215 0063	31,30
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Designation	D h6 mm	b +0.05 mm	f mm	d mm	a mm	L mm	L1 mm	t max. mm	D min. mm	suitable tool holder	ISO P M K CN45F TiN right-hand art.no.	€	ISO P M K CN45F TiN left-hand art.no.	€
R/L 006.0200-30	6.0	2.0	2.3	3.4	5.3	45	30	1.8	6.0	676...	304210 0064	34,90	304215 0064	34,90
R/L 007.0100-10	7.0	1.0	2.8	3.7	6.3	25	10	2.5	6.8	676...	304210 0070	22,–	304215 0070	22,–
R/L 007.0100-15	7.0	1.0	2.8	3.7	6.3	30	15	2.5	6.8	676...	304210 0071	25,50	304215 0071	25,50
R/L 007.0100-22	7.0	1.0	2.8	3.7	6.3	37	22	2.5	6.8	676...	304210 0072	28,60	304215 0072	28,60
R/L 007.0100-25	7.0	1.0	2.8	3.7	6.3	40	25	2.5	6.8	676...	304210 0073	31,30	304215 0073	31,30
R/L 007.0100-30	7.0	1.0	2.8	3.7	6.3	45	30	2.5	6.8	676...	304210 0074	35,10	304215 0074	35,10
R/L 007.0100-35	7.0	1.0	2.8	3.7	6.3	50	35	2.5	7.0	676...	304210 0075	39,10	304215 0075	39,10
R/L 007.0100-40	7.0	1.0	2.8	3.7	6.3	55	40	2.5	7.0	676...	304210 0076	43,40	304215 0076	43,40
R/L 007.0100-45	7.0	1.0	2.8	3.7	6.3	60	45	2.5	7.0	676...	304210 0077	47,10	304215 0077	47,10
R/L 007.0100-50	7.0	1.0	2.8	3.7	6.3	65	50	2.5	7.0	676...	304210 0078	50,50	304215 0078	50,50
R/L 007.0150-10	7.0	1.5	2.8	3.7	6.3	25	10	2.5	6.8	676...	304210 0080	22,–	304215 0080	22,–
R/L 007.0150-15	7.0	1.5	2.8	3.7	6.3	30	15	2.5	6.8	676...	304210 0081	25,50	304215 0081	25,50
R/L 007.0150-22	7.0	1.5	2.8	3.7	6.3	37	22	2.5	6.8	676...	304210 0082	28,60	304215 0082	28,60
R/L 007.0150-25	7.0	1.5	2.8	3.7	6.3	40	25	2.5	6.8	676...	304210 0083	31,30	304215 0083	31,30
R/L 007.0150-30	7.0	1.5	2.8	3.7	6.3	45	30	2.5	6.8	676...	304210 0084	35,10	304215 0084	35,10
R/L 007.0150-35	7.0	1.5	2.8	3.7	6.3	50	35	2.5	7.0	676...	304210 0085	39,10	304215 0085	39,10
R/L 007.0150-40	7.0	1.5	2.8	3.7	6.3	55	40	2.5	7.0	676...	304210 0086	43,40	304215 0086	43,40
R/L 007.0200-10	7.0	2.0	2.8	3.7	6.3	25	10	2.5	6.8	676...	304210 0090	22,–	304215 0090	22,–
R/L 007.0200-15	7.0	2.0	2.8	3.7	6.3	30	15	2.5	6.8	676...	304210 0091	25,50	304215 0091	25,50
R/L 007.0200-22	7.0	2.0	2.8	3.7	6.3	37	22	2.5	6.8	676...	304210 0092	28,60	304215 0092	28,60
R/L 007.0200-25	7.0	2.0	2.8	3.7	6.3	40	25	2.5	6.8	676...	304210 0093	31,30	304215 0093	31,30
R/L 007.0200-30	7.0	2.0	2.8	3.7	6.3	45	30	2.5	6.8	676...	304210 0094	35,10	304215 0094	35,10
R/L 007.0200-35	7.0	2.0	2.8	3.7	6.3	50	35	2.5	7.0	676...	304210 0095	39,10	304215 0095	39,10
											3125		3125	

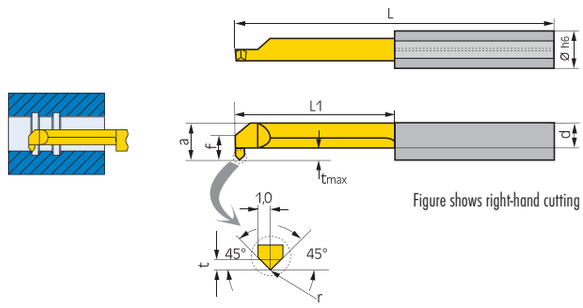

Figure shows right-hand cutting

Internal turning and chamfering

- From 5 mm bore diameter
- With internal coolant supply

Designation	D h6 mm	r mm	f mm	d mm	a mm	L mm	L1 mm	t max. mm	D min. mm	suitable tool holder	ISO P M K CN45F TiN right-hand art.no.	€	ISO P M K CN45F TiN left-hand art.no.	€
R/L 060.5-15	5.0	0.2	1.9	3.3	4.4	30	15	0.7	5.0	645...	**304310** 0001	23,30	**304315** 0001	23,30
R/L 060.5-20	5.0	0.2	1.9	3.3	4.4	35	20	0.7	5.0	645...	304310 0505	23,90	304315 0505	23,90
R/L 060.7-20	7.0	0.2	2.8	3.7	6.3	35	20	0.7	6.8	676...	304310 0010	27,10	304315 0010	27,10
											3125		3125	

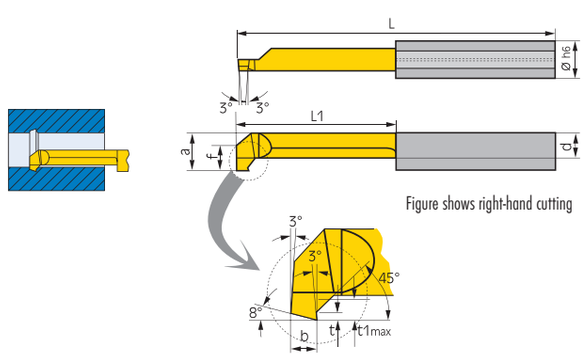

Figure shows right-hand cutting

Internal roughing and chamfering for subsequent parting-off

- From 5 mm bore diameter

Designation	D h6 mm	b mm	f mm	d mm	a mm	L mm	L1 mm	t mm	t1 max. mm	D min. mm	suitable tool holder	ISO P M K CN45F TiN right-hand art.no.	€	ISO P M K CN45F TiN left-hand art.no.	€
R/L 070.5-15	5.0	1.0	1.9	3.3	4.4	30	15	0.2	1.0	5.0	645...	**304410** 0001	23,40	**304415** 0001	23,40
R/L 070.5-20	5.0	1.0	1.9	3.3	4.4	35	20	0.2	1.0	5.0	645...	304410 0505	25,70	304415 0505	25,70
												3125		3125	

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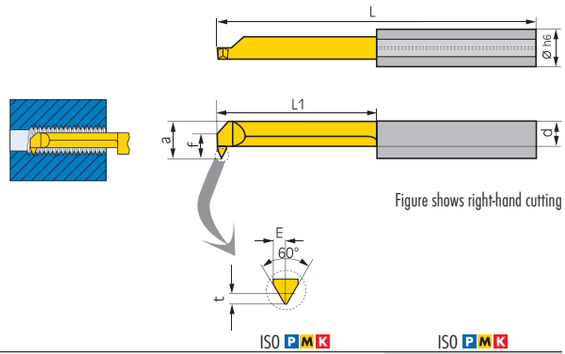

Figure shows right-hand cutting

Internal thread turning

- **Metric ISO threads** from 4.8 mm bore diameter
- Partial profile, for pitches from 1.0 to 1.5 mm

Designation	P mm	t mm	E mm	f mm	a mm	d mm	L mm	L1 mm	D min. mm	suitable tool holder	ISO P M K **CN45F TiN right-hand** art.no.	€	ISO P M K **CN45F TiN left-hand** art.no.	€
R/L 005.0510-15	1.0	0.55	0.55	1.9	4.4	3.3	30	15	4.8	645...	**304501** 0001	26,50	**304505** 0001	26,50
R/L 005.0510-20	1.0	0.55	0.55	1.9	4.4	3.3	35	20	4.8	645...	304501 1005	27,30	304505 1005	27,30
R/L 006.0612-15	1.25	0.68	0.65	2.3	5.3	3.4	30	15	6.0	676...	304501 0010	26,50	304505 0010	26,50
R/L 006.0612-22	1.25	0.68	0.65	2.3	5.3	3.4	37	22	6.0	676...	304501 1256	27,30	304505 1256	27,30
R/L 006.0815-15	1.5	0.81	0.75	2.3	5.3	3.4	30	15	6.0	676...	304501 0012	26,50	304505 0012	27,70
R/L 006.0815-22	1.5	0.81	0.75	2.3	5.3	3.4	37	22	6.0	676...	304501 1506	27,30	304505 1506	27,30
R/L 007.0815-15	1.5	0.81	0.75	2.7	6.3	3.8	30	15	7.0	676...	304501 0020	26,50	304505 0020	26,50
											3125		3125	

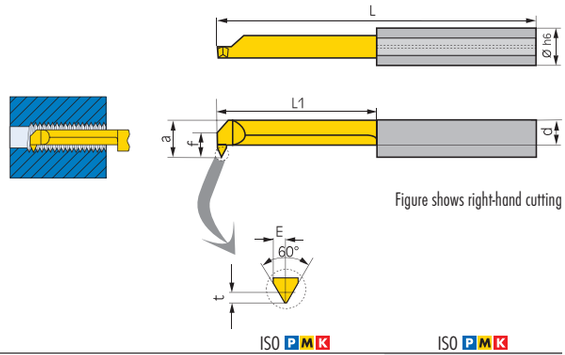

Figure shows right-hand cutting

Internal fine-pitch thread turning

- **ISO fine-pitch metric thread** from 4 mm bore diameter
- Partial profile, for pitches from 0.5 to 1.0 mm

Designation	P mm	t mm	E mm	f mm	a mm	d mm	L mm	L1 mm	D min. mm	suitable tool holder	ISO P M K **CN45F TiN right-hand** art.no.	€	ISO P M K **CN45F TiN left-hand** art.no.	€
R/L 004.0205-15	0.5	0.27	0.35	1.5	3.5	2.4	30	15	4.0	645...	**304510** 0504	28,–	**304515** 0504	28,–
R/L 005.0205-15	0.5	0.27	0.35	1.9	4.4	3.3	30	15	5.0	645...	304510 0003	26,60	304515 0003	26,60
R/L 005.0205-20	0.5	0.27	0.35	1.9	4.4	3.3	35	20	5.0	645...	304510 0505	27,40	304515 0505	27,40
R/L 005.0407-15	0.75	0.4	0.45	1.9	4.4	3.3	30	15	5.0	645...	304510 0005	26,60	304515 0005	26,60
R/L 005.0407-20	0.75	0.4	0.45	1.9	4.4	3.3	35	20	5.0	645...	304510 0755	27,40	304515 0755	27,40
R/L 006.0510-15	1.0	0.55	0.55	2.3	5.3	3.4	30	15	6.0	676...	304510 0010	26,50	304515 0010	26,60
R/L 006.0510-22	1.0	0.55	0.55	2.3	5.3	3.4	37	22	6.0	676...	304510 1006	27,40	304515 1006	27,40
											3125		3125	

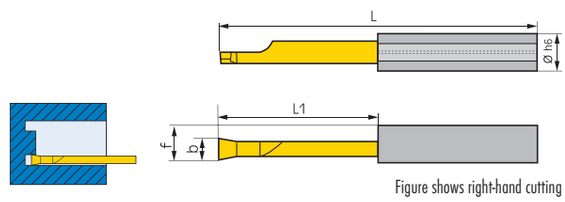

Figure shows right-hand cutting

Axial grooving from 15 mm groove outer diameter

- Max. groove depth tmax. up to 30 mm

Designation	D h6 mm	b +0.05 mm	f mm	L1 mm	L mm	t max. mm	D min. mm	suitable tool holder	ISO P M K **CN45F TiN right-hand** art.no.	€	ISO P M K **CN45F TiN left-hand** art.no.	€
R/L015.2515-20	7.0	2.5	5.9	20	35	20	8.0	676...	**304420** 2520	37,10	**304421** 2520	37,10
R/L015.3015-20	7.0	3.0	5.9	20	35	20	8.0	676...	304420 3020	37,10	304421 3020	37,10
R/L015.3015-30	7.0	3.0	5.9	30	45	30	8.0	676...	304420 3030	40,80	304421 3030	40,80
									3125		3125	

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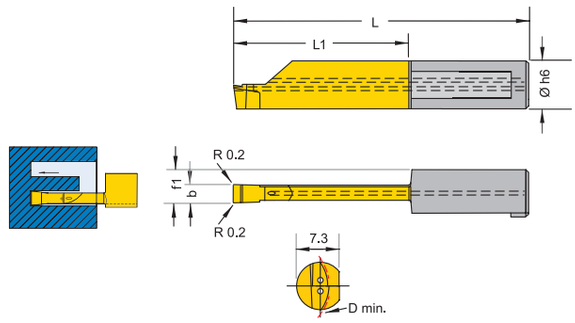
Suitable for high pressure cooling up to 100 bar



Axial grooving with double coolant bore

- From Dmin. Ø 16 mm
- Groove depth tmax. up to 40 mm

Designation	D h6 mm	b +0.05 mm	f mm	L1 mm	L mm	t max. mm	D min. mm	suitable tool holder	ISO PMK **AL41F TiAlN right-hand** art.no.	€	ISO PMK **AL41F TiAlN left-hand** art.no.	€
R/L016.0300-10	8	3.0	5.5	10	30	10	16	687...	**304450** 0310	45,10	**304455** 0310	45,10
R/L016.0300-20	8	3.0	5.5	20	40	20	16	687...	304450 0320	46,30	304455 0320	46,30
R/L016.0400-10	8	4.0	6.0	10	30	10	16	687...	304450 0410	45,10	304455 0410	45,10
R/L016.0400-20	8	4.0	6.0	20	40	20	16	687...	304450 0420	46,30	304455 0420	46,30
R/L020.0300-25	8	3.0	5.5	25	45	25	20	687...	304450 0325	46,90	304455 0325	46,90
R/L020.0300-30	8	3.0	5.5	30	50	30	20	687...	304450 0330	46,90	304455 0330	46,90
R/L020.0300-35	8	3.0	5.5	35	55	35	20	687...	304450 0335	48,10	304455 0335	48,10
R/L020.0300-40	8	3.0	5.5	40	60	40	20	687...	304450 0340	48,10	304455 0340	48,10
R/L020.0400-25	8	4.0	6.0	25	45	25	20	687...	304450 0425	46,90	304455 0425	46,90
R/L020.0400-30	8	4.0	6.0	30	50	30	20	687...	304450 0430	46,90	304455 0430	46,90
R/L020.0400-35	8	4.0	6.0	35	55	35	20	687...	304450 0435	48,10	304455 0435	48,10
R/L020.0400-40	8	4.0	6.0	40	60	40	20	687...	304450 0440	48,10	304455 0440	48,10
R/L020.0500-20	8	5.0	6.5	20	40	20	20	687...	304450 0520	45,10	304455 0520	45,10
R/L020.0500-25	8	5.0	6.5	25	45	25	20	687...	304450 0525	45,70	304455 0525	45,70
R/L020.0500-30	8	5.0	6.5	30	50	30	20	687...	304450 0530	45,70	304455 0530	45,70
R/L020.0500-35	8	5.0	6.5	35	55	35	20	687...	304450 0535	46,90	304455 0535	46,90
R/L020.0500-40	8	5.0	6.5	40	60	40	20	687...	304450 0540	46,90	304455 0540	46,90
									3125		3125	

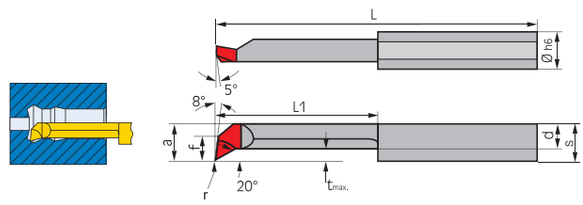
Safety in the workplace

Please protect your eyes, ears and respiratory system!

Cutting inserts *mini-bore hardline*

- **Bore machining from Ø 2 mm**
- **Internal turning and copying**
- Straight shank and lateral clamping surface
- Right-hand and left-hand versions (other left-hand versions available on request)
- **Material: X2CA superfine grain carbide TiAlN+C**
- **Can be used up to HRc 66**
- **best service life results only when coolant emulsions are used**
- **Advantages over CBN:**
- No problems in machining thin-walled parts
- Few temperature changes inside the workpiece
- Can also be used in HRc 48 - 53 range without difficulty
- Feed 100 % reproducible for the workpiece
- Considerable reduction in tooling and adjustment costs

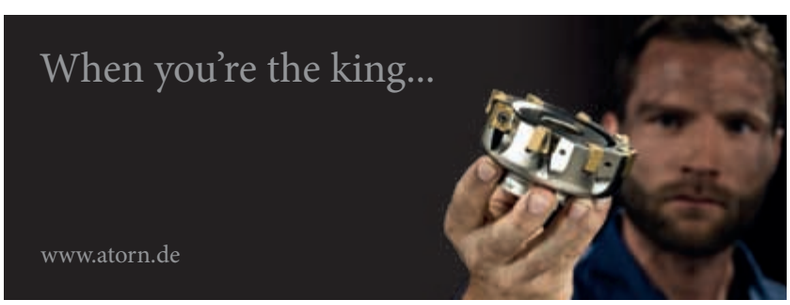
For hard materials



Internal turning

- From 2 mm bore diameter

model	r mm	s mm	f mm	d mm	a mm	L mm	L1 mm	t max. mm	D min. mm	D h6 mm	for holder	ISO **X2CA right-hand** art.no.	€	ISO **X2CA left-hand** art.no.	€
R/L 050.2-10	0.05	3.5		1.5	1.7	24	10	0.1	2.0	4.0	645...	**304550** 0002	*32,20*	**304555** 0002	*32,20*
R/L 050.2-5	0.05	3.5		1.5	1.7	19	5	0.1	2.0	4.0	645...	304550 0001	*31,60*		
R/L 050.3-10	0.1	3.5	0.6	2.3	2.6	24	10	0.2	2.8	4.0	645...	304550 0004	31,50		
R/L 050.3-16	0.1	3.5	0.6	2.3	2.6	30	16	0.2	2.8	4.0	645...	304550 0005	32,80	304555 0005	31,50
R/L 050.4-10	0.1	3.5	1.5	3.0	3.5	24	10	0.3	4.0	4.0	645...	304550 0007	31,50		
R/L 050.4-16	0.1	3.5	1.5	3.0	3.5	30	16	0.3	4.0	4.0	645...	304550 0008	32,80	304555 0008	32,80
R/L 050.4-20	0.1	3.5	1.5	3.0	3.5	34	20	0.3	4.0	4.0	645...	304550 0009	36,20		
R/L 050.5-10	0.15	4.4	1.9	3.8	4.4	25	10	0.5	5.0	5.0	645...	304550 0012	30,60		
R/L 050.5-15	0.15	4.4	1.9	3.8	4.4	30	15	0.5	5.0	5.0	645...	304550 0013	32,–	304555 0013	*32,–*
R/L 050.5-20	0.15	4.4	1.9	3.8	4.4	35	20	0.5	5.0	5.0	645...	304550 0014	35,40		
R/L 050.5-25	0.15	4.4	1.9	3.8	4.4	40	25	0.5	5.0	5.0	645...	304550 0015	38,90		
R/L 050.6-15	0.15	5.3	2.3	4.5	5.3	30	15	0.5	6.0	6.0	676...	304550 0018	32,50		
R/L 050.6-22	0.15	5.3	2.3	4.5	5.3	37	22	0.5	6.0	6.0	676...	304550 0019	35,80	304555 0019	35,80
R/L 050.6-25	0.15	5.3	2.3	4.5	5.3	40	25	0.5	6.0	6.0	676...	304550 0020	39,40		
R/L 050.6-30	0.15	5.3	2.3	4.5	5.3	45	30	0.5	6.0	6.0	676...	304550 0021	43,10		
R/L 050.7-20	0.15	6.3	2.8	5.5	6.3	35	20	0.6	6.8	7.0	676...	304550 0024	36,30		
R/L 050.7-25	0.15	6.3	2.8	5.5	6.3	40	25	0.6	6.8	7.0	676... 687...	304550 0025	40,–		
R/L 050.7-30	0.15	6.3	2.8	5.5	6.3	45	30	0.6	6.8	7.0	676... 687...	304550 0026	43,80	304555 0026	43,80
R/L 050.7-35	0.15	6.3	2.8	5.5	6.3	50	35	0.6	6.8	7.0	676... 687...	304550 0027	47,60		
R/L 050.7-40	0.15	6.3	2.8	5.5	6.3	55	40	0.6	6.8	7.0	676... 687...	304550 0028	52,–		
												3125		3125	



...dreams come true.

ATORN®
High quality for great performance

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Cutting tool sets *mini-børe*

mini-børe cutting tool set 1

- **Internal turning, recess turning and chamfering**
- Complete set including holder
- Internal machining from 3 mm bore Ø
- Design: **right-hand cutting**
- Cutting inserts: **CN45F, TiN-coated**
- Supplied in a case

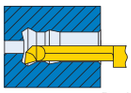
Fig. A

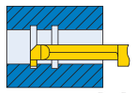
Fig. E

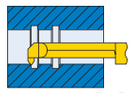
Fig. F

Designation	Bore hole Ø mm	Bore depth mm	Punching depth mm	Punching width mm	Illustration	art.no.	€
676.0016-D 645.0016-D 111.645 R 050.6-22 R 050.5-20 R 060.5-20 R 050.4-16 R 050.3-16 R 006.0200-22 R 006.0150-22 R 005.0200-20 R 005.0150-20 R 004.0100-16	6 5 5 4 3 6 6 5 5 4	22 20 20 16 16 22 22 20 20 16	- - - - - 1.8 1.8 1.0 1.0; 0.8	- - - - - 2.0 1.5 2.0 1.5 1.0	A A F A A E E E E E	**304601** 0001	415,–

3125

mini-børe cutting tool set 2

- **Internal recess turning**
- Complete set including holder
- Internal machining from 4 mm bore Ø
- Design: **right-hand cutting**
- Cutting inserts: **CN45F, TiN-coated**
- Supplied in a case

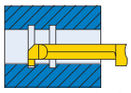
Fig. E

Designation	Bore hole Ø mm	Bore depth mm	Punching depth mm	Punching width mm	Illustration	art.no.	€
676.0016-D 645.0016-D 111.645 R 006.0200-22 R 006.0150-22 R 005.0200-20 R 005.0150-20 R 004.0100-16	6 6 5 5 4	22 22 20 20 16	1.8 1.8 1.0 1.0 0.8	2.0 1.5 2.0 1.5 1.0	E E E E E	**304601** 0002	320,–

3125

mini-børe cutting tool set 3

- **Internal turning**
- Complete set including holder
- Internal machining from 3 mm bore Ø
- Design: **right-hand cutting**
- Cutting inserts: **CN45F, TiN-coated**
- Supplied in a case

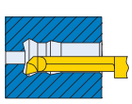
Fig. A

Designation	Bore hole Ø mm	Bore depth mm	Punching depth mm	Punching width mm	Illustration	art.no.	€
676.0016-D 645.0016-D 111.645 R 050.6-22 R 050.5-20 R 050.4-16 R 050.3-16	6 5 4 3	22 20 16 16	- - - -	- - - -	A A A A	**304601** 0003	280,–

3125

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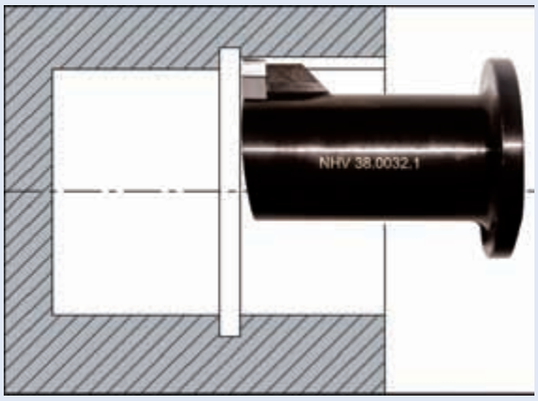
ATORN® Systematic keyway slotting

INFO

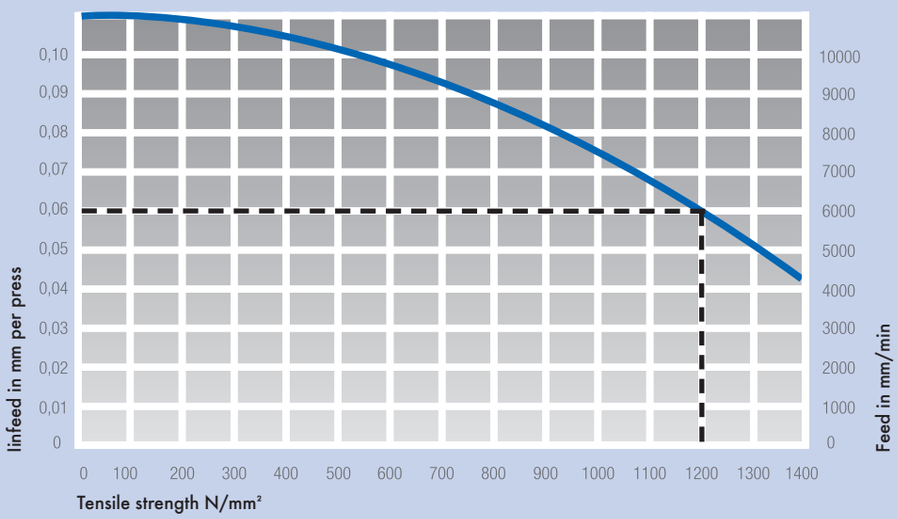
The tool system for keyway slotting offers a cost-effective and simple solution in many areas and can be used on practically any CNC lathe, milling machine or machining centre.
Practically any common groove can be created directly on the lathe. The machining of complex and therefore often valuable workpieces or semi-finished products on a lathe is frequently one of the first work processes. The workpiece is either pre-turned or finished.
Grooves must now be applied longitudinally as a carrier or anti-twist protection.
This tool system can now be used to manufacture longitudinal grooves compliant with DIN 138 and DIN 6885 on CNC lathes and reduce costs.



References

- an undercut is necessary at the end of the broached groove for tool run out.
- the insert should not touch the bottom of the groove as the tool retracts.
- setting of the tool is very important. Check accurate the component diameter before taking the first pass.
- using oil or emulsion helps to achieve better surface finish and flush chips out of the component.
- the tool should be set at the 12 o´ clock position to ensure that chips fall away from the groove.
- avoid interrupted cutting

Approximate value for broaching
Example: heat-treated steel for intance 42CroMo4 with1200 N/mm²
- infeed per pass 0,05-0,06 mm
- feed 5500 mm/min



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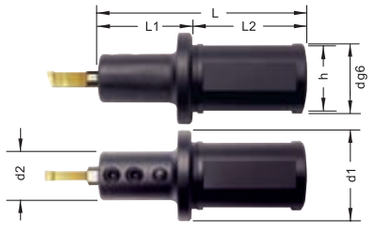
ATORN® Tool holder for keyway slotting

- Keyway slotting on CNC lathes, milling machines and machining centres
- Keyway slotting of longitudinal grooves in accordance with DIN 138 and DIN 6885

Type NHU, bore Ø from 6 mm

model	d g6 mm	d1 mm	d2 mm	L mm	L1 mm	L2 mm	h mm	art.no.	€
NHU.0025.1	25	33	18	73	33	40	23	**307001** 0025	199,–
NHU.0032.1	32	40	20	73	33	40	30	307001 0032	210,–

3130



Type NH10, bore Ø from 10 mm

model	d g6 mm	d1 mm	d2 mm	L mm	L1 mm	L2 mm	h mm	art.no.	€
NH10.0025.1	25	33	20	73	33	40	23	**308001** 0025	199,–
NH10.0032.1	32	40	20	73	33	40	30	308001 0032	199,–

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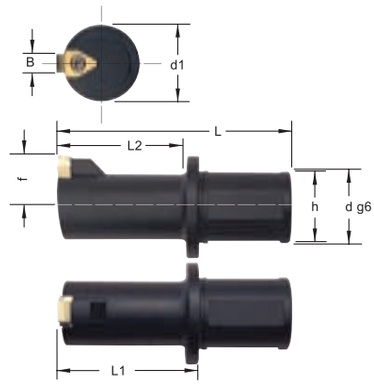

Type NHV, bore Ø from 22 mm

model	d g6 mm	d1 mm	f mm	L mm	L1 mm	L2 mm	h mm	D min. mm	art.no.	€
NHV.22.0025.1	25	33	12.0	100	60	50	23	22	**309001** 0022	187,–
NHV.30.0032.1	32	45	16.5	100	60	50	30	30	309001 0030	187,–
NHV.30.0032.2	32	45	16.5	125	85	75	30	38	309001 1030	215,–
NHV.38.0032.1	32	45	22.0	100	60	50	30	30	309001 0038	187,–
NHV.38.0032.2	32	45	22.0	125	85	75	30	38	309001 1038	215,–

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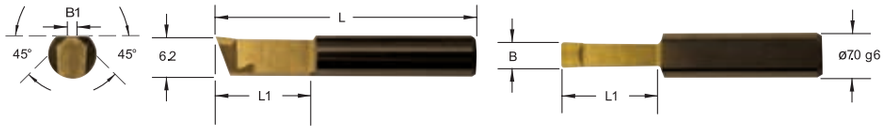
ATORN® Cutting inserts for keyway slotting

Vc/fz

- Keyway slotting of longitudinal grooves in accordance with DIN 138 and DIN 6885
- Tolerance class C11/JS9/P9
- **Type NPU**, bore Ø from 6 mm
- **Type NP10**, bore Ø from 10 mm
- **Type NPV**, bore Ø from 22 mm
- Cutting material: **HC8620, TIALN**-coated



Type NPU, 45°/chamfered

model	B1 mm	B mm	L mm	L1 mm	Groove width mm	suitable for holder	art.no.	€
NPU.4545.1	3.6	6.5	50	25	4 / 5	NHU	**307005** 4545	50,–

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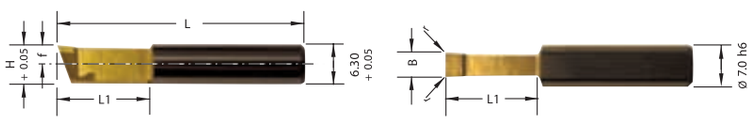

Type NPU, standard, DIN 138, tolerance C11

model	Ø mm	Width mm	Depth mm	Tolerance	B mm	H mm	r mm	f mm	L mm	L1 mm	D min. mm	suitable for holder	art.no.	€
NPU.0210.03.1	6	2	0.9	C11	2.1	5.5	0.35	2.0	38	12.5	6	NHU	**307006** 0210	38,90
NPU.0310.03.1	10	3	1.5	C11	3.1	6.2	0.35	2.7	38	12.5	7	NHU	307006 0310	38,90
NPU.0310.05.1	13	3	1.6	C11	3.1	6.2	0.50	2.7	38	12.5	7	NHU	307006 0311	38,90
NPU.0410.05.1	16	4	1.7	C11	4.1	6.2	0.50	2.7	40	15.0	7	NHU	307006 0410	37,40
NPU.0410.05.2	16	4	1.7	C11	4.1	6.2	0.50	2.7	50	25.0	7	NHU	307006 0411	49,10

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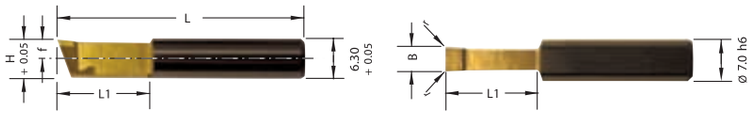

Type NPU, loose fit, DIN 6885, tolerance JS9

model	Ø mm	Width mm	Depth mm	Tolerance	B mm	H mm	r mm	f mm	L mm	L1 mm	D min. mm	suitable for holder	art.no.	€
NPU.0200.01.1	> 6- 8	2	1.0	JS9	2	5.5	0.1	2.0	38	12.5	6	NHU	**307007** 0200	38,90
NPU.0300.01.1	> 8-10	3	1.4	JS9	3	6.2	0.1	2.7	38	12.5	7	NHU	307007 0300	38,90
NPU.0400.01.1	> 10-12	4	1.8	JS9	4	6.2	0.1	2.7	40	15.0	7	NHU	307007 0400	37,40
NPU.0400.02.1	> 10-12	4	1.8	JS9	4	6.2	0.2	2.7	40	15.0	7	NHU	307007 0401	*37,40*
NPU.0400.02.2	> 10-12	4	1.8	JS9	4	6.2	0.2	2.7	50	25.0	7	NHU	307007 0402	46,50
NPU.0500.02.2	> 12-17	5	2.3	JS9	5	5.8	0.2	2.3	50	25.0	7	NHU	307007 0500	49,10

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Type NPU, tight fit, DIN 6885, tolerance P9

model	Ø mm	Width mm	Depth mm	Tolerance	B mm	H mm	r mm	f mm	L mm	L1 mm	D min. mm	suitable for holder	art.no.	€
NPU.0198.01.1	> 6 - 8	2	1.0	P9	1.98	5.5	0.1	2.0	38	12.5	6	NHU	**307008** 0198	38,90
NPU.0298.01.1	> 8 -10	3	1.4	P9	2.98	6.2	0.1	2.7	38	12.5	7	NHU	307008 0298	38,90
NPU.0398.01.1	> 10 -12	4	1.8	P9	3.98	6.2	0.1	2.7	40	15.0	7	NHU	307008 0398	*37,40*
NPU.0398.02.2	> 10 -12	4	1.8	P9	3.98	6.2	0.2	2.7	50	25.0	7	NHU	307008 1398	*49,10*
NPU.0498.02.2	> 12 -17	5	2.3	P9	4.98	5.8	0.2	2.3	50	25.0	7	NHU	307008 0498	*49,10*

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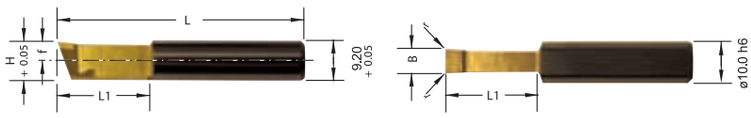

Type NP10, standard, DIN 138 (*non-DIN), tolerance C11

model	Ø mm	Width mm	Depth mm	Tolerance	B mm	H mm	r mm	f mm	L mm	L1 mm	D min. mm	suitable for holder	art.no.	€
NP10.410.05.2	16	4	1.7	C11	4.1	9	0.5	4	50	25	10	NH10	**308002** 0410	*54,50*
NP10.410.05.3	16	4	1.7	C11	4.1	9	0.5	4	66	41	10	NH10	308002 0411	*68,–*
NP10.510.05.2*	10	-	-	-	5.1	9	0.5	4	50	25	10	NH10	308002 0510	*54,50*
NP10.510.05.3*	10	-	-	-	5.1	9	0.5	4	66	41	10	NH10	308002 0511	68,–

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Type NP10, loose fit, DIN 6885, tolerance JS9

model	Ø mm	Width mm	Depth mm	Tolerance	B mm	H mm	r mm	f mm	L mm	L1 mm	D min. mm	suitable for holder	art.no.	€
NP10.400.02.2	10	4	1.8	JS9	4	9	0.2	4	50	25	10	NH10	**308003** 0400	54,50
NP10.400.02.3	10	4	1.8	JS9	4	9	0.2	4	66	41	10	NH10	308003 0401	68,–
NP10.500.02.2	12	5	2.3	JS9	5	9	0.2	4	50	25	10	NH10	308003 0500	54,50
NP10.500.02.3	12	5	2.3	JS9	5	9	0.2	4	66	41	10	NH10	308003 0501	68,–

3130

Type NP10, tight fit, DIN 6885, tolerance P9

model	Ø mm	Width mm	Depth mm	Tolerance	B mm	H mm	r mm	f mm	L mm	L1 mm	D min. mm	suitable for holder	art.no.	€
NP10.398.02.2	10	4	1.8	P9	3.98	9	0.2	4	50	25	10	NH10	**308004** 0398	54,50
NP10.398.02.3	10	4	1.8	P9	3.98	9	0.2	4	66	41	10	NH10	308004 1398	*68,–*
NP10.498.02.2	12	5	2.3	P9	4.98	9	0.2	4	50	25	10	NH10	308004 0498	*54,50*
NP10.498.02.3	12	5	2.3	P9	4.98	9	0.2	4	66	41	10	NH10	308004 1498	68,–

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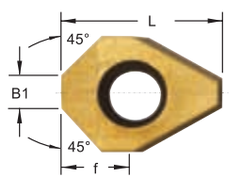

Type NPV, 45°/chamfered

model	B1 mm	L mm	B mm	Groove width mm	suitable for holder	art.no.	€
NPV.3045.1	3.5	17.3	8.0	6 / 7 / 8	NHV22	**309002** 3045	36,–
NPV.6045.1	6.0	20.2	10.9	10	NHV38	309002 6045	*33,90*

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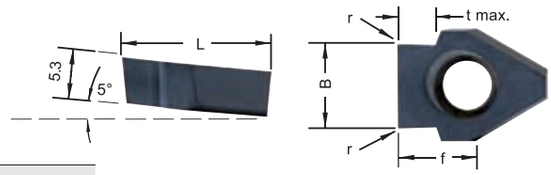

Type NPV, standard, DIN 138, tolerance C11

model	Ø mm	Width mm	Depth mm	Tolerance	B mm	r mm	f mm	L mm	t max. mm	D min. mm	suitable for holder	art.no.	€
NPV.0612.085	22	6	2.1	C11	6.12	0.85	8.0	17.3	2.6	22	NHV22	**309003** 0626	34,60
NPV.0713.085	27	7	2.8	C11	7.13	0.85	8.0	17.3	3.3	22	NHV22	309003 0733	34,60
NPV.0813.105	32	8	2.8	C11	8.13	1.05	8.0	17.3	3.4	22	NHV22 / NHV30	309003 0834	34,60
NPV.1013.105	40	10	3.5	C11	10.13	1.05	10.9	20.1	4.2	40	NHV38	309003 1042	34,60
NPV.1215.135	50	12	3.6	C11	12.15	1.35	10.9	20.1	5.1	40	NHV38	309003 1251	*34,60*
NPV.1215.175	70	16	5.0	C11	12.15	1.75	10.9	20.1	6.6	40	NHV38	309003 1666	34,60
NPV.1215.225	100	24	7.0	C11	12.15	2.25	10.9	20.1	8.5	40	NHV38	309003 2485	*34,60*

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Type NPV, loose fit, DIN 6885, tolerance JS9

model	Ø mm	Width mm	Depth mm	Tolerance	B mm	r mm	f mm	L mm	t max. mm	D min. mm	suitable for holder	art.no.	€
NPV.0501.02	22	5	2.3	JS9	5.01	0.2	8.0	17.3	2.7	22	NHV22	**309004** 0527	34,60
NPV.0601.02	22	6	2.8	JS9	6.01	0.2	8.0	17.3	3.4	22	NHV22	309004 0634	34,60
NPV.0801.02	> 22-30	8	3.3	JS9	8.01	0.2	8.0	17.3	4.1	22	NHV22 / NHV30	309004 0841	34,60
NPV.1001.03	> 30-38	10	3.3	JS9	10.01	0.3	8.0	17.3	4.2	30	NHV30	309004 1042	34,60
NPV.1202.03	> 38-44	12	3.3	JS9	12.02	0.3	10.9	20.1	5.7	40	NHV38	309004 1257	34,60
NPV.1202.05	> 65-75	20	4.9	JS9	12.02	0.5	10.9	20.1	8.5	40	NHV38	309004 2085	34,60

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Type NPV, tight fit, DIN 6885, tolerance P9

model	Ø mm	Width mm	Depth mm	Tolerance	B mm	r mm	f mm	L mm	t max. mm	D min. mm	suitable for holder	art.no.	€
NPV.0498.02	22	5	2.3	P9	4.98	0.2	8.0	17.3	2.7	22	NHV22	**309005** 0490	34,60
NPV.0598.02	22	6	2.8	P9	5.98	0.2	8.0	17.3	3.4	22	NHV22	309005 0598	34,60
NPV.0798.02	> 22-30	8	3.3	P9	7.98	0.2	8.0	17.3	4.1	22	NHV22 / NHV30	309005 0798	34,60
NPV.0998.03	> 30-38	10	3.3	P9	9.98	0.3	8.0	17.3	4.2	30	NHV30	309005 0998	34,60
NPV.1197.03	> 38-44	12	3.3	P9	11.98	0.3	10.9	20.1	5.7	40	NHV38	309005 1197	34,60

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ATORN® Keyway slotting sets for longitudinal grooves

- Keyway slotting on CNC lathes, milling machines and machining centres
- Keyway slotting of longitudinal grooves in accordance with DIN 6885
- **Cutting inserts loose fit in accordance with DIN 6885**
- Tolerance class JS9
- Cutting material: AL41F, TiAlN-coated

Economical keyway slotting even in very small production runs!

NPU 5-piece keyway slotting set, bore Ø from 6 mm

Contents	art.no.	€
1x tool holder, NHU.0025.1 3x cutting inserts: NPU.0200.01.1, NPU.0300.01.1, NPU.0400.01.1 1x hex key - for groove widths of 2 / 3 / 4 mm	**307010** 0001	215,–

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NP10 4-piece keyway slotting set, bore Ø from 10 mm

Contents	art.no.	€
1x tool holder, NH10.0025.1 2x cutting inserts: NP10.400.02.3, NP10.500.02.3 1x hex key - for groove widths of 4 / 5 mm	**308010** 0001	240,–

3130

NPV 5-piece keyway slotting set, bore Ø from 22 mm

Contents	art.no.	€
1x tool holder, NHV.22.0025.1 3x cutting inserts: NPV.0501.02, NPV.0601.02, NPV.0801.02 1x Torx key, TX 15 - for groove widths of 5 / 6 / 8 mm	**309010** 0001	209,–

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The phrase "knurling technology" is used to refer to two distinct processes: form knurling and knurl cutting. Both processes have their special areas of application, potential uses and limitations. While one benefit of form knurling is the easier application, for instance, knurl cutting is always the preferred process when the surface finish leaves no room for compromise. The different features, areas of application, advantages and disadvantages are summed up on the following pages.

A basic distinguishing feature that sets the processes apart is the correlation between the possible machining direction and knurling profile producibility on the workpiece:

KNURLING PROCESSES

Form knurling
chipless
machining

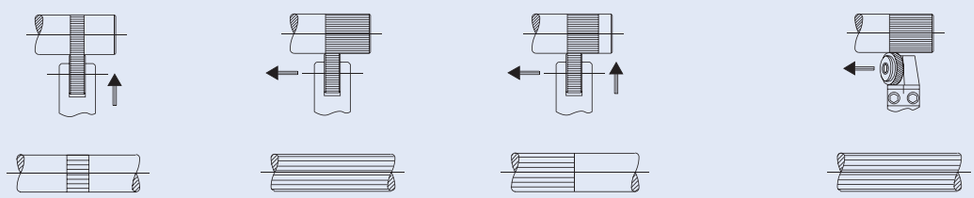
Knurl cutting
cutting
machining

Grooving knurling
Radial
machining direction

Longitudinal knurling
Axial
machining direction

Grooving and longitudinal knurling
Radial and axial
machining direction

Longitudinal knurling
Axial
machining direction



POSSIBLE KNURL PROFILES

Grooving knurling	Longitudinal knurling	Grooving and longitudinal knurling	Longitudinal knurling
RAA	RAA	RAA	RAA
RBR RBL	RBR RBL	RBR RBL	RBR RBL
RGE RGV	RGE*	RGE*	RGE
RKE RKV			

* Only possible with tool types 141, 142 and 241

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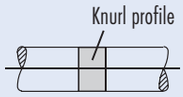
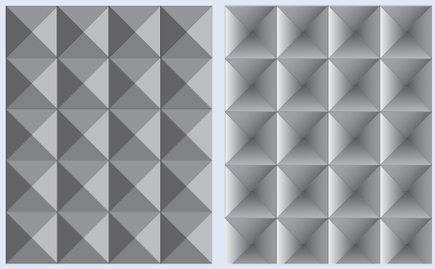
Selection of knurling tools

EXAMPLE:



EXPLANATION OF THE ARROWS:

- Knurl can only be produced in a radial direction (grooving knurling)
- Knurl can only be produced in an axial direction (longitudinal knurling)
- Knurl can be produced in an axial and a radial direction



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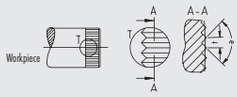
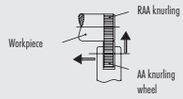
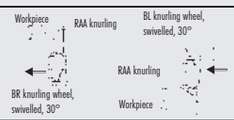
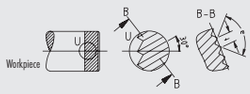
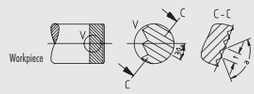
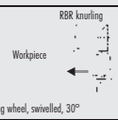
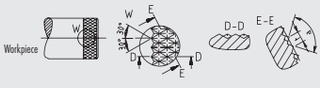
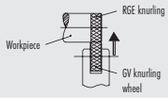
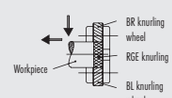
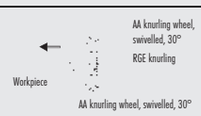
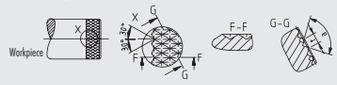
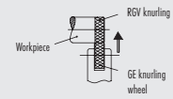
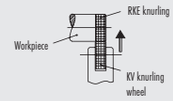
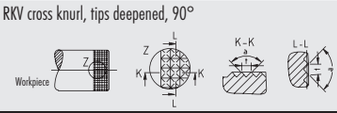
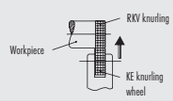
Knurl profile (DIN 82)	Production process	
	Form knurling	Knurl cutting
RAA knurl with axially parallel score marks 		
		
RBL left knurl 		
RBR right knurl 		
		
RGE left / right knurl, tips increased, 30° 		
		
		
RGV left / right knurl, tips deepened, 30° 		
RKE cross knurl, tips increased, 90° 		
RKV cross knurl, tips deepened, 90° 		

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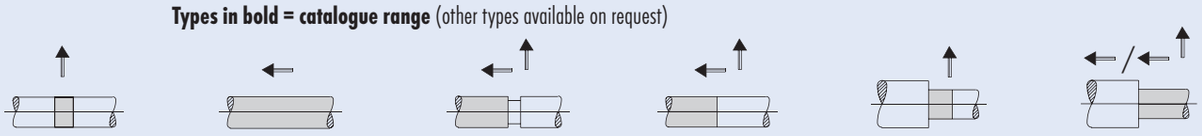
SH = Sliding headstock machines (CNC / conventional)
FH = Fixed headstock machines / universal headstock machines / turning and milling centre (CNC / conventional)
MS = Multi-spindle lathes (CNC / conventional)
RT = Rotary transfer machines / indexing table machines / transfer machines

X = Knurl cutting technology is not possible for this application

▲ = Knurling length limited

* = RBR/RBL only possible during knurl cutting under certain circumstances

Types in bold = catalogue range (other types available on request)



	Machine type	Knurling in the centre of the workpiece, without grooving (type)	Knurling beginning at the start of the workpiece (type)	Knurling beginning at the centre of the workpiece, after grooving (type)	Knurling beginning at the centre of the workpiece, without grooving (type)	Knurling up to the collar (type)	Knurling beginning at the start of the workpiece up to the collar (type)
	SH	**130**, **131**, **141**, 161	**130**, **131**, **141**, 161, 162▲, 192▲, 391	**130**, **131**, **141**, 161	**130**, **131**, **141**, 161	132, **142**	132, **142**, 162▲, 192▲
	FH	**130**, **131**, **141**, 161	**130**, **131**, **141**, 161, 162▲, 192▲, 391	**130**, **131**, **141**, 161	**130**, **131**, **141**, 161	132, **142**	132, **142**, 162▲, 192▲
	MS	**130**, **131**, **141**, 161	**130**, **131**, **141**, 161, 162▲, 192▲, 391	**130**, **131**, **141**, 161	**130**, **131**, **141**, 161	132, **142**	132, **142**, 162▲, 192▲
	RT		192▲, 391				162▲, 192▲
	SH		**231**	**231**			
	FH		**231**	**231**			
	MS		**231**	**231**			
	RT						
	SH	**130**, **131**, **141**, 161	**130**, **131**	**130**, **131**, **141**, 161	**130**, **131**, **141**, 161	132, **142**	132, **142**, 162▲, 192▲
	FH	**130**, **131**, **141**, 161	**130**, **131**	**130**, **131**, **141**, 161	**130**, **131**, **141**, 161	132, **142**	132, **142**, 162▲, 192▲
	MS	**130**, **131**, **141**, 161	**130**, **131**	**130**, **131**, **141**, 161	**130**, **131**, **141**, 161	132, **142**	132, **142**, 162▲, 192▲
	RT		**130**, **131**				162▲, 192▲
	SH		**231***	**231***			
	FH		**231***	**231***			
	MS		**231***	**231***			
	RT						
	SH	**130**, **131**, **141**, 161	**130**, **131**	**130**, **131**, **141**, 161	**130**, **131**, **141**, 161	132, **142**	132, **142**, 162▲, 192▲
	FH	**130**, **131**, **141**, 161	**130**, **131**	**130**, **131**, **141**, 161	**130**, **131**, **141**, 161	132, **142**	132, **142**, 162▲, 192▲
	MS	**130**, **131**, **141**, 161	**130**, **131**	**130**, **131**, **141**, 161	**130**, **131**, **141**, 161	132, **142**	132, **142**, 162▲, 192▲
	RT		**130**, **131**				162▲, 192▲
	SH		**231***	**231***			
	FH		**231***	**231***			
	MS		**231***	**231***			
	RT						
	SH	**130**, **131**, 132, 161			Only grooving knurling possible	132	132
	FH	**130**, **131**, 132, 161				132	132
	MS	**130**, **131**, 132, 161				132	132
	RT						
	SH	**141**, 161	**141**, 161, 162, 192▲	**141**, 161	**141**, 161	**142**	**141**, 162▲, 192▲
	FH	**141**, 161	**141**, 161, 162, 192▲	**141**, 161	**141**, 161	**142**	**141**, 162▲, 192▲
	MS	**141**, 161	**141**, 161, 162, 192▲	**141**, 161	**141**, 161	**142**	**141**, 162▲, 192▲
	RT		161, 162, 192▲				162▲, 192▲
	SH		**241**, 291▲	**241**			
	FH		**241**, 291▲	**241**			
	MS		**241**, 291▲	**241**			
	RT		291▲				
	SH	**130**, **131**				132	
	FH	**130**, **131**	RGV:	RGV:	RGV:	132	RGV:
	MS	**130**, **131**	Only grooving knurling possible	Only grooving knurling possible	Only grooving knurling possible	132	Only grooving knurling possible
	RT						
	SH	**130**, **131**				132	
	FH	**130**, **131**	RKE:	RKE:	RKE:	132	RKE:
	MS	**130**, **131**	Only grooving knurling possible	Only grooving knurling possible	Only grooving knurling possible	132	Only grooving knurling possible
	RT						
	SH	**130**, **131**				132	
	FH	**130**, **131**	RKV:	RKV:	RKV:	132	RKV:
	MS	**130**, **131**	Only grooving knurling possible	Only grooving knurling possible	Only grooving knurling possible	132	Only grooving knurling possible
	RT						

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ECO knurling tool for 1 knurling wheel

- Use: Form knurling (chipless forming), all types of knurl pattern, lettering and profiles
- Knurling wheels: all knurl forms can be used
- Machine type: conventional and automated lathes, centre height must be set
- Supplied without knurling wheel

Description	Shank width mm	Shank height mm	Length mm	Working area mm	for knurling wheel mm	Type	**Holder without wheel** art.no.	€
Straight version	16	16	130.5	15 - 200	20 x 8 x 6	130	**380101** 0001	22,–

3126

Knurling tool for 1 knurling wheel

- Use: Form knurling (chipless forming), all types of knurl pattern, profiles and lettering
- Knurling wheels: all knurl forms can be used
- Machine type: Lathes and automated lathes (conventional and CNC), centre height integrated in the tool holder
- Special surface hardening for increased wear resistance
- Carbide runner pins for higher speeds, faster machining, longer service life
- Supplied without knurling wheel

Description	Shank width mm	Shank height mm	Length mm	Working area mm	for knurling wheel mm	Type	**Holder without wheel** art.no.	€
Right-hand version	12	12	99	3 - 50	15 x 4 x 4	131	**380102** 0103	103,10
Universal, right + left-hand	20	20	109.5	8 - 200	20 x 8 x 6	131	380102 0011	142,50

3126

ECO knurling tools, for 2 knurling wheels

- Use: Form knurling (chipless forming), workpiece knurl profile in accordance with DIN 82: RAA, RGE 30°
- Knurling wheels: **RAA** = 2x type AA; **RGE 30°** = 1x BL 30°, 1x BR 30°
- Machine type: Lathes and automated lathes (conventional and CNC), centre height integrated in the tool
- Supplied without knurling wheels

With flexible centring

Description	Shank width mm	Shank height mm	Length mm	Working area mm	for knurling wheel mm	Type	**Holder w/o wheels** art.no.	€
Straight version	20	20	130	10 - 80	20 x 8 x 6	141	**380105** 0001	89,30

3126

Running pin with flat surface; secured by screw; quick-change knurling wheels

Description	Shank width mm	Shank height mm	Length mm	Working area mm	for knurling wheel mm	Type	**Holder w/o wheels** art.no.	€
Right-hand	12	12	101	8 - 15	15 x 4 x 4	142	**380109** 1001	152,70

3126

Knurling tool for 2 knurling wheels

- Use: Form knurling (chipless forming), workpiece knurl profile in accordance with DIN 82: RAA, RGE 30°
- Knurling wheels:**RAA** = 2x type AA; **RGE 30°** = 1x BL 30°, 1x BR 30°
- Machine type: Lathes and automated lathes (conventional and CNC), centre height integrated in the tool holder
- Modular design, knurling tool can be used universally as a right-hand and left-hand version, retooling simply involves turning the knurling head
- Special surface hardening for increased wear resistance
- Carbide runner pins for higher speeds, faster machining, longer service life
- With flexible centring
- Clearance angle correction by means of grub screws in the shank
- Supplied without knurling wheels

Description	Shank width mm	Shank height mm	Length mm	Working area mm	for knurling wheel mm	Type	**Holder w/o wheels** art.no.	€
Universal, right + left-hand	20	20	130	10-80	20 x 8 x 6	141	**380109** 0005	217,90

3126

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Knurling tool set

- 2 holders
- Form knurling: all types of knurl pattern
- 11 knurling wheels
- Spare runner pins included

Contents	art.no.	€
1 of each holder: 20 x 20 mm shank, length 130 mm (3801050001, type 141) 16 x 16 mm shank, length 108 mm (3801010001, type 130) HSS knurling wheels: 3 x type AA, 20 x 8 x 6 mm, pitch: 0.8 2x type AA, 20 x 8 x 6 mm, pitch: 1.0 1x type BL 30°, 20 x 8 x 6 mm, in each pitch: 0.8 / 1.0 / 1.2 1x type BR 30°, 20 x 8 x 6 mm, in each pitch: 0.8 / 1.0 / 1.2 3 spare runner pins	**380108** 0081	288,40

3126

Knurl cutting tool for 1 knurling wheel, 25 x 6 x 8 mm

- Use: Knurl cutting, workpiece knurl profile according to DIN 82: RAA
- Knurling wheels: RAA = 1 x BR 30° for right-hand use, RAA = 1 x BL 30° for left-hand use
- Machine type: conventional and CNC automated lathes, centre height integrated in the tool
- Modular design, tool can be used universally as a right-hand or left-hand version
- Quick retooling by simply removing and turning the knurling head, precise axis position after every reassembly thanks to 3-point support
- With position indicator for optimum initial positioning
- Fine adjustment of the knurling head via threaded spindle with scale
- Precise control for axially parallel knurling thanks to adjustable knurling head
- Clearance angle set using grub screws in the shank
- Special surface hardening for increased wear resistance
- Supplied without knurling wheel

Design	Shank width mm	Shank height mm	Total length mm	Working area mm	for knurling wheel mm	Type	**Holder without wheel** art.no.	€
Universal R/L	25	20	129	10 - 300	25 x 6 x 8	231	**380150** 2026	428,90

3126

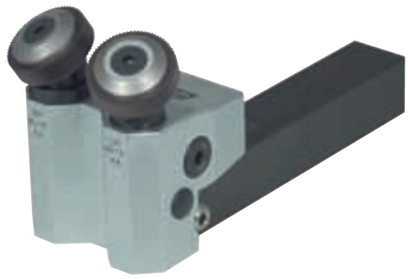
Knurl cutting tool for 1 knurling wheel, 15 x 4 x 8 mm

- Use: Knurl cutting (chip removing forming), longitudinal knurling for workpiece knurl profile according to DIN 82: RAA; RBL, RBR
- Knurling wheels: RAA = 1 x BR 30° for right-hand use, RAA = 1 x BL 30° for left-hand use
- Machine type: Sliding headstock machines and small lathes, CNC and conventional, centre height integrated in the tool
- Fine adjustment of the knurling head via setting spindle for a perfect, distinct and spiral-free knurl profile
- Scale for precise positioning of the knurl cutting head to facilitate pre-setting and reproducible processes
- Easy fine adjustment of clearance angle using headless screws. Modular shank design and modular knurl cutting head for use on clockwise and anticlockwise sliding headstock machines
- Reduced tooling times due to simple pre-setting and reproducible setting parameters
- **Higher speeds, shorter machining times, reduced wear on the knurling wheel due to carbide bushes**

Design	Shank width mm	Shank height mm	Total length mm	Working area mm	for knurling wheel mm	Type	**Holder without wheel** art.no.	€
Universal R/L	12	12	99	3 - 50	15 x 4 x 8	231	**380151** 1212	397,20

3126

Knurl cutting tool for 2 knurling wheels



- Use: Knurl cutting, workpiece knurl profile according to DIN 82: RGE30°, RGE45°
- Knurling wheels: RGE30° = 2x type AA, RGE45° = 1x BL 15° and 1x BR 15°
- Machine type: Lathes and automated lathes, conventional and/or CNC
- Modular design: Tool can be used universally as a right-hand or left-hand version
- Fast retooling by simply removing and turning the knurling head,
- Flexible application: vertical height adjustment for use on shank sizes 20 and 25 mm
- Easy to set: setting scale and setting spindle for quickly adjusting the manufacturing diameter
- Fine adjustment of the centre height by means of cutter spindle height adjustment
- Stable construction: toothing between the tool holder and the cutter head
- Special surface hardening for increased wear resistance
- Vertical height adjustment for use on shank sizes 20 and 25 mm
- Supplied without knurling wheel

Design	Shank width mm	Shank height mm	Total length mm	Working area mm	for knurling wheel mm	Type	**Holder w/o wheels** art.no.	€
Universal R/L	20	20	134		25 x 6 x 8	241	**380155** 0525	1.031,70

3126

ECO knurl cutting tool set

- 2 holders with a total of 6 knurling wheels
- Double knurl holder can be used universally as a right-hand and left-hand version
- For conventional and CNC automated lathes
- For knurl profiles RAA and RGE30°
- 25 x 6 x 8 knurling wheels for producing high-precision knurl profiles: TYPE BR30°, 1x pitch 0.8 and 1x pitch 1.0; TYPE AA, 2x pitch 0.8 and 2x pitch 1.0
- Supplied with knurling wheels, in a plastic case

Contents	art.no.	€
1 of each holder: 20 x 25 mm shank, length 129 mm (ECO 931 corresponds to type 231) 20 x 20 mm shank, length 134 mm (ECO 941, corresponds to type 241) + knurling wheels, 25 x 6 x 8, as per article description	**380157** 0010	927,40

3126

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High quality for great performance

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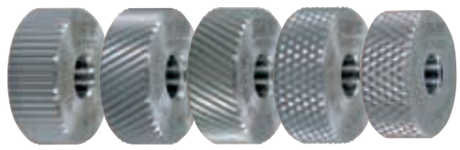
Precision knurling wheels

PM | DIN 403 | Vc/fz

PM and PM-Tenifer

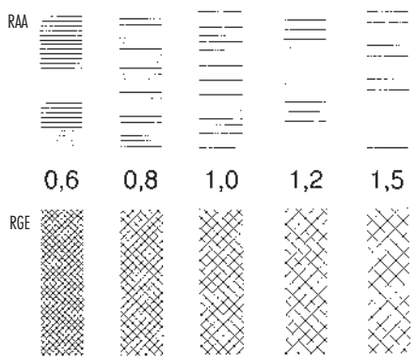
- Teeth precision-milled to the exact pitch,
- Fully hardened knurl, hardness HRc 61+2
- Flat faces and bore are ground
- **Chamfering on both sides for form knurling**
- **Sharp-edged for knurl cutting**.
- **Material: PM, PM-Tenifer with surface treatment** to enhance service life



AA BL 30° BR 30° GE 30° GV 30°

15 x 4 x 4 (Ø x width x bore), with chamfer

Type	Division mm	PM art.no.	€	PM-Tenifer art.no.	€
AA	0.6	**380130** 0106	25,60	**380131** 0106	28,80
AA	0.8	380130 0108	25,60	380131 0108	28,80
AA	1.0	380130 0110	25,60	380131 0110	28,80
AA	1.2	380130 0112	25,60	380131 0112	28,80
BL 30°	0.6	380130 0206	25,60	380131 0206	28,80
BL 30°	0.8	380130 0208	25,60	380131 0208	28,80
BL 30°	1.0	380130 0210	25,60	380131 0210	28,80
BL 30°	1.2	380130 0212	25,60	380131 0212	28,80
BR 30°	0.6	380130 0306	25,60	380131 0306	28,80
BR 30°	0.8	380130 0308	25,60	380131 0308	28,80
BR 30°	1.0	380130 0310	25,60	380131 0310	28,80
BR 30°	1.2	380130 0312	25,60	380131 0312	28,80
GE 30°	0.6	380130 0406	38,40	380131 0406	41,60
GE 30°	0.8	380130 0408	38,40	380131 0408	41,60
GE 30°	1.0	380130 0410	38,40	380131 0410	41,60
GE 30°	1.2	380130 0412	38,40	380131 0412	41,60
GV 30°	0.8	380130 0508	33,–	380131 0508	36,20
GV 30°	1.0	380130 0510	33,–	380131 0510	36,20
		3126		3126	



20 x 8 x 6 (Ø x width x bore), with chamfer

Type	Division mm	PM art.no.	€	PM-Tenifer art.no.	€
AA	0.6	**380132** 0106	28,40	**380133** 0106	31,60
AA	0.8	380132 0108	28,40	380133 0108	31,60
AA	1.0	380132 0110	28,40	380133 0110	31,60
AA	1.2	380132 0112	28,40	380133 0112	31,60
AA	1.5	380132 0115	28,40	380133 0115	31,60
BL 30°	0.6	380132 0206	28,40	380133 0206	31,60
BL 30°	0.8	380132 0208	28,40	380133 0208	31,60
BL 30°	1.0	380132 0210	28,40	380133 0210	31,60
BL 30°	1.2	380132 0212	28,40	380133 0212	31,60
BL 30°	1.5	380132 0215	28,40	380133 0215	31,60
BR 30°	0.6	380132 0306	28,40	380133 0306	31,60
BR 30°	0.8	380132 0308	28,40	380133 0308	31,60
BR 30°	1.0	380132 0310	28,40	380133 0310	31,60
BR 30°	1.2	380132 0312	28,40	380133 0312	31,60
BR 30°	1.5	380132 0315	28,40	380133 0315	31,60
GE 30°	0.6	380132 0406	44,50	380133 0406	47,70
GE 30°	0.8	380132 0408	44,50	380133 0408	47,70
GE 30°	1.0	380132 0410	44,50	380133 0410	47,70
GE 30°	1.2	380132 0412	44,50	380133 0412	47,70
GE 30°	1.5	380132 0415	44,50	380133 0415	47,70
GV 30°	0.8	380132 0508	45,–	380133 0508	48,20
GV 30°	1.0	380132 0510	45,–	380133 0510	48,20
		3126		3126	

15 x 4 x 8 (Ø x width x bore), sharp-edged

Type	Division mm	PM art.no.	€	PM-Tenifer art.no.	€
AA	0.6	**380190** 0106	25,60	**380191** 0106	28,80
AA	0.8	380190 0108	25,60	380191 0108	28,80
AA	1.0	380190 0110	25,60	380191 0110	28,80
AA	1.2	380190 0112	25,60	380191 0112	28,80
BL 15°	0.6	380190 0206	25,60	380191 0206	28,80
BL 15°	1.0	380190 0210	25,60	380191 0210	28,80
BL 30°	0.6	380190 0406	25,60	380191 0406	28,80
BL 30°	0.8	380190 0408	25,60	380191 0408	28,80
BL 30°	1.0	380190 0410	25,60	380191 0410	28,80
BL 30°	1.2	380190 0412	25,60	380191 0412	28,80
BR 15°	0.6	380190 0306	25,60	380191 0306	28,80
BR 15°	1.0	380190 0310	25,60	380191 0310	28,80
BR 30°	0.6	380190 0506	25,60	380191 0506	28,80
BR 30°	0.8	380190 0508	25,60	380191 0508	*28,80*
BR 30°	1.0	380190 0510	25,60	380191 0510	*28,80*
BR 30°	1.2	380190 0512	25,60	380191 0512	28,80
		3126		3126	

AA BL 15° BR 15° BL 30° BR 30°

25 x 6 x 8 (Ø x width x bore), sharp-edged

Type	Division mm	PM art.no.	€	PM-Tenifer art.no.	€
AA	0.6	**380192** 0106	35,10	**380193** 0106	38,30
AA	0.8	380192 0108	35,10	380193 0108	38,30
AA	1.0	380192 0110	35,10	380193 0110	38,30
AA	1.2	380192 0112	35,10	380193 0112	38,30
AA	1.5	380192 0115	35,10	380193 0115	38,30
BL 15°	0.6	380192 0206	35,10	380193 0206	38,30
BL 15°	1.0	380192 0210	35,10	380193 0210	38,30
BL 15°	1.2	380192 0212	35,10	380193 0212	38,30
BL 30°	0.6	380192 0406	35,10	380193 0406	38,30
BL 30°	0.8	380192 0408	35,10	380193 0408	38,30
BL 30°	1.0	380192 0410	35,10	380193 0410	38,30
BL 30°	1.2	380192 0412	35,10	380193 0412	38,30
BL 30°	1.5	380192 0415	35,10	380193 0415	38,30
BR 15°	0.6	380192 0306	35,10	380193 0306	38,30
BR 15°	1.0	380192 0310	35,10	380193 0310	38,30
BR 15°	1.2	380192 0312	35,10	380193 0312	38,30
BR 30°	0.6	380192 0506	35,10	380193 0506	38,30
BR 30°	0.8	380192 0508	35,10	380193 0508	38,30
BR 30°	1.0	380192 0510	35,10	380193 0510	38,30
BR 30°	1.2	380192 0512	35,10	380193 0512	38,30
BR 30°	1.5	380192 0515	35,10	380193 0515	38,30
		3126		3126	

21.5 x 5 x 8 (Ø x width x bore), sharp-edged, for QUICK knurl cutting tools

14.5 x 3 x 5 for Quick knurl cutting tools available on request

Type	Division mm	PM art.no.	€	PM-Tenifer art.no.	€
AA	0.6	**380194** 0106	28,40	**380195** 0106	31,60
AA	0.8	380194 0108	28,40	380195 0108	31,60
AA	1.0	380194 0110	28,40	380195 0110	31,60
AA	1.2	380194 0112	28,40	380195 0112	31,60
AA	1.5	380194 0115	28,40	380195 0115	31,60
BL 15°	0.6	380194 0206	28,40	380195 0206	31,60
BL 15°	1.0	380194 0210	28,40	380195 0210	31,60
BL 15°	1.2	380194 0212	28,40	380195 0212	31,60
BL 30°	0.6	380194 0406	28,40	380195 0406	31,60
BL 30°	0.8	380194 0408	28,40	380195 0408	31,60
BL 30°	1.0	380194 0410	28,40	380195 0410	31,60
BL 30°	1.2	380194 0412	28,40	380195 0412	31,60
BL 30°	1.5	380194 0415	28,40	380195 0415	31,60
BR 15°	0.6	380194 0306	28,40	380195 0306	31,60
BR 15°	1.0	380194 0310	28,40	380195 0310	31,60
BR 15°	1.2	380194 0312	28,40	380195 0312	31,60
BR 30°	0.6	380194 0506	28,40	380195 0506	31,60
BR 30°	0.8	380194 0508	28,40	380195 0508	31,60
BR 30°	1.0	380194 0510	28,40	380195 0510	31,60
BR 30°	1.2	380194 0512	28,40	380195 0512	31,60
BR 30°	1.5	380194 0515	28,40	380195 0515	31,60
		3126		3126	

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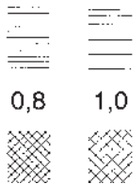
Precision knurling wheel set

HSS | DIN 403 | Vc/fz



- Teeth precision-milled to the exact pitch,
- Fully hardened knurl, hardness HRc 61+2
- Flat faces and bore are ground, with chamfering on both sides for form knurling
- **Material: PM-Tenifer with surface treatment**
- **Set contents:**
  1 unit each
  Type AA, divisions 0.8mm
  Type AA, divisions 1.0mm
  Type BL30°, divisions 0.8mm
  Type BL30°, divisions 1.0mm
  Type BR30°, divisions 0.8mm
  Type BR30°, divisions 1.0mm
  Type GE30°, divisions 0.8mm
  Type GE30°, divisions 1.0mm

20 x 8 x 6 (Ø x width x bore), with chamfer

Contents	art.no.	€
8 pieces as per article description	**380142** 0001	219,–

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Spare parts for knurling tools

Description	art.no.	€
Spare parts set: carbide bush, cover disc and right-hand countersunk screw, suitable for 3801502026 / 3801550525	**380110** 9907	76,70
Spare parts set: bush, cover disc and screw, suitable for 3801511212	380110 9906	77,70
Carbide runner pin, 4 x 12 mm with flat surface, suitable for 3801020103	380110 9902	7,50
Carbide runner pin, 6 x 20 mm with flat surface, suitable for 3801020011 / 3801090005	380110 9904	11,80
HSS runner pin, 4 x 12 mm with flat surface, suitable for 3801091001	380110 9903	2,20
HSS runner pin, 6 x 18 mm, suitable for 3801010001	380110 9901	1,20
HSS runner pin, 6 x 20 mm with flat surface, suitable for 3801050001	380110 9905	2,20

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