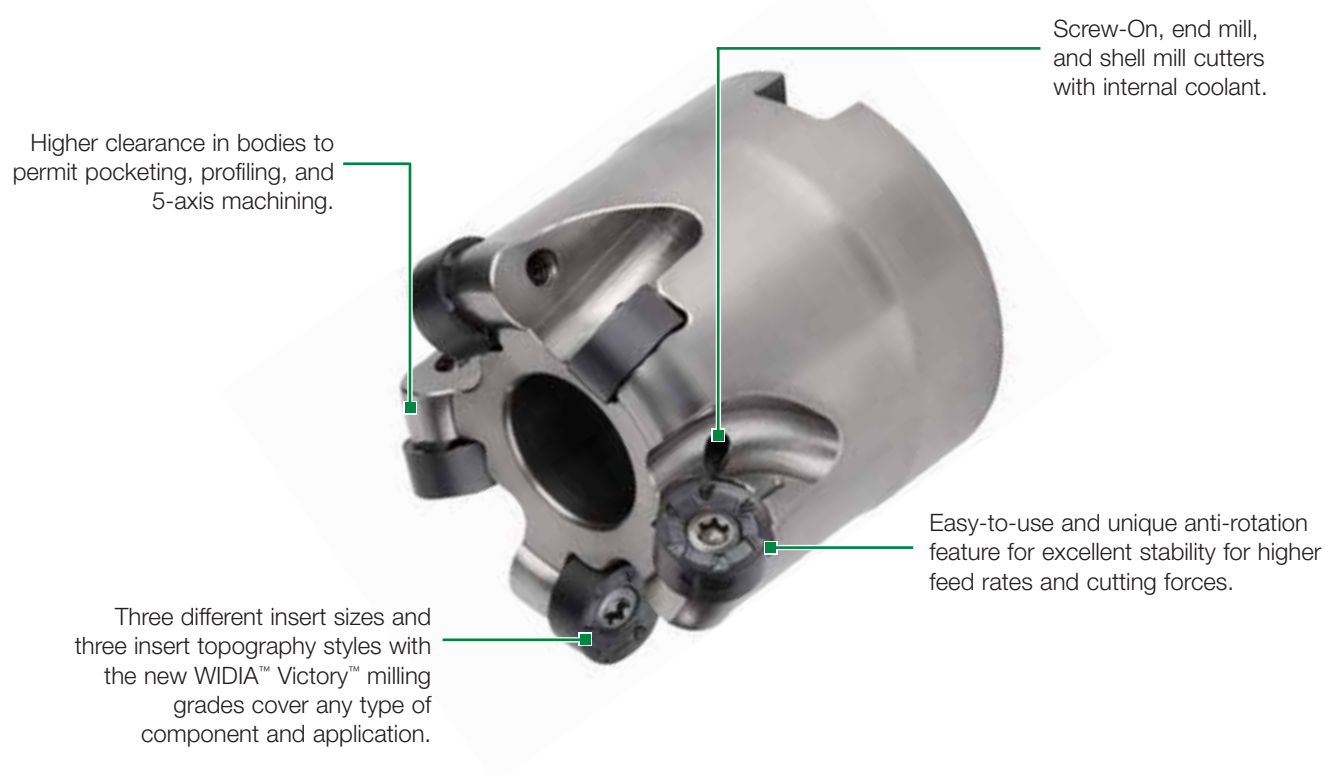


Double-Sided Round Insert • M200™ Series

Revolutionary double-sided round insert, capable of running in multiple types of milling operations and workpiece materials, increases customer's productivity with the most efficient cost per edge.

M200





- Up to 12 cutting edges per insert.
- Effective anti-rotation feature.
- Able to apply in all type of materials and milling applications.
- Latest WIDIA™ Victory™ grades offered.



M200 iC 10
10mm iC insert
8 cutting edges

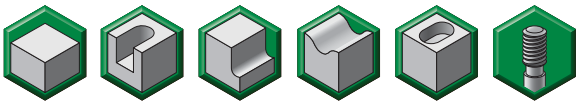


M200 iC 12
12mm iC insert
12 cutting edges

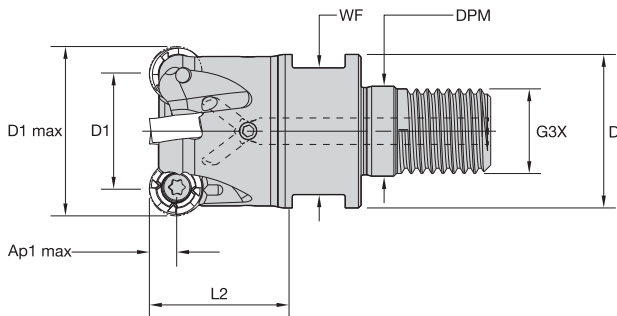


M200 iC 16
16mm iC insert
12 cutting edges

- Double-sided, eight cutting edges.
- Anti-rotation feature for better stability and higher feed rates.
- Pocketing and profiling capabilities.



Indexable Milling



■ Screw-On End Mills

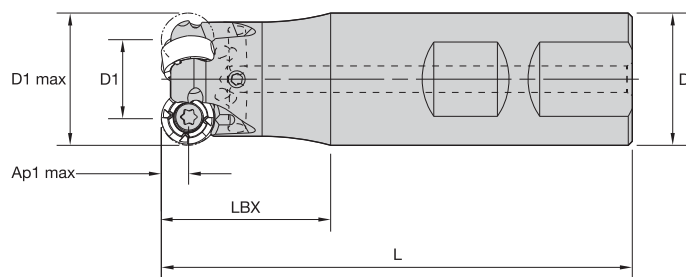
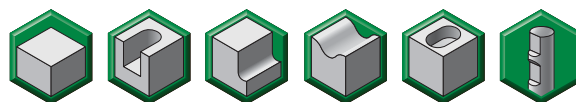
order number	catalogue number	D1 max	D1	D	DPM	G3X	L2	WF	Ap1 max	Z	max RPM	coolant supply	kg
5210273	M200D25Z03M12RN10	25	15	21	12,5	M12	32	17	5,00	3	54700	Yes	0,07
5210274	M200D32Z04M16RN10	32	22	29	17,0	M16	40	24	5,00	4	48300	Yes	0,18
5210275	M200D35Z05M16RN10	35	24	29	17,0	M16	40	24	5,00	5	46200	Yes	0,20
5210276	M200D42Z06M16RN10	42	32	29	17,0	M16	40	24	5,00	6	42200	Yes	0,24

■ Spare Parts



D1 max	insert screw	Nm	Torx driver
25	191.848	2,0	170.025
32	191.848	2,0	170.025
35	191.848	2,0	170.025
42	191.848	2,0	170.025

- Double-sided, eight cutting edges.
- Anti-rotation feature for better stability and higher feed rates.
- Pocketing and profiling capabilities.



Indexable Milling

■ Weldon End Mills

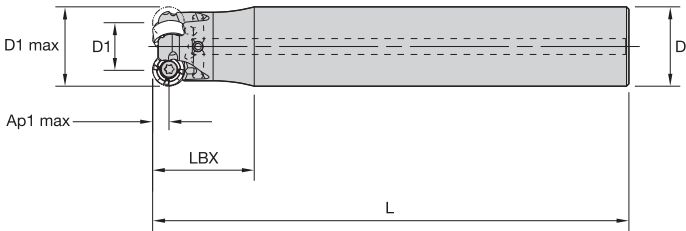
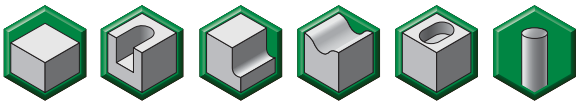
order number	catalogue number	D1 max	D1	D	L	LBX	Ap1 max	Z	max RPM	coolant supply	kg
5210277	M200D25Z03B25RN10	25	15	25	89	40	5,0	3	54700	Yes	0,27
5210278	M200D32Z04B32RN10	32	22	32	101	40	5,0	4	48300	Yes	0,52

■ Spare Parts



D1 max	insert screw	Nm	Torx driver
25	191.848	2,0	170.025
32	191.848	2,0	170.025

- Double-sided, eight cutting edges.
- Anti-rotation feature for better stability and higher feed rates.
- Pocketing and profiling capabilities.



Indexable Milling

Cylindrical End Mills

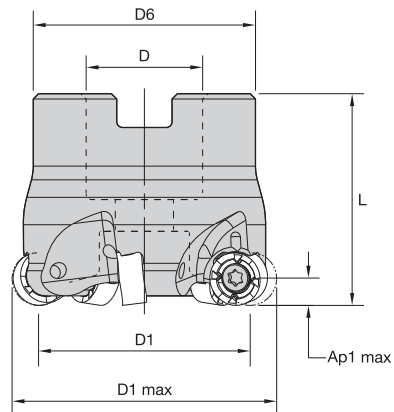
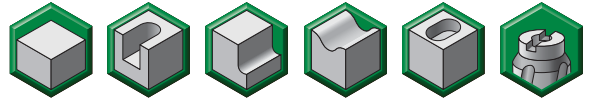
order number	catalogue number	D1 max	D1	D	L	LBX	Ap1 max	Z	max RPM	coolant supply	kg
5210279	M200D25Z03A25RN10L150	25	15	25	150	32	5,00	3	54700	Yes	0,50
5210300	M200D25Z03A25RN10L200	25	15	25	200	32	5,00	3	54700	Yes	0,69
5210301	M200D25Z03A32RN10L250	25	15	32	250	32	5,00	3	54700	Yes	1,41
5210302	M200D28Z03A25RN10L200	28	18	25	200	40	5,00	3	51600	Yes	0,70
5210303	M200D32Z04A32RN10L150	32	22	32	150	40	5,00	4	48300	Yes	0,83
5210304	M200D32Z03A32RN10L200	32	22	32	200	40	5,00	3	48300	Yes	1,44

Spare Parts



D1 max	insert screw	Nm	Torx driver
25	191.848	2,0	170.025
28	191.848	2,0	170.025
32	191.848	2,0	170.025

- Double-sided, eight cutting edges.
- Anti-rotation feature for better stability and higher feed rates.
- Pocketing and profiling capabilities.



Indexable Milling

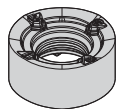
■ Shell Mills

order number	catalogue number	D1 max	D1	D	D6	L	Ap1 max	Z	max RPM	coolant supply	kg
5210305	M200D40Z04RN10	40	30	16	38	40	5,00	4	43200	Yes	0,23
5210306	M200D40Z06RN10	40	30	16	38	40	5,00	6	43200	Yes	0,24
5210307	M200D50Z05RN10	50	40	22	42	40	5,00	5	38600	Yes	0,32
5210308	M200D50Z06RN10	50	40	22	42	40	5,00	6	38600	Yes	0,32
5210309	M200D52Z06RN10	52	42	22	49	50	5,00	6	37900	Yes	0,52

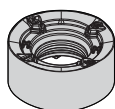
■ Spare Parts



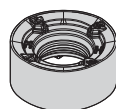
D1 max	insert screw	Nm	Torx driver	socket-head cap screw
40	191.848	2,0	170.025	MS1294
50	191.848	2,0	170.025	125.025
52	191.848	2,0	170.025	MS1242



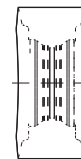
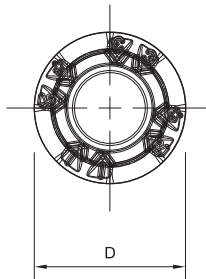
RNGJ-ML



RNGJ-MM
RNPJ-MM



RNPJ-MH



S

- first choice
- alternate choice

P						
M						
K						
N						
S						
H						

- -ML geometry is the first choice for stainless steel and high-temp alloys.
- -MM geometry is for general purpose, especially for steel.
- -MH geometry is the first choice for heavy applications, cast iron, and high-strength steel.

RNGJ-ML

catalogue number	cutting edges	D	S	WK15CM	WP20CM	WP25PM	WU35PM	WP35CM
RNGJ10T3M0EML	8	10,00	4,76			●	●	●

RNGJ-MM

catalogue number	cutting edges	D	S	WK15CM	WP20CM	WP25PM	WU35PM	WP35CM
RNGJ10T3M0SMM	8	10,00	4,76			●	●	

RNPJ-MM

catalogue number	cutting edges	D	S	WK15CM	WP20CM	WP25PM	WU35PM	WP35CM
RNPJ10T3M0SMM	8	10,00	4,76		●	●		●

RNPJ-MH

catalogue number	cutting edges	D	S	WK15CM	WP20CM	WP25PM	WU35PM	WP35CM
RNPJ10T3M0SMH	8	10,00	4,76	●	●	●	●	●

		WK15CM			WP20CM			WP25PM			WU35PM			WP35CM		
Edge Geometry		feed per tooth fz (mm)														
...-ML		0,05	0,17	0,19	0,05	0,17	0,20	0,05	0,17	0,20	0,05	0,17	0,20	0,05	0,17	0,20
...-MM		0,12	0,25	0,39	0,12	0,25	0,40	0,12	0,25	0,40	0,12	0,25	0,40	0,12	0,25	0,40
...-MH		0,20	0,28	0,42	0,20	0,28	0,45	0,20	0,28	0,45	0,20	0,28	0,45	0,20	0,28	0,45
Material Group		vc (m/min)														
P	1	—	—	—	535	475	545	325	345	395	255	275	315	545	475	440
	2	—	—	—	535	475	545	325	345	395	255	275	315	545	475	440
	3	—	—	—	535	475	545	325	345	395	255	275	315	545	475	440
	4	—	—	—	535	475	545	325	345	395	255	275	315	545	475	440
	5	—	—	—	535	475	545	325	345	395	255	275	315	545	475	440
	6	—	—	—	330	370	410	240	290	330	195	230	260	275	305	335
	7	—	—	—	330	370	410	240	290	330	195	230	260	275	305	335
	8	—	—	—	305	330	370	215	255	305	170	205	240	250	275	305
	9	—	—	—	305	330	370	215	255	305	170	205	240	250	275	305
	10	—	—	—	230	255	275	180	225	270	145	180	210	190	210	225
	11	—	—	—	230	255	275	180	225	270	145	180	210	190	210	225
	12	—	—	—	275	300	330	180	200	225	145	160	180	255	275	310
	13.1	—	—	—	175	200	230	120	150	200	95	120	160	—	165	190
13.2	—	—	—	175	200	230	120	150	200	95	120	160	—	165	190	
M	14.1	—	—	—	205	240	270	200	215	245	165	180	205	190	220	250
	14.2	—	—	—	150	175	195	115	145	170	95	120	140	140	160	175
	14.3	—	—	—	205	240	270	200	215	245	165	180	205	190	220	250
	14.4	—	—	—	190	215	245	160	190	225	130	160	185	170	195	225
K	15	410	460	505	435	390	350	220	250	275	—	—	—	285	320	355
	16	410	460	505	435	390	350	220	250	275	—	—	—	285	320	355
	17	330	355	400	345	310	280	180	195	215	—	—	—	230	255	280
	18	330	355	400	345	310	280	180	195	215	—	—	—	230	255	280
	19	275	300	335	290	255	240	145	160	180	—	—	—	195	210	235
20	275	300	335	290	255	240	145	160	180	—	—	—	195	210	235	
N	21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	29	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S	31	—	—	—	—	—	—	35	45	50	30	35	45	—	—	—
	32	—	—	—	—	—	—	35	45	50	30	35	45	—	—	—
	33	—	—	—	—	—	—	35	45	50	30	35	45	—	—	—
	34	—	—	—	—	—	—	35	50	60	30	45	55	—	—	—
	35	—	—	—	—	—	—	35	50	60	30	45	55	—	—	—
	36	—	—	—	—	—	—	45	60	85	35	55	75	—	—	—
	37	—	—	—	—	—	—	45	60	85	35	55	75	—	—	—
H	38.1	—	—	—	115	140	170	85	110	145	—	—	—	—	—	—
	38.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	39.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	39.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

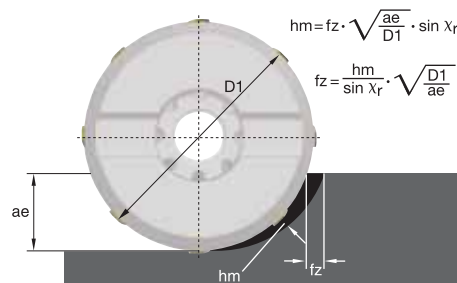
NOTE: First choice starting feed (fz) is in **bold** type.

Use corresponding speed (vc).

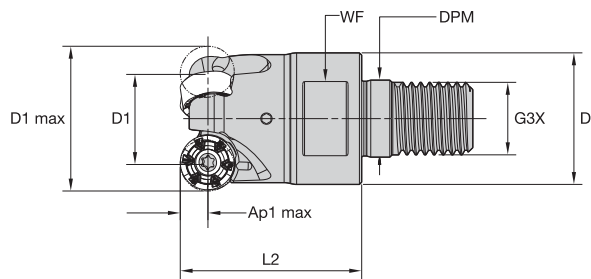
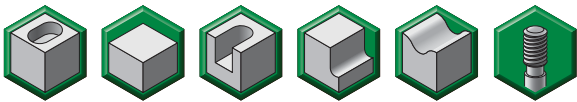
fz and vc are valid for ae ≥ 0,4 D1.

For smaller ae, fz and vc should be multiplied by the factor given below:

ae/D1 =	0,2	0,3	0,4
fz-Factor	1,5	1,3	1,0
vc-Factor	1,3	1,2	1,1



- Double-sided, 12 cutting edges.
- Anti-rotation feature for better stability and higher feed rates.
- Pocketing and profiling capabilities.



Screw-On End Mills

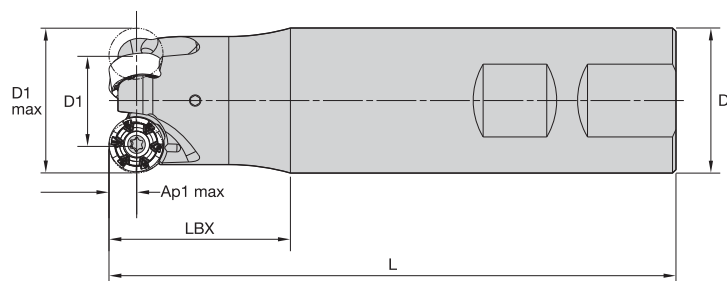
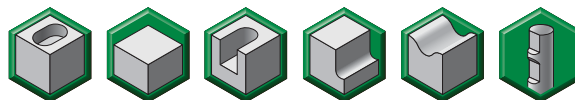
order number	catalogue number	D1 max	D1	D	DPM	G3X	L2	WF	Ap1 max	Z	max RPM	coolant supply	kg
4147560	M200D32Z03M16RN12	32	20	29	17,0	M16	40	24	3,00	3	39160	Yes	0,18
4147561	M200D35Z03M16RN12	35	23	29	17,0	M16	40	24	3,00	3	37440	Yes	0,19
4147562	M200D42Z04M16RN12	42	30	29	17,0	M16	40	24	3,00	4	34180	Yes	0,24

Spare Parts



D1 max	insert screw	Nm	Torx driver
32	193.492	4,0	170.025
35	193.492	4,0	170.025
42	193.492	4,0	170.025

- Double-sided, 12 cutting edges.
- Anti-rotation feature for better stability and higher feed rates.
- Pocketing and profiling capabilities.



Indexable Milling

Weldon End Mills

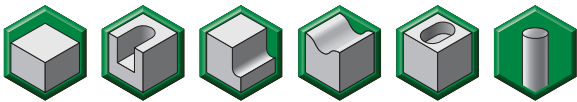
order number	catalogue number	D1 max	D1	D	L	LBX	Ap1 max	Z	max RPM	coolant supply	kg
4147564	M200D32Z03B32RN12	32	20	32	125	40	3,0	3	39160.0	Yes	0,65

Spare Parts

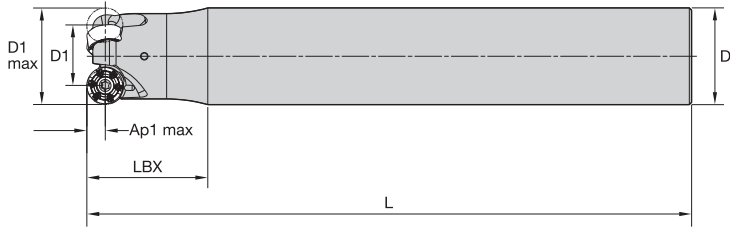


D1 max	insert screw	Nm	Torx driver
32	193.492	4,0	170.025

- Double-sided, 12 cutting edges.
- Anti-rotation feature for better stability and higher feed rates.
- Pocketing and profiling capabilities.



Indexable Milling



Cylindrical End Mills

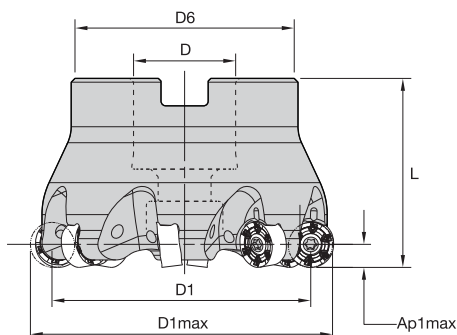
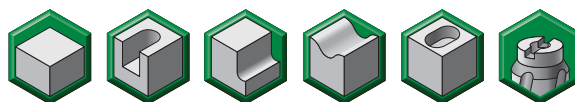
order number	catalogue number	D1 max	D1	D	L	LBX	Ap1 max	Z	max RPM	coolant supply	kg
4147566	M200D32Z03A32RN12L200	32	20	32	200	40	3,00	3	39160	Yes	1,10
4147567	M200D32Z02A32RN12L250	32	20	32	250	40	3,00	2	39160	Yes	1,41

Spare Parts



D1 max	insert screw	Nm	Torx driver
32	193.492	4,0	170.025

- Double-sided, 12 cutting edges.
- Anti-rotation feature for better stability and higher feed rates.
- Pocketing and profiling capabilities.



Indexable Milling

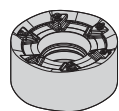
■ Shell Mills

order number	catalogue number	D1 max	D1	D	D6	L	Ap1 max	Z	max RPM	coolant supply	kg
4147568	M200D40Z04RN12	40	28	16	38	40	3,00	4	35020	Yes	0,22
4147569	M200D50Z04RN12	50	38	22	42	40	3,00	4	31330	Yes	0,30
4147570	M200D50Z05RN12	50	38	22	42	40	3,00	5	31330	Yes	0,29
4147571	M200D52Z05RN12	52	40	22	49	50	3,00	5	30720	Yes	0,49
4147572	M200D63Z05RN12	63	51	22	49	50	3,00	5	27910	Yes	0,63
4147573	M200D63Z07RN12	63	51	22	49	50	3,00	7	27910	Yes	0,63
4147574	M200D66Z07RN12	66	54	27	60	50	3,00	7	27260	Yes	0,82
4147575	M200D80Z06RN12	80	68	27	60	50	3,00	6	24760	Yes	1,02
4147576	M200D80Z08RN12	80	68	27	60	50	3,00	8	24760	Yes	1,02
4147577	M200D100Z07RN12	100	88	32	78	50	3,00	7	22150	Yes	1,66
4147578	M200D100Z09RN12	100	88	32	78	50	3,00	9	22150	Yes	1,63

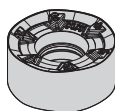
■ Spare Parts



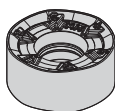
D1 max	insert screw	Nm	Torx driver	socket-head cap screw	coolant lock screw assembly
40	193.492	4,0	170.025	MS1294	—
50	193.492	4,0	170.025	MS1336	—
52	193.492	4,0	170.025	MS1242	—
63	193.492	4,0	170.025	MS1242	—
66	193.492	4,0	170.025	MS2038	—
80	193.492	4,0	170.025	MS2038	—
100	193.492	4,0	170.025	—	MS2195C



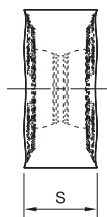
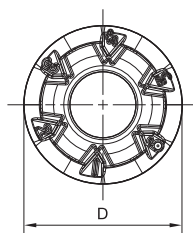
RNGJ-ML



RNGJ-MM
RNPJ-MM



RNGJ-MH
RNPJ-MH



- -ML geometry is the first choice for stainless steel and high-temp alloys.
- -MM geometry is for general purpose, especially for steel.
- -MH geometry is the first choice for heavy applications, cast iron, and high-strength steel.

● first choice
○ alternate choice

P	Blue	●	●	●	●
M	Yellow	●	●	●	○
K	Red	●	○	○	○
N	Green	○	○	○	○
S	Orange	○	○	○	○
H	Grey	○	○	○	○

RNGJ-ML

catalogue number	cutting edges	D	S	WK15PM	WP25PM	WU35PM	WP35CM
RNGJ1204M0EML	12	12,00	4,75	●	●	●	●

RNGJ-MM

catalogue number	cutting edges	D	S	WK15PM	WP25PM	WU35PM	WP35CM
RNGJ1204M0SMM	12	12,00	4,75	●	●	●	●

RNGJ-MH

catalogue number	cutting edges	D	S	WK15PM	WP25PM	WU35PM	WP35CM
RNGJ1204M0SMH	12	12,00	4,75	●	●	●	●

RNPJ-MM

catalogue number	cutting edges	D	S	WK15PM	WP25PM	WU35PM	WP35CM
RNPJ1204M0SMM	12	12,00	4,75	○	●	●	●

RNPJ-MH

catalogue number	cutting edges	D	S	WK15PM	WP25PM	WU35PM	WP35CM
RNPJ1204M0SMH	12	12,00	4,75	○	●	●	●

		WK15PM			WK15CM			WP20CM			WP25PM			WU35PM			WP35CM		
Edge Geometry		feed per tooth fz (mm)																	
...-ML		0,05	0,09	0,15	0,05	0,09	0,15	0,05	0,09	0,16	0,05	0,09	0,16	0,05	0,09	0,16	0,05	0,09	0,16
...-MM		0,12	0,21	0,35	0,12	0,21	0,33	0,12	0,21	0,35	0,12	0,21	0,35	0,12	0,21	0,35	0,12	0,21	0,35
...-MH		0,20	0,30	0,42	0,20	0,30	0,42	0,20	0,30	0,45	0,20	0,30	0,45	0,20	0,30	0,45	0,20	0,30	0,45
Material Group		vc (m/min)																	
P	1	—	—	—	—	—	—	535	475	545	325	345	395	255	275	315	545	475	440
	2	—	—	—	—	—	—	535	475	545	325	345	395	255	275	315	545	475	440
	3	—	—	—	—	—	—	535	475	545	325	345	395	255	275	315	545	475	440
	4	—	—	—	—	—	—	535	475	545	325	345	395	255	275	315	545	475	440
	5	—	—	—	—	—	—	535	475	545	325	345	395	255	275	315	545	475	440
	6	—	—	—	—	—	—	330	370	410	240	290	330	195	230	260	275	305	335
	7	—	—	—	—	—	—	330	370	410	240	290	330	195	230	260	275	305	335
	8	—	—	—	—	—	—	305	330	370	215	255	305	170	205	240	250	275	305
	9	—	—	—	—	—	—	305	330	370	215	255	305	170	205	240	250	275	305
	10	—	—	—	—	—	—	230	255	275	180	225	270	145	180	210	190	210	225
	11	—	—	—	—	—	—	230	255	275	180	225	270	145	180	210	190	210	225
	12	—	—	—	—	—	—	275	300	330	180	200	225	145	160	180	255	275	310
	13.1	—	—	—	—	—	—	175	200	230	120	150	200	95	120	160	—	165	190
13.2	—	—	—	—	—	—	175	200	230	120	150	200	95	120	160	—	165	190	
M	14.1	—	—	—	—	—	—	205	240	270	200	215	245	165	180	205	190	220	250
	14.2	—	—	—	—	—	—	150	175	195	115	145	170	95	120	140	140	160	175
	14.3	—	—	—	—	—	—	205	240	270	200	215	245	165	180	205	190	220	250
	14.4	—	—	—	—	—	—	190	215	245	160	190	225	130	160	185	170	195	225
K	15	260	295	325	410	460	505	435	390	350	220	250	275	—	—	—	285	320	355
	16	260	295	325	410	460	505	435	390	350	220	250	275	—	—	—	285	320	355
	17	215	225	255	330	355	400	345	310	280	180	195	215	—	—	—	230	255	280
	18	215	225	255	330	355	400	345	310	280	180	195	215	—	—	—	230	255	280
	19	170	190	215	275	300	335	290	255	240	145	160	180	—	—	—	195	210	235
	20	170	190	215	275	300	335	290	255	240	145	160	180	—	—	—	195	210	235
N	21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	29	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S	31	—	—	—	—	—	—	—	—	—	35	45	50	30	35	45	—	—	—
	32	—	—	—	—	—	—	—	—	—	35	45	50	30	35	45	—	—	—
	33	—	—	—	—	—	—	—	—	—	35	45	50	30	35	45	—	—	—
	34	—	—	—	—	—	—	—	—	—	35	50	60	30	45	55	—	—	—
	35	—	—	—	—	—	—	—	—	—	35	50	60	30	45	55	—	—	—
	36	—	—	—	—	—	—	—	—	—	45	60	85	35	55	75	—	—	—
	37	—	—	—	—	—	—	—	—	—	45	60	85	35	55	75	—	—	—
H	38.1	—	—	—	—	—	—	115	140	170	85	110	145	—	—	—	—	—	—
	38.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	39.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	39.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

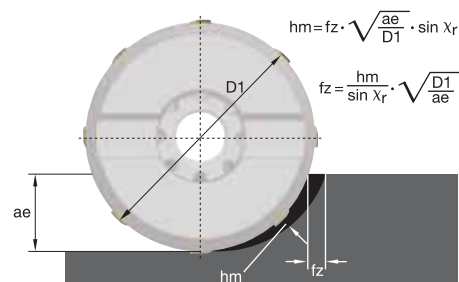
NOTE: First choice starting feed (fz) is in **bold type**.

Use corresponding speed (vc).

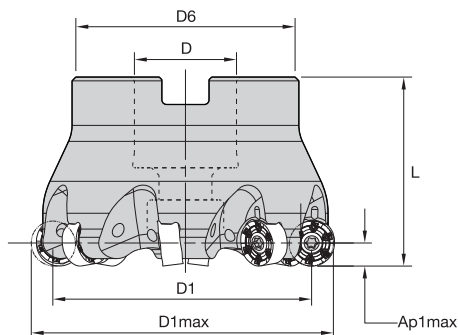
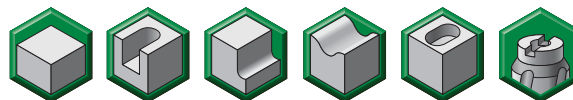
fz and vc are valid for ae ≥ 0,4 D1.

For smaller ae, fz and vc should be multiplied by the factor given below:

ae/D1 =	0,2	0,3	0,4
fz-Factor	1,5	1,3	1,0
vc-Factor	1,3	1,2	1,1



- Double-sided, 12 cutting edges.
- Anti-rotation feature for better stability and higher feed rates.
- Pocketing and profiling capabilities.



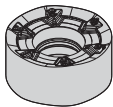
■ Shell Mills

order number	catalogue number	D1 max	D1	D	D6	L	Ap1 max	Z	max RPM	coolant supply	kg
5209989	M200D50Z04RN16	50	34	22	42	50	4	4	26700	Yes	0,36
5210210	M200D52Z04RN16	52	36	22	42	50	4	4	26000	Yes	0,39
5210211	M200D63Z04RN16	63	47	22	49	50	4	4	22700	Yes	0,58
5210212	M200D63Z06RN16	63	47	22	49	50	4	6	22700	Yes	0,57
5210213	M200D66Z05RN16	66	50	27	60	50	4	5	22000	Yes	0,69
5210214	M200D80Z05RN16	80	64	27	60	50	4	5	19500	Yes	0,88
5210215	M200D80Z07RN16	80	64	27	60	50	4	7	19500	Yes	0,89
5210216	M200D100Z06RN16	100	84	32	78	50	4	6	17000	Yes	1,51
5210217	M200D100Z08RN16	100	84	32	78	50	4	8	17000	Yes	1,52
5210218	M200D125Z08RN16	125	109	40	90	63	4	8	14900	Yes	2,88

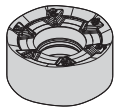
■ Spare Parts



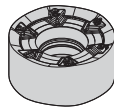
D1 max	insert screw	Nm	Torx driver	socket-head cap screw	coolant lock screw assembly
50	193.343	4,0	170.025	MS1242	—
52	193.343	4,0	170.025	MS1242	—
63	193.343	4,0	170.025	MS1242	—
66	193.343	4,0	170.025	MS2038	—
80	193.343	4,0	170.025	MS2038	—
100	193.343	4,0	170.025	—	MS2195C
125	193.343	4,0	170.025	—	MS2187C



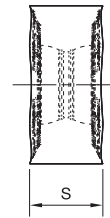
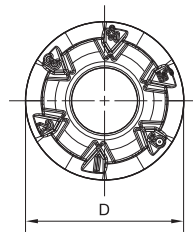
RNGJ-ML



RNPJ-MM



RNPJ-MH



- -ML geometry is the first choice for stainless steel and high-temp alloys.
- -MM geometry is for general purpose, especially for steel.
- -MH geometry is the first choice for heavy applications, cast iron, and high-strength steels.

- first choice

- alternate choice

P						
M						
K						
N						
S						
H						

■ RNGJ-ML

catalogue number	cutting edges	D	S	WK15	WP20	WP25	WU35	WP35
RNGJ1605M0EML	12	16,00	6,35			●	●	●

■ RNPJ-MM

catalogue number	cutting edges	D	S	WK15	WP20	WP25	WU35	WP35
RNPJ1605M0SMM	12	16,00	6,35		●	●	●	●

■ RNPJ-MH

catalogue number	cutting edges	D	S	WK15	WP20	WP25	WU35	WP35
RNPJ1605M0SMH	12	16,00	6,35	●	●	●	●	●

Indexable Milling

		WK15CM			WP20CM			WP25PM			WU35PM			WP35CM		
Edge Geometry		feed per tooth fz (mm)														
..-ML		0,05	0,17	0,21	0,05	0,17	0,24	0,05	0,17	0,24	0,05	0,17	0,24	0,05	0,17	0,24
..-MM		0,12	0,25	0,33	0,12	0,25	0,36	0,12	0,25	0,36	0,12	0,25	0,36	0,12	0,25	0,36
..-MH		0,23	0,30	0,42	0,23	0,30	0,47	0,23	0,30	0,47	0,23	0,30	0,47	0,23	0,30	0,47
Material Group		vc (m/min)														
P	1	—	—	—	535	475	545	325	345	395	255	275	315	545	475	440
	2	—	—	—	535	475	545	325	345	395	255	275	315	545	475	440
	3	—	—	—	535	475	545	325	345	395	255	275	315	545	475	440
	4	—	—	—	535	475	545	325	345	395	255	275	315	545	475	440
	5	—	—	—	535	475	545	325	345	395	255	275	315	545	475	440
	6	—	—	—	330	370	410	240	290	330	195	230	260	275	305	335
	7	—	—	—	330	370	410	240	290	330	195	230	260	275	305	335
	8	—	—	—	305	330	370	215	255	305	170	205	240	250	275	305
	9	—	—	—	305	330	370	215	255	305	170	205	240	250	275	305
	10	—	—	—	230	255	275	180	225	270	145	180	210	190	210	225
	11	—	—	—	230	255	275	180	225	270	145	180	210	190	210	225
	12	—	—	—	275	300	330	180	200	225	145	160	180	255	275	310
	13.1	—	—	—	175	200	230	120	150	200	95	120	160	—	165	190
13.2	—	—	—	175	200	230	120	150	200	95	120	160	—	165	190	
M	14.1	—	—	—	205	240	270	200	215	245	165	180	205	190	220	250
	14.2	—	—	—	150	175	195	115	145	170	95	120	140	140	160	175
	14.3	—	—	—	205	240	270	200	215	245	165	180	205	190	220	250
	14.4	—	—	—	190	215	245	160	190	225	130	160	185	170	195	225
K	15	410	460	505	435	390	350	220	250	275	—	—	—	285	320	355
	16	410	460	505	435	390	350	220	250	275	—	—	—	285	320	355
	17	330	355	400	345	310	280	180	195	215	—	—	—	230	255	280
	18	330	355	400	345	310	280	180	195	215	—	—	—	230	255	280
	19	275	300	335	290	255	240	145	160	180	—	—	—	195	210	235
	20	275	300	335	290	255	240	145	160	180	—	—	—	195	210	235
N	21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	29	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S	31	—	—	—	—	—	—	35	45	50	30	35	45	—	—	—
	32	—	—	—	—	—	—	35	45	50	30	35	45	—	—	—
	33	—	—	—	—	—	—	35	45	50	30	35	45	—	—	—
	34	—	—	—	—	—	—	35	50	60	30	45	55	—	—	—
	35	—	—	—	—	—	—	35	50	60	30	45	55	—	—	—
	36	—	—	—	—	—	—	45	60	85	35	55	75	—	—	—
	37	—	—	—	—	—	—	45	60	85	35	55	75	—	—	—
H	38.1	—	—	—	115	140	170	85	110	145	—	—	—	—	—	—
	38.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	39.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	39.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

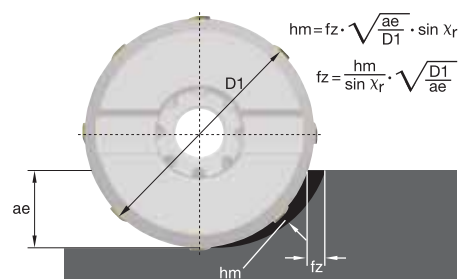
NOTE: First choice starting feed (fz) is in **bold** type.

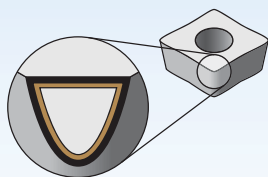
Use corresponding speed (vc).

fz and vc are valid for ae ≥ 0,4 D1.

For smaller ae, fz and vc should be multiplied by the factor given below:

ae/D1 =	0,2	0,3	0,4
fz-Factor	1,5	1,3	1,0
vc-Factor	1,3	1,2	1,1





Coatings provide high-speed capability and are engineered for finishing to heavy roughing.

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous Materials
S	High-Temp Alloys
H	Hardened Materials

wear resistance $\longleftrightarrow$ toughness

Indexable Milling

Coating		Grade Description	05	10	15	20	25	30	35	40	45
Grade	WK15PM	A TiAlN-PVD-coated carbide grade developed specifically for general machining of ductile cast iron and can be used with or without coolant.									
			K								
	WK15CM	A multilayered TiN-MT-TiCN-Al ₂ O ₃ -CVD-coated carbide grade with advanced post-coat treatment. WK15CM is a wear-resistant grade with balanced toughness for general milling of cast irons at higher speeds. Best results in dry but can also be used wet.									
			K								
	WP20CM	WP20CM is a multilayered TiN-MT-TiCN-Al ₂ O ₃ -CVD-coated carbide grade with advanced post-coat treatment. The substrate is a well-balanced combination of wear resistance and toughness. WP20CM is primarily for light and general machining of steels and stainless steels or roughing of cast irons.	P								
			M								
			K								
	WP25PM	AlTiN-PVD-coated carbide grade engineered to provide better performance in general machining of high-temperature alloys and stainless steel. WP25PM resists breakage and offers improved wear resistance and increased strength.	P								
			M								
			K								
			S								
	WU35PM	A high-performance TiAlN-PVD-coated carbide grade for milling steel, stainless steel, and high-temperature alloys. The good thermal shock resistance of the substrate makes this grade ideal for both wet and dry machining. WU35PM is primarily for use in general and heavy machining.	P								
			M								
			S								
	WP35CM	A multilayered TiN-TiCN-Al ₂ O ₃ -CVD-coated carbide grade with advanced Victory™ post-coat treatment and a very tough substrate. WP35CM has a wide application area in general and rough milling of steels and cast irons. It performs best dry but can also be used wet.	P								
			K								