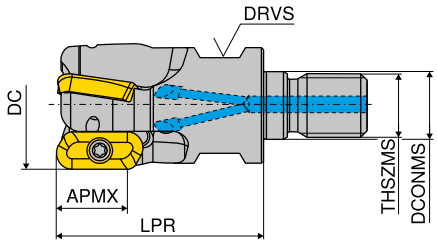
MaxiMill – Screw in cutter 90° G HSC-11

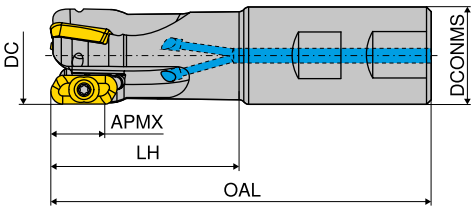
▲ Insert radius > 3.2 mm: Modify cutter body



Designation	DC	ZNF	APMX	DCONMS	LPR	THSZMS	RPMX	DRVS	torque moment	Insert	2B/40 Article no. 55 107 ...	
	mm		mm	mm	mm		1/min.	mm	Nm		EUR	
GHSC.16.R.02-11	16	2	10	8,5	27	M8	56000	10	1,8	XDHT 11T3..	267,90	016
GHSC.18.R.02-11	18	2	10	8,5	27	M8	53100	10	1,8	XDHT 11T3..	274,30	018
GHSC.20.R.02-11	20	2	10	10,5	33	M10	50100	15	1,8	XDHT 11T3..	288,40	020
GHSC.25.R.03-11	25	3	10	12,5	35	M12	45000	17	1,8	XDHT 11T3..	324,90	025
GHSC.32.R.03-11	32	3	10	17,0	35	M16	39800	24	1,8	XDHT 11T3..	337,70	032
GHSC.40.R.03-11	40	3	10	17,0	35	M16	35500	24	1,8	XDHT 11T3..	354,50	040

MaxiMill – End milling cutter 90° C HSC-11

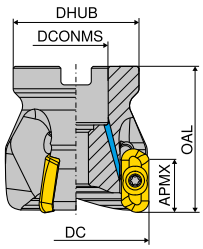
▲ Insert radius > 3.2 mm: Modify cutter body



Designation	DC	ZNF	APMX	DCONMS h6	OAL	LH	RPMX	torque moment	Insert	A 2B/40 Article no. 50 675 ...		B 2B/40 Article no. 50 675 ...	
	mm		mm	mm	mm	mm	1/min.	Nm		EUR		EUR	
CHSC.16.R.02-11-B/A-25	16	2	10	16	75	25	56200	1,8	XDHT 11T3..	267,90	016	267,90	416
CHSC.16.R.02-11-A-32	16	2	10	16	165	32	18800	1,8	XDHT 11T3..	267,90	116		
CHSC.18.R.02-11-A-25	18	2	10	20	78	25	56100	1,8	XDHT 11T3..	274,30	018		
CHSC.18.R.02-11-A-32	18	2	10	20	165	32	23900	1,8	XDHT 11T3..	274,30	118		
CHSC.19.R.02-11-A-25	19	2	10	20	78	25	51700	1,8	XDHT 11T3..	280,70	019		
CHSC.19.R.02-11-A-32	19	2	10	20	165	32	25400	1,8	XDHT 11T3..	280,70	119		
CHSC.20.R.02-11-A-32	20	2	10	20	84	32	50100	1,8	XDHT 11T3..	288,40	020		
CHSC.20.R.03-11-B-32	20	3	10	20	84	32	50100	1,8	XDHT 11T3..			327,20	420
CHSC.20.R.02-11-A-40	20	2	10	20	165	40	26700	1,8	XDHT 11T3..	288,40	120		
CHSC.22.R.02-11-A-32	22	2	10	25	91	32	47800	1,8	XDHT 11T3..	296,40	022		
CHSC.22.R.02-11-A-40	22	2	10	25	165	40	30200	1,8	XDHT 11T3..	296,40	122		
CHSC.25.R.02-11-A-40	25	2	10	25	98	40	45000	1,8	XDHT 11T3..	310,40	025		
CHSC.25.R.03-11-A-40	25	3	10	25	98	40	45000	1,8	XDHT 11T3..	324,90	225		
CHSC.25.R.04-11-B-40	25	4	10	25	98	40	45000	1,8	XDHT 11T3..			357,10	425
CHSC.25.R.02-11-A-50	25	2	10	25	165	50	31700	1,8	XDHT 11T3..	310,40	125		
CHSC.25.R.03-11-A-50	25	3	10	25	165	50	31700	1,8	XDHT 11T3..	324,90	325		
CHSC.32.R.03-11-A-50	32	3	10	32	112	50	39800	1,8	XDHT 11T3..	337,70	032		
CHSC.32.R.05-11-B-50	32	5	10	25	112	50	39800	1,8	XDHT 11T3..			426,90	432
CHSC.32.R.03-11-A-63	32	3	10	32	165	63	33400	1,8	XDHT 11T3..	337,70	132		

MaxiMill – Shell mill 90° A HSC-11

▲ Insert radius > 3.2 mm: Modify cutter body

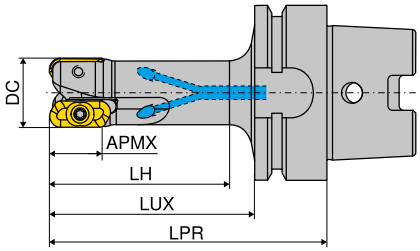


Designation	DC	ZNF	APMX	DCONMS $_{H6}$	DHUB	OAL	RPMX	torque moment	Insert	2B/40 Article no. 50 718 ...	
	mm		mm	mm	mm	mm	1/min.	Nm		EUR	
AHSC.40.R.04-11	40	4	10	16	38	50	35500	1,8	XDHT 11T3..	451,40	040
AHSC.50.R.04-11	50	4	10	22	43	50	31800	1,8	XDHT 11T3..	546,00	050
AHSC.63.R.05-11	63	5	10	22	43	50	28300	1,8	XDHT 11T3..	608,00	063
AHSC.80.R.05-11	80	5	10	27	58	50	25100	1,8	XDHT 11T3..	632,50	080
AHSC.100.R.05-11	100	5	10	32	78	50	22400	1,8	XDHT 11T3..	677,90	100

MaxiMill – Milling cutter 90° M HSC-11 with HSK 63-A

▲ balanced to G 6,3

▲ Insert radius > 3.2 mm: Modify cutter body



Designation	DC	ZNF	APMX	LPR	LH	LUX	RPMX	torque moment	Insert	2B/40 Article no. 50 722 ...	
	mm		mm	mm	mm	mm	1/min.	Nm		EUR	
MHSC.25.R.03-11-H63A-50	25	3	10	90	50	64	45000	1,8	XDHT 11T3..	774,90	025
MHSC.25.R.03-11-H63A-63	25	3	10	100	63	74	42000	1,8	XDHT 11T3..	774,90	125
MHSC.32.R.03-11-H63A-63	32	3	10	100	63	74	39800	1,8	XDHT 11T3..	787,80	032
MHSC.32.R.03-11-H63A-80	32	3	10	120	80	94	37200	1,8	XDHT 11T3..	787,80	132
MHSC.40.R.04-11-H63A-63	40	4	10	100	63	74	35500	1,8	XDHT 11T3..	817,60	040
MHSC.40.R.04-11-H63A-80	40	4	10	120	80	94	35500	1,8	XDHT 11T3..	817,60	140
MHSC.50.R.04-11-H63A-63	50	4	10	100	63	74	31800	1,8	XDHT 11T3..	831,70	050
MHSC.50.R.04-11-H63A-100	50	4	10	140	100	114	31800	1,8	XDHT 11T3..	831,70	150

Spare parts DC	Y7 TORX® blade Article no. 80 950 ...		Y7  Clamping key – T Article no. 80 397 ...		Y7  Key D Article no. 80 950 ...		2A/28  Power Screw Article no. 70 950 ...		2A/28  Molykote Article no. 70 950 ...		2A/28  Clamping screw Article no. 70 950 ...		Y7  Torque screwdriver Article no. 80 950 ...	
	EUR		EUR		EUR		EUR		EUR		EUR		EUR	
16 - 25	4,76	043			10,20	125			4,38	303	4,09	128	128,60	192
32	4,76	043			10,20	125			4,38	303	4,09	131	128,60	192
40	4,76	043	3,91	040	10,20	125	12,48	151	4,38	303	4,09	131	128,60	192
50 - 63	4,76	043	4,24	050	10,20	125	17,14	154	4,38	303	4,09	131	128,60	192
80 - 100	4,76	043			10,20	125			4,38	303	4,09	131	128,60	192

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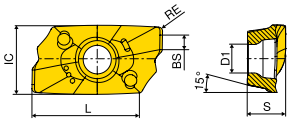
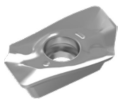
XDKT / XDHT

Designation	IC	D1	L	BS	S
	mm	mm	mm	mm	mm
XD.T 11T302FR	6,8	2,8	10,6	2	3,80
XD.T 11T304FR	6,8	2,8	10,6	1,8	3,80
XD.T 11T308FR	6,8	2,8	10,6	1,4	3,80
XD.T 11T320FR	6,8	2,8	10,6	1,4	3,80
XD.T 11T325FR	6,8	2,8	10,6	1,4	3,80
XDHT 11T312FR	6,8	2,8	10,6	1,4	3,80
XDHT 11T316FR	6,8	2,8	10,6	1,4	3,80
XDHT 11T332FR	6,8	2,8	10,6	0,8	3,80
XDHT 11T340FR	6,8	2,8	10,6	-	3,80
XDHT 11T350FR	6,8	2,8	10,6	-	3,80



XDKT

XDKT / XDHT

		-F20 CTWN215		-27P H216T	
		-F20 CWK4615		-ALP CWK26	
		 XDKT		 XDHT	
		1A/90		1A/90	
ISO	RE	Article no. 50 478 ...		Article no. 50 477 ...	
	mm	EUR		EUR	
11T302FR	0,2	17,67	502	26,63	502
11T304FR	0,4	17,67	504	26,63	504
11T308FR	0,8	17,67	508	26,63	508
11T312FR	1,2			26,63	512
11T316FR	1,6			26,63	516
11T320FR	2,0	17,67	520 1)	26,63	520 1)
11T325FR	2,5	17,67	525 1)	26,63	525 1)
11T332FR	3,2			26,63	532 1)
11T340FR	4,0			26,63	540 1)
11T350FR	5,0			26,63	550 1)
Steel					
Stainless steel					
Cast iron			○		○
Non ferrous metals			●		●
Heat resistant alloys					
hardened materials					

1) Insert radius >1.6 mm: Modify cutter body

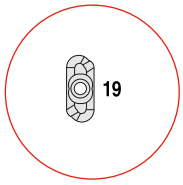
Milling guide

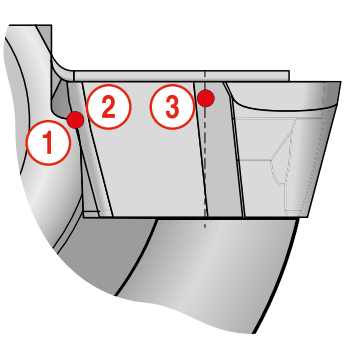
Machining strategy	→ 161–165	ISO Designation System	→ 194+195
Grade description	→ 209+210	Cutting data appoximate values	→ 160+163
Safety advice	→ 159		

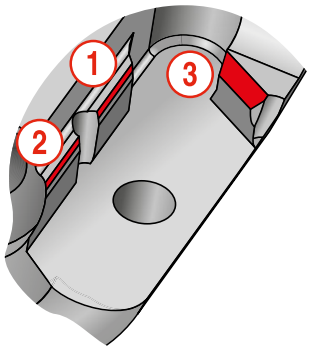
MaxiMill HSC-19

For medium – high number of revolutions

n_{max} = 34400 min^{-1}
$a_{p\,max}$ = 18 mm







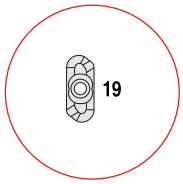
(1) (2) Radial contact points
- ▲ Guaranteed 90° corner angles and exact radial run-out

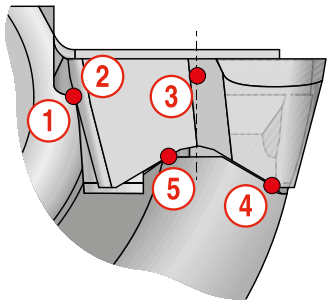
(3) Axial contact point
- ▲ guarantees precise axial run-out

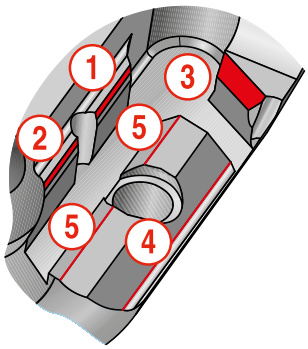
MaxiMill HPC-19

For maximum number of revolutions

n_{max} = 45200 min^{-1}
$a_{p\,max}$ = 18 mm







Roof-shaped surface, included angle 140°
- ▲ greater stability, higher security
- ▲ guaranteed positive connection between insert and tool

(1) (2) Radial contact points
- ▲ Guaranteed 90° corner angles and exact radial run-out

(3) Axial contact point
- ▲ guarantees precise axial run-out

(4) (5) Contact Point
- ▲ resist machining and centrifugal forces

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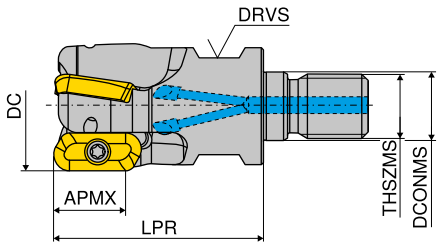
MaxiMill – Screw-in cutter 90° G HSC-19

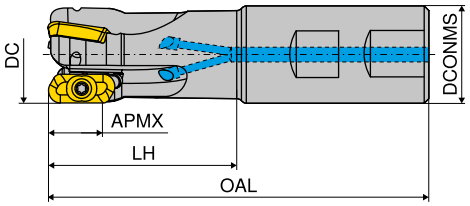
▲ Insert radius > 4.0 mm: Modify cutter body



Designation	DC	ZNF	APMX	DCONMS	LPR	THSZMS	DRVS	RPMX	torque moment	Insert	2B/40 Article no. 55 108 ...	
	mm		mm	mm	mm		mm	1/min.	Nm		EUR	
GHSC.25.R.02-19	25	2	18	12,5	45	M12	17	34400	5	XDHT 1904..	315,60	025
GHSC.32.R.03-19	32	3	18	17,0	52	M16	24	29100	5	XDHT 1904..	408,80	032
GHSC.40.R.03-19	40	3	18	17,0	52	M16	24	24900	5	XDHT 1904..	434,70	040

MaxiMill – End milling cutter 90° C HSC-19

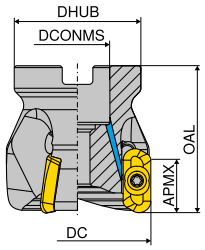
▲ Insert radius > 4.0 mm: Modify cutter body

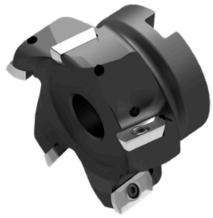


Designation	DC	ZNF	APMX	DCONMS $_{h5}$	OAL	LH	RPMX	torque moment	Insert	A 2B/40 Article no. 50 679 ...		B 2B/40 Article no. 50 679 ...	
	mm		mm	mm	mm	mm	1/min.	Nm		EUR		EUR	
CHSC.25.R.02-19-A-50	25	2	18	25	121	50	32400	5	XDHT 1904..	315,60	225		
CHSC.25.R.02-19	25	2	18	25	121	65	32400	5	XDHT 1904..			324,90	025
CHSC.25.R.02-19-A-63	25	2	18	25	165	63	24700	5	XDHT 1904..	315,60	325		
CHSC.32.R.02-19-A-63	32	2	18	32	125	63	28900	5	XDHT 1904..	331,20	232		
CHSC.32.R.03-19-A-63	32	3	18	32	125	63	28900	5	XDHT 1904..	408,80	432		
CHSC.32.R.03-19	32	3	18	32	125	65	28900	5	XDHT 1904..			416,50	033
CHSC.32.R.02-19	32	2	18	32	125	65	28900	5	XDHT 1904..			338,90	032
CHSC.32.R.02-19-A-80	32	2	18	32	165	80	24400	5	XDHT 1904..	331,20	332		
CHSC.32.R.03-19-A-80	32	3	18	32	165	80	24400	5	XDHT 1904..	408,80	532		

MaxiMill – Shell mill 90° A HSC-19

▲ Insert radius > 4.0 mm: Modify cutter body



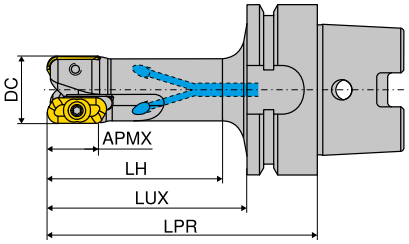


Designation	DC	ZNF	APMX	DCONMS $_{H6}$	DHUB	OAL	RPMX	torque moment	Insert	2B/40 Article no. 50 716 ...	
	mm		mm	mm	mm	mm	1/min.	Nm		EUR	
AHSC.40.R.03-19	40	3	18	16	38	50	24900	5	XDHT 1904..	423,00	**040**
AHSC.50.R.04-19	50	4	18	22	43	50	21600	5	XDHT 1904..	531,60	**050**
AHSC.63.R.04-19	63	4	18	22	48	50	18800	5	XDHT 1904..	595,10	**163**
AHSC.63.R.05-19	63	5	18	22	48	50	18800	5	XDHT 1904..	608,00	**063**
AHSC.80.R.04-19	80	4	18	27	58	50	16400	5	XDHT 1904..	618,30	**180**
AHSC.80.R.05-19	80	5	18	27	58	50	16400	5	XDHT 1904..	632,50	**080**
AHSC.100.R.04-19	100	4	18	32	78	50	14500	5	XDHT 1904..	663,70	**200**
AHSC.100.R.05-19	100	5	18	32	78	50	14500	5	XDHT 1904..	677,90	**100**
AHSC.125.R.05-19	125	5	18	40	88	63	12800	5	XDHT 1904..	783,80	**125**
AHSC.125.R.06-19	125	6	18	40	88	63	12800	5	XDHT 1904..	796,80	**225**

MaxiMill – Milling cutter 90° M HSC-19 with HSK 63-A

▲ balanced to G 6,3

▲ Insert radius > 4.0 mm: Modify cutter body



Designation	DC	ZNF	APMX	LPR	LH	LUX	RPMX	torque moment	Insert	2B/40 Article no. 50 720 ...	
	mm		mm	mm	mm	mm	1/min.	Nm		EUR	
MHSC.25.R.02-19-H63A-50	25	2	18	90	50	64	35000	5	XDHT 1904..	763,20	**525**
MHSC.25.R.02-19-H63A-63	25	2	18	100	63	74	32700	5	XDHT 1904..	763,20	**625**
MHSC.32.R.02-19-H63A-63	32	2	18	100	63	74	29100	5	XDHT 1904..	778,90	**532**
MHSC.32.R.02-19-H63A-80	32	2	18	120	80	94	27200	5	XDHT 1904..	778,90	**632**
MHSC.32.R.03-19-H63A-63	32	3	18	100	63	74	29100	5	XDHT 1904..	791,80	**732**
MHSC.32.R.03-19-H63A-80	32	3	18	120	80	94	27200	5	XDHT 1904..	791,80	**832**
MHSC.40.R.03-19-H63A-63	40	3	18	100	63	74	24900	5	XDHT 1904..	807,30	**540**
MHSC.40.R.03-19-H63A-80	40	3	18	120	80	94	24900	5	XDHT 1904..	807,30	**640**
MHSC.50.R.03-19-H63A-100	50	3	18	140	100	114	21600	5	XDHT 1904..	807,30	**550**

Spare parts DC	Y7 TORX® blade Article no. 80 950 ...		Y7  Clamping key – T Article no. 80 397 ...		Y7  Key D Article no. 80 950 ...		2A/28  Power Screw Article no. 70 950 ...		2A/28  Molykote Article no. 70 950 ...		2A/28  Clamping screw Article no. 70 950 ...		Y7  Torque screwdriver Article no. 80 950 ...	
	EUR		EUR		EUR		EUR		EUR		EUR		EUR	
25	4,76	**036**			9,28	**113**			4,38	**303**	2,86	**172**	131,90	**193**
32	4,76	**036**			9,28	**113**			4,38	**303**	3,40	**173**	131,90	**193**
40	4,76	**036**	3,91	**040**	9,28	**113**	12,48	**151**	4,38	**303**	3,40	**173**	131,90	**193**
50 - 63	4,76	**036**	4,24	**050**	9,28	**113**	17,14	**154**	4,38	**303**	3,40	**174**	131,90	**193**
80 - 125	4,76	**036**			9,28	**113**			4,38	**303**	3,40	**174**	131,90	**193**

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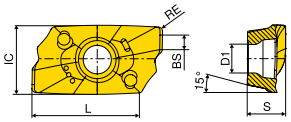
XDHT

Designation	IC	D1	L	BS	S
	mm	mm	mm	mm	mm
XDHT 190402..	9,52	4,65	19	2	4,76
XDHT 190404..	9,52	4,65	19	2	4,76
XDHT 190408..	9,52	4,65	19	2	4,76
XDHT 190412..	9,52	4,65	19	2	4,76
XDHT 190416..	9,52	4,65	19	2	4,76
XDHT 190420..	9,52	4,65	19	2	4,76
XDHT 190425..	9,52	4,65	19	1,4	4,76
XDHT 190432..	9,52	4,65	19	1	4,76
XDHT 190440..	9,52	4,65	19	1	4,76
XDHT 190450..	9,52	4,65	19	-	4,76

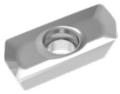


XDKT

XDHT

-27P
H216T

-ALP
CWK26


XDHT

ISO	RE	Article no. 50 487 ...	
	mm	EUR	
190402FR	0,2	27,36	**552**
190404FR	0,4	27,36	**554**
190408FR	0,8	27,36	**556**
190412FR	1,2	27,36	**557**
190416FR	1,6	27,36	**558**
190420FR	2,0	27,36	**560**
190425FR	2,5	27,36	**562**
190432FR	3,2	27,36	**564**
190440FR	4,0	27,36	**566**
190450FR	5,0	27,36	**568** 1)

Steel	
Stainless steel	
Cast iron	○
Non ferrous metals	●
Heat resistant alloys	
hardened materials	

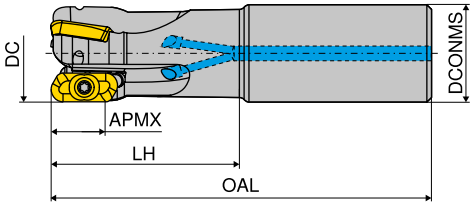
1) Insert radius >4.0 mm: Modify cutter body

Milling guide

Machining strategy	→ 161–165	ISO Designation System	→ 194+195
Grade description	→ 209+210	Cutting data appoximate values	→ 160+163
Safety advice	→ 159		

MaxiMill – End milling cutter 90° C HPC-19

▲ Shank type to DIN 1835-A
▲ Insert radius > 4.0 mm: Modify cutter body



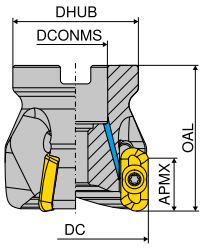
A

2B/40

Designation	DC mm	ZNF	APMX mm	DCONMS $_{h5}$ mm	OAL mm	LH mm	RPMX 1/min.	torque moment Nm	Insert	Article no. 50 680 ... EUR	
CHPC.22.R.02-19-A-40	22	2	18	22	165	40	31900	5	XDHX 1904..	380,20	**122**
CHPC.25.R.02-19-A-50	25	2	18	25	121	50	41800	5	XDHX 1904..	393,30	**125**
CHPC.25.R.02-19-A-63	25	2	18	25	165	63	31900	5	XDHX 1904..	393,30	**225**
CHPC.32.R.02-19-A-63	32	2	18	32	125	63	39800	5	XDHX 1904..	408,80	**132**
CHPC.32.R.02-19-A-80	32	2	18	32	165	80	33500	5	XDHX 1904..	408,80	**232**
CHPC.32.R.03-19-A-63	32	3	18	32	125	63	39800	5	XDHX 1904..	485,10	**332**
CHPC.32.R.03-19-A-80	32	3	18	32	165	80	33500	5	XDHX 1904..	485,10	**432**

MaxiMill – Shell mill 90° A HPC-19

▲ Insert radius > 4.0 mm: Modify cutter body

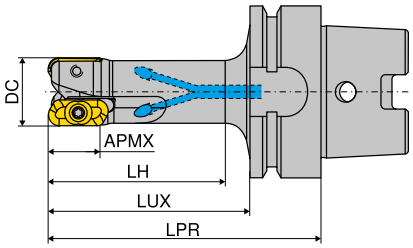


2B/40

Designation	DC mm	ZNF	APMX mm	DCONMS $_{H6}$ mm	DHUB mm	OAL mm	RPMX 1/min.	torque moment Nm	Insert	Article no. 50 717 ... EUR	
AHPC.40.R.03-19	40	3	18	16	38	50	35700	5	XDHX 1904..	494,20	**040**
AHPC.50.R.03-19	50	3	18	22	43	50	31900	5	XDHX 1904..	514,80	**050**
AHPC.63.R.03-19	63	3	18	22	48	50	28500	5	XDHX 1904..	539,50	**063**
AHPC.63.R.04-19	63	4	18	22	48	50	28500	5	XDHX 1904..	553,70	**163**

MaxiMill – Milling cutter 90° M HPC-19 with HSK 63-A

- balanced to G 6,3
- Insert radius > 4.0 mm: Modify cutter body

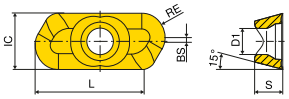


Designation	DC	ZNF	APMX	LPR	LH	LUX	RPMX	torque moment	Insert	2B/40 Article no. 50 721 ...	
	mm		mm	mm	mm	mm	1/min.	Nm		EUR	
MHPC.25.R.02-19-H63A-50	25	2	18	90	50	64	45200	5	XDHX 1904..	984,40	025
MHPC.25.R.02-19-H63A-63	25	2	18	100	63	74	42300	5	XDHX 1904..	984,40	125
MHPC.25.R.02-19-H63A-80	25	2	18	120	80	94	38400	5	XDHX 1904..	984,40	225
MHPC.25.R.02-19-H63A-100	25	2	18	140	100	114	33900	5	XDHX 1904..	984,40	325
MHPC.32.R.02-19-H63A-63	32	2	18	100	63	74	40000	5	XDHX 1904..	1.001,00	032
MHPC.32.R.03-19-H63A-63	32	3	18	100	63	74	40000	5	XDHX 1904..	1.105,00	532
MHPC.32.R.02-19-H63A-80	32	2	18	120	80	94	37500	5	XDHX 1904..	1.001,00	132
MHPC.32.R.03-19-H63A-80	32	3	18	120	80	94	37500	5	XDHX 1904..	1.105,00	632
MHPC.32.R.02-19-H63A-100	32	2	18	140	100	114	34300	5	XDHX 1904..	1.001,00	232
MHPC.40.R.03-19-H63A-63	40	3	18	100	63	74	35700	5	XDHX 1904..	1.136,00	040
MHPC.40.R.03-19-H63A-80	40	3	18	120	80	94	35700	5	XDHX 1904..	1.136,00	140
MHPC.40.R.03-19-H63A-100	40	3	18	140	100	114	33500	5	XDHX 1904..	1.136,00	240
MHPC.50.R.03-19-H63A-63	50	3	18	100	63	74	31900	5	XDHX 1904..	1.155,00	050
MHPC.50.R.03-19-H63A-80	50	3	18	120	80	94	31900	5	XDHX 1904..	1.155,00	150
MHPC.50.R.03-19-H63A-100	50	3	18	140	100	114	31900	5	XDHX 1904..	1.155,00	250

	Y7		Y7		Y7		2A/28		2A/28		2A/28		Y7	
	TORX® blade		 Clamping key – T		 Key D		 Power Screw		 Molykote		 Clamping screw		 Torque screwdriver	
Spare parts DC	Article no. 80 950 ...		Article no. 80 397 ...		Article no. 80 950 ...		Article no. 70 950 ...		Article no. 70 950 ...		Article no. 70 950 ...		Article no. 80 950 ...	
	EUR		EUR		EUR		EUR		EUR		EUR		EUR	
22 - 25	4,76	036			9,28	113			4,38	303	2,86	172	131,90	193
32	4,76	036			9,28	113			4,38	303	3,40	173	131,90	193
40	4,76	036	3,91	040	9,28	113	12,48	151	4,38	303	3,40	173	131,90	193
50 - 63	4,76	036	4,24	050	9,28	113	17,14	154	4,38	303	3,40	174	131,90	193

XDHX

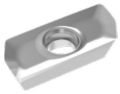
Designation	IC	D1	L	BS	S
	mm	mm	mm	mm	mm
XDHX 190402..	9,52	4,65	19	2	4,76
XDHX 190404..	9,52	4,65	19	2	4,76
XDHX 190408..	9,52	4,65	19	2	4,76
XDHX 190412..	9,52	4,65	19	2	4,76
XDHX 190416..	9,52	4,65	19	2	4,76
XDHX 190420..	9,52	4,65	19	2	4,76
XDHX 190425..	9,52	4,65	19	1,4	4,76
XDHX 190432..	9,52	4,65	19	1	4,76
XDHX 190440..	9,52	4,65	19	1	4,76
XDHX 190450..	9,52	4,65	19	-	4,76



XDHX

-27P
H216T

-ALP
CWK26



XDHX
1H/D4

ISO	RE	Article no. 50 488 ...	
	mm	EUR	
190402FR	0,2	35,72	**552**
190404FR	0,4	35,72	**554**
190408FR	0,8	35,72	**556**
190412FR	1,2	35,72	**557**
190416FR	1,6	35,72	**558**
190420FR	2,0	35,72	**560**
190425FR	2,5	35,72	**562**
190432FR	3,2	35,72	**564**
190440FR	4,0	35,72	**566**
190450FR	5,0	35,72	**568** 1)

Steel	
Stainless steel	
Cast iron	○
Non ferrous metals	●
Heat resistant alloys	
hardened materials	

1) Insert radius > 4.0 mm: Modify cutter body

Milling guide

Machining strategy	→ 163–165	ISO Designation System	→ 194+195
Grade description	→ 209+210	Cutting data appoximate values	→ 163
Safety advice	→ 159		

15

HSC/HPC machining

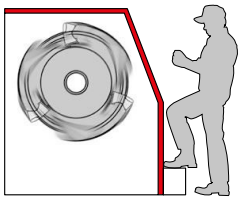
Safety advice

Suitability of the tool for HSC machining

HSC tools from CERATIZIT have been specially developed for this machining strategy and guarantee maximum operational reliability.

Observation of safety precautions of the machine manufacturer

Make sure that all safety precautions of the machine-manufacturer are observed (e.g.: closed machine guards).

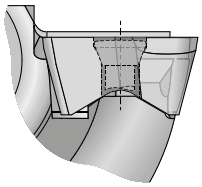


Suitability of the adapters for HSC machining

According to the milling situation, choose the optimum tool/clamping device combination.
For high speed milling applications it is necessary to dynamically balance tool and tool adapter together (see ISO 1940 directives).

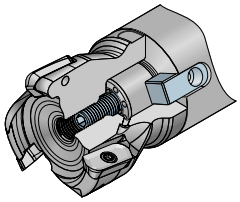
Mounting the indexable insert with centrifugal force protection

Insert clamping: EURO-patent EP 1083017A1
Make sure that the insert pocket is cleaned and the threading bore for the clamping screw is in good condition.
Check the axial and radial contact points of the insert in the pocket.
The clamping screws for positive insert clamping must be tightened with a torque of (XDHT11 = 1,8 Nm; XDH.19 = 6,0 Nm).



Optimum mounting of HSC milling cutters (DC = Ø 40–63) to milling arbors using power screw

The power screw guarantees a stable connection of tool and milling adapter and is easy to use.



Power Screw

Maximum admissible number of revolutions

Please note the maximum number of revolutions stated on the tool. This number is exclusively valid for the specific tool and must be adapted according to the selected tool adapter, total overhang length and the respective machining situation.

Optimum application range of the tool (a_e, a_p, f_z, n)

In order to guarantee productive milling, please observe the recommendations regarding the cutting parameters.

Failure to comply with these safety regulations automatically excludes CERATIZIT from any liability

System MaxiMill HSC-11

Cutting data appoximate values

for standard inserts

	F			M			R		
Material	v_c m/min	f_z mm	a_p mm	v_c m/min	f_z mm	a_p mm	v_c m/min	f_z mm	a_p mm
Steel									
Stainless steel									
Cast iron	110–130	0,05–0,35	10						
Non-ferrous metals	160–3000	0,05–0,35	10	160–3000	0,05–0,35	10	160–3000	0,05–0,35	10
Heat resistant alloys									
hardened materials									

Detailed information on cutting speed for each grade can be found on → page 138+139

	Workpiece material	Treatment / alloy		VDI 3323 Group	Hardness HB	H216T (CWK26) v_c in m/min	H216T (CWK26) v_c in m/min
N	Forged aluminium alloy	non hardenable		21	60		200–3000
		hardenable		22	100		200–2000
	Cast aluminum alloy	non hardenable	< 12% Si	23	80		200–2000
		hardenable	< 12% Si	24	90		200–1800
		non hardenable	> 12% Si	25	130		200–1000
	Copper and Copper alloys (Bronze, Brass)		Free-cutting steel alloy (1% Pb)	26			200–600
			brass, red bronze	27	90	250–1000	250–1000
			bronze	28	100		150–400
			lead-free copper and electrolytic copper	29	100		300–800
	Non metal materials		Duroplastics	29		80–1000	80–1000
			Fibre-reinforced plastics	29		70–500	70–500
			hard rubber	30		80–300	80–300

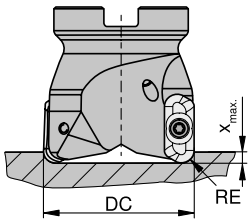
= full lubricant = minimum quantity lubrication = dry machining

System MaxiMill HSC-11

Technical data

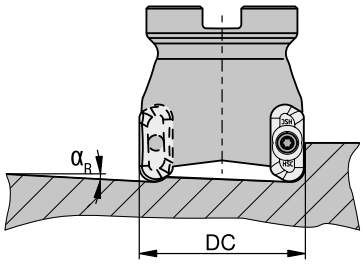
Machining strategy

Plunging



DC mm	11 RE 0,2-4,0 $x_{max.}$ mm
16	1,70
18	2,11
19	2,24
20	2,39
22	2,70
25	2,55
32	2,40
40	2,28
50	2,26
63	2,10
80	1,75
100	1,79

Linear ramping



DC mm	α_R °
16	18,8
18	16,3
19	15,3
20	14,8
22	13,8
25	10,3
32	6,8
40	4,8
50	3,5
63	2,5
80	1,8
100	1,3

Milling strategy for roughing and finishing

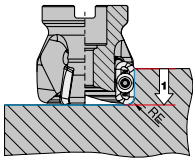
With maximum chip volume

Indexable Insert	RE mm	a_p mm	$a_{p\,max.}$ mm
XDHT 11T302FR-ALP	0,2	10	9,8
XDHT 11T304FR-ALP	0,4	10	9,6
XDHT 11T308FR-ALP	0,8	10	9,2
XDHT 11T312FR-ALP	1,2	10	8,8
XDHT 11T316FR-ALP	1,6	10	8,4
XDHT 11T320FR-ALP	2,0	10	8,0
XDHT 11T325FR-ALP	2,5	10	7,5
XDHT 11T332FR-ALP	3,2	10	6,8
XDHT 11T340FR-ALP	4,0	10	6,0
XDHT 11T350FR-ALP	5,0	10	5,0

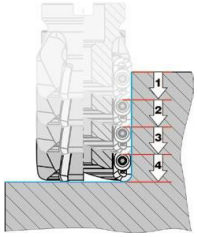
With maximum side wall quality

Indexable Insert	RE mm	$a_{p\,max.}$ mm
XDHT 11T302FR-ALP	0,2	7,8
XDHT 11T304FR-ALP	0,4	7,6
XDHT 11T308FR-ALP	0,8	7,2
XDHT 11T312FR-ALP	1,2	6,5
XDHT 11T316FR-ALP	1,6	6,8
XDHT 11T320FR-ALP	2,0	6,4
XDHT 11T325FR-ALP	2,5	5,5
XDHT 11T332FR-ALP	3,2	4,8
XDHT 11T340FR-ALP	4,0	4,0
XDHT 11T350FR-ALP	5,0	3,0

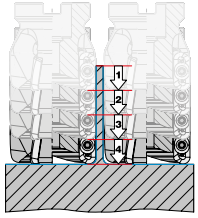
Shoulder milling



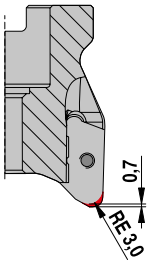
Pocket milling

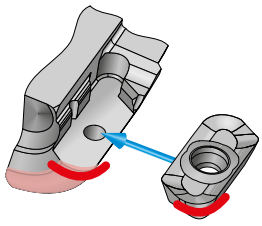


Pocket milling with thin walled components



Modification to front profile





For inserts with a corner radius larger than 3.2 mm the basic body of the tool must be modified according to the drawing above.

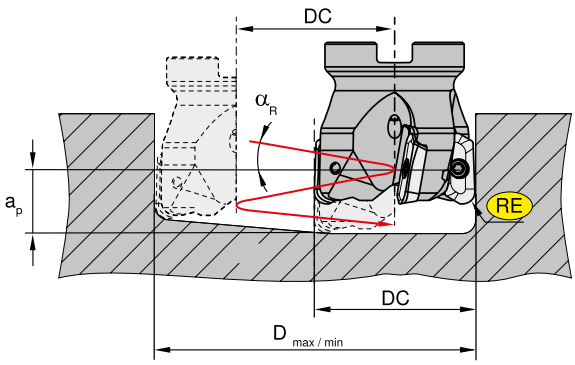
15

System MaxiMill HSC-11

Technical data

Machining strategy

Circular ramping



RE = Insert radius
α_R in mm = Maximum ramping angle (related to centre of tool)

a_p in mm = pitch → $D \times \pi \times \tan(\alpha_R)$

D in mm = pitch → D_{max} – DC and/or D_{min} – DC

For flat bottom hole

$D_{max.}$ in mm = largest drilling diameter
$D_{min.}$ in mm = smallest drilling diameter
$DN_{max.}$ in mm = Maximum hole diameter for non flat bottom

DC in mm		XDHT-11 (HSC-11)								
(DN_{max})		RE = 0,2	RE = 0,4	RE = 0,8	RE = 1,2	RE = 1,6	RE = 2,0	RE = 2,5	RE = 3,2	RE = 4,0
16	α_R	9,7°	10,0°	9,9°	9,4°	8,9°	8,4°	7,9°	7,0°	6,1°
	D_{max}	30	30	29	28	27	27	26	24	23
(31)	D_{min}	18	18	18	18	18	18	18	18	18
18	α_R	9,4°	9,1°	8,7°	8,3°	7,9°	7,5°	6,9°	6,2°	5,3°
	D_{max}	34	34	33	32	31	31	30	28	27
(35)	D_{min}	22	22	22	22	22	22	22	22	22
19	α_R	8,8°	8,6°	8,3°	7,9°	7,5°	7,5°	6,5°	5,9°	5,1°
	D_{max}	36	36	35	34	33	33	32	30	29
(37)	D_{min}	24	24	24	24	24	24	24	24	24
20	α_R	8,4°	8,2°	7,8°	7,4°	7,7°	6,7°	6,2°	5,5°	4,8°
	D_{max}	38	38	37	36	35	35	34	32	31
(39)	D_{min}	26	26	26	26	26	26	26	26	26
22	α_R	7,6°	7,4°	7,8°	6,7°	6,4°	6,5°	5,6°	5,2°	4,3°
	D_{max}	42	42	41	40	39	39	38	36	35
(43)	D_{min}	30	30	30	30	30	30	30	30	30
25	α_R	6,7°	6,5°	6,2°	5,9°	5,6°	5,3°	4,9°	4,4°	3,8°
	D_{max}	48	48	47	46	45	45	44	42	41
(49)	D_{min}	36	36	36	36	36	36	36	36	36
32	α_R	4,7°	4,7°	4,8°	4,6°	4,3°	4,1°	3,8°	3,4°	2,9°
	D_{max}	62	62	61	60	59	59	58	56	55
(63)	D_{min}	50	50	50	50	50	50	50	50	50
40	α_R	3,3°	3,3°	3,4°	3,4°	3,5°	3,3°	3,0°	2,7°	2,3°
	D_{max}	78	78	77	76	75	75	74	72	71
(79)	D_{min}	66	66	66	66	66	66	66	66	66
50	α_R	2,4°	2,5°	2,5°	2,5°	2,6°	2,6°	2,4°	2,2°	1,9°
	D_{max}	98	98	97	96	95	95	94	92	91
(99)	D_{min}	86	86	86	86	86	86	86	86	86
63	α_R	1,7°	1,7°	1,7°	1,8°	1,8°	1,8°	1,8°	1,7°	1,5°
	D_{max}	124	124	123	122	121	121	120	118	117
(125)	D_{min}	112	112	112	112	112	112	112	112	112
80	α_R	1,1°	1,1°	1,1°	1,1°	1,1°	1,1°	1,1°	1,2°	1,2°
	D_{max}	158	158	157	156	155	155	154	152	151
(159)	D_{min}	146	146	146	146	146	146	146	146	146
100	α_R	0,8°	0,8°	0,9°	0,9°	0,9°	0,9°	0,9°	0,9°	0,9°
	D_{max}	198	198	197	196	195	195	194	192	191
(199)	D_{min}	186	186	186	186	186	186	186	186	186

System MaxiMill HSC/HPC-19

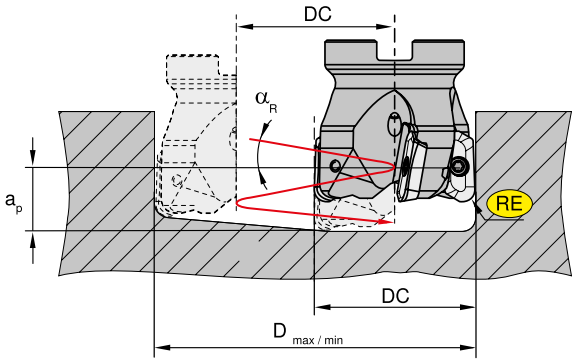
Cutting data recommendations/Technology data

for standard inserts

	F			M			R		
Material	v_c m/min	f_z mm	a_p mm	v_c m/min	f_z mm	a_p mm	v_c m/min	f_z mm	a_p mm
Steel									
Stainless steel									
Cast iron	110–130	0,05–0,35	18						
Non-ferrous metals	160–3000	0,05–0,35	18	160–3000	0,05–0,35	18	160–3000	0,05–0,35	18
Heat resistant alloys									
hardened materials									

Detailed information on cutting speed for each grade can be found on → page 138+139

Circular ramping



RE = Insert radius

α_R in mm = Maximum ramping angle (related to centre of tool)

a_p in mm = pitch → D x π x tan (α_R)

D in mm = pitch → D_{max} – DC and/or D_{min} – DC

For flat bottom hole

$D_{max.}$ in mm = largest drilling diameter

$D_{min.}$ in mm = smallest drilling diameter

$DN_{max.}$ in mm = Maximum hole diameter for non flat bottom

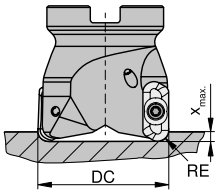
	DC mm	DN_{max} mm	α_R °	D_{max} mm	D_{min} mm
RE = 0,2 mm	**25**	49	7°02‘	48	32
	32	63	4°34‘	62	46
	40	79	3°47‘	78	62
	50	99	3°01‘	97	81
	63	125	2°17‘	124	107
	80	159		158	141
	100	199		198	181
RE = 0,4 mm	**25**	49	7°08‘	48	32
	32	63	4°37‘	62	46
	40	79	3°49‘	78	62
	50	99	3°02‘	98	81
	63	125	2°18‘	124	107
	80	159		158	141
	100	199		198	181
RE = 0,8 mm	**25**	49	7°21‘	47	32
	32	63	4°44‘	61	46
	40	79	3°53‘	77	62
	50	99	3°05‘	97	81
	63	125	2°20‘	123	107
	80	159		157	141
	100	199		197	181
RE = 2,0 mm	**25**	49	8°40‘	45	32
	32	63	5°04‘	59	46
	40	79	4°06‘	75	62
	50	99	3°13‘	95	81
	63	125	2°25‘	121	107
	80	159		155	141
	100	199		195	181
RE = 2,5 mm	**25**	49	8°24‘	44	32
	32	63	5°13‘	58	46
	40	79	4°12‘	74	62
	50	99	3°17‘	94	81
	63	125	2°27‘	120	107
	80	159		154	141
	100	199		194	181
RE = 3,2 mm	**25**	49	8°54‘	42	32
	32	63	5°26‘	56	46
	40	79	4°20‘	72	62
	50	99	3°21‘	92	81
	63	125	2°30‘	118	107
	80	159		152	141
	100	199		192	181
RE = 4,0 mm	**25**	49	9°32‘	41	32
	32	63	5°42‘	55	46
	40	79	4°30‘	71	62
	50	99	3°28‘	91	81
	63	125	2°33‘	117	107
	80	159		151	141
	100	199		191	181
RE = 5,0 mm	**25**	49	6°49‘	39	32
	32	63	3°59‘	53	46
	40	79	3°20‘	69	62
	50	99	2°13‘	89	81
	63	125	1°52‘	115	107
	80	159		149	141
	100	199		189	181

System MaxiMill HSC/HPC-19

Technical data

Machining strategy

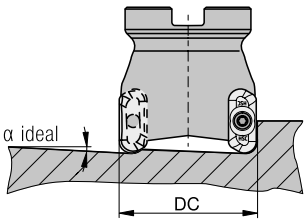
Plunging



HSC 19	DC mm	19 RE 0,2–4,0 $x_{max.}$ mm	19 RE 5,0 $x_{max.}$ mm
CHSC 19 / GHSC 19 / MHSC 19	25	5,0	4,0
CHSC 19 / GHSC 19 / MHSC 19	32–40	4,0	3,0
AHSC 19	40–100	4,0	3,0

HPC 19	DC mm	19 RE 0,2–4,0 $x_{max.}$ mm	19 RE 5,0 $x_{max.}$ mm
CHPC 19 / MHPC 19	22–25	5,0	4,0
CHPC 19 / MHPC 19	32–50	6,0	5,0
AHPC 19	40–63	6,0	5,0

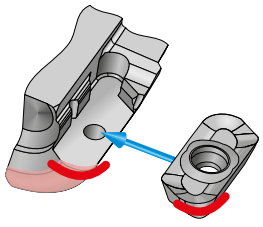
Linear ramping

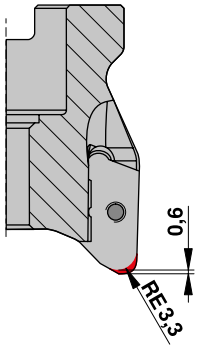


DC mm	α ideal HSC 19	α ideal HPC 19
25	11°	11°
32	7°	7°
40	5°	5°
50	4°	4°
63	3°	3°
80	2°	
100	2°	

Modification to basic body

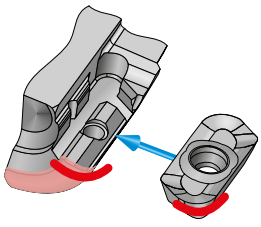
HSC 19





Modification to front profile

HPC 19



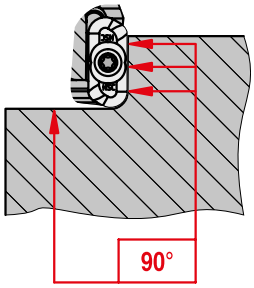
For inserts with a corner radius larger than 4.0 mm the basic body of the tool must be modified according to the drawing above.

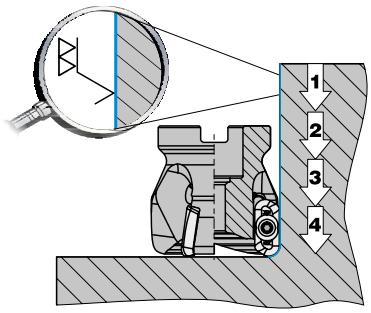
System MaxiMill HSC/HPC-19

Technical data

Machining strategy

▽ + ▽▽ Excellent side wall quality after roughing operation.
Additional finishing operations minimized or no longer required.





Milling strategy for roughing and finishing

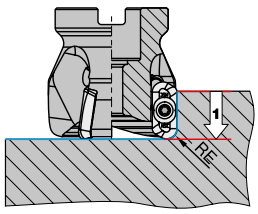
With maximum chip volume

Indexable Insert	RE mm	a_p mm	$a_{p\ max.}$ mm
XDH. 190402FR-ALP	0,2	18,0	17,8
XDH. 190404FR-ALP	0,4	18,0	17,6
XDH. 190408FR-ALP	0,8	18,0	17,2
XDH. 190420FR-ALP	2,0	18,0	16,0
XDH. 190425FR-ALP	2,5	18,0	15,0
XDH. 190432FR-ALP	3,2	18,0	14,8
XDH. 190440FR-ALP	4,0	18,0	14,0
XDH. 190450FR-ALP	5,0	17,0	13,0

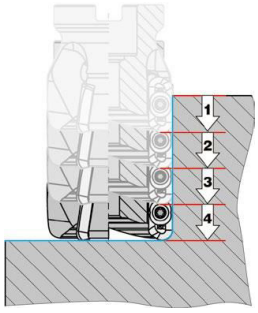
With maximum side wall quality

Shoulder milling	RE mm	$a_{p\ max.}$ mm
XDH. 190402FR-ALP	0,2	11,8
XDH. 190404FR-ALP	0,4	11,6
XDH. 190408FR-ALP	0,8	11,2
XDH. 190420FR-ALP	2,0	10,0
XDH. 190425FR-ALP	2,5	9,5
XDH. 190432FR-ALP	3,2	8,8
XDH. 190440FR-ALP	4,0	8,0
XDH. 190450FR-ALP	5,0	7,0

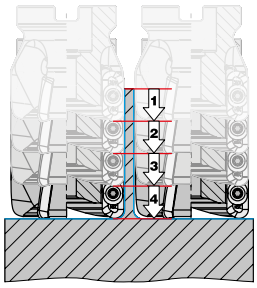
Shoulder milling



Pocket milling



Pocket milling with thin walled components



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This information applies to the inserts type XDHT 19 and XDHX 19.