

YE-NM14



# NC-Mill

## General Purpose Carbide Endmills

For Machining of Carbon Steel, Tool Steel, Alloy Steel and Stainless Steel  
Applicable in High Speed Machining, Wet and Dry Cutting Condition



**NEW** CENTURY  
of YG-1 Group

# NC-Mill

**NEW CENTURY**  
of YG-1 Group

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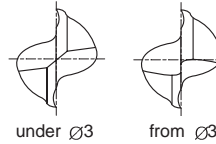
E-mail: [qnct@qnct.cn](mailto:qnct@qnct.cn)

Tool specifications are subject to change without notice.



 **BROTECH**  
YG1YENM140211002

### CARBIDE, 2 FLUTE SHORT END MILL



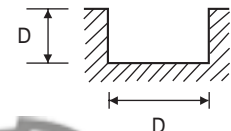
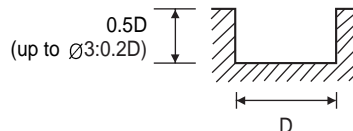
Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
G9F41010N	1.0	4	3	50
G9F41020N	2.0	4	6	50
G9F41030N	3.0	4	8	50
G9F41040N	4.0	4	11	50
G9F41050N	5.0	6	13	50
G9F41060N	6.0	6	16	50
G9F41080N	8.0	8	20	60
G9F41100N	10.0	10	25	75
G9F41120N	12.0	12	32	75
G9F41140N	14.0	14	32	75
G9F41160N	16.0	16	32	75
G9F41200N	20.0	20	32	100

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0 - 0.030	h6

### CUTTING CONDITIONS

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS				ALLOY STEELS PRE-HARDENED STEELS				STAINLESS STEELS				CAST IRON			
HARDNESS	~ HRC30				HRC30 ~ HRC50											
STRENGTH	~ 1000N/mm <sup>2</sup>				1000 ~ 1500N/mm <sup>2</sup>											
DIAMETER	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz
1.0	15450	115	49	0.004	9200	70	29	0.004	7700	55	24	0.004	20200	220	63	0.005
2.0	8500	170	53	0.010	5550	110	35	0.010	4650	85	29	0.009	10100	240	63	0.012
3.0	6600	190	62	0.014	4100	130	39	0.016	3400	110	32	0.016	6550	240	62	0.018
4.0	5550	275	70	0.025	3400	165	43	0.024	2850	140	36	0.025	4950	240	62	0.024
5.0	4650	290	73	0.031	2750	170	43	0.031	2300	145	36	0.032	3950	240	62	0.030
6.0	4100	325	77	0.040	2500	205	47	0.041	2100	165	40	0.039	3200	275	60	0.043
8.0	3100	350	78	0.056	1850	185	46	0.050	1550	165	39	0.053	2400	295	60	0.061
10.0	2350	300	74	0.064	1450	145	46	0.050	1250	145	39	0.058	2000	310	63	0.078
12.0	2000	260	75	0.065	1250	120	47	0.048	1050	120	40	0.057	1550	320	58	0.103
14.0	1850	230	81	0.062	1150	110	51	0.048	900	110	40	0.061	1400	335	62	0.120
16.0	1600	200	80	0.063	1000	100	50	0.050	750	100	38	0.067	1200	345	60	0.144
20.0	1250	155	79	0.062	750	75	47	0.050	600	75	38	0.063	950	365	60	0.192



RPM = rev./min.  
FEED = mm/min.  
Vc = m/min.  
fz = mm/t

### CARBIDE, 4 FLUTE SHORT END MILL



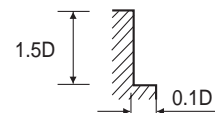
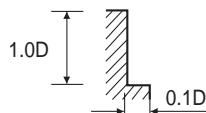
Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
G9F42010N	1.0	4	3	50
G9F42020N	2.0	4	6	50
G9F42030N	3.0	4	8	50
G9F42040N	4.0	4	11	50
G9F42050N	5.0	6	13	50
G9F42060N	6.0	6	16	50
G9F42080N	8.0	8	20	60
G9F42100N	10.0	10	25	75
G9F42120N	12.0	12	32	75
G9F42140N	14.0	14	32	75
G9F42160N	16.0	16	32	75
G9F42200N	20.0	20	32	100

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0 - 0.030	h6

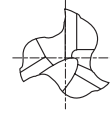
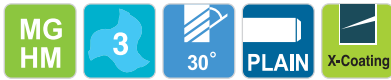
### CUTTING CONDITIONS

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS				ALLOY STEELS PRE-HARDENED STEELS				STAINLESS STEELS				CAST IRON			
HARDNESS	~ HRC30				HRC30 ~ HRC50											
STRENGTH	~ 1000N/mm <sup>2</sup>				1000 ~ 1500N/mm <sup>2</sup>											
DIAMETER	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz
1.0	19000	160	60	0.002	11050	90	35	0.002	9350	80	29	0.002	20200	670	63	0.008
2.0	10650	260	67	0.006	6950	155	44	0.006	5800	130	36	0.006	10100	690	63	0.017
3.0	8200	290	77	0.009	5150	185	49	0.009	4250	155	40	0.009	6550	690	62	0.026
4.0	6950	525	87	0.019	4250	325	53	0.019	3550	260	45	0.018	4950	690	62	0.035
5.0	5800	550	91	0.024	3450	330	54	0.024	2900	275	46	0.024	3950	690	62	0.044
6.0	5100	605	96	0.030	3100	380	58	0.031	2600	300	49	0.029	3200	830	60	0.065
8.0	3850	655	97	0.043	2300	350	58	0.038	1950	325	49	0.042	2400	880	60	0.092
10.0	2950	560	93	0.047	1850	275	58	0.037	1500	275	47	0.046	2000	930	63	0.116
12.0	2550	475	96	0.047	1550	230	58	0.037	1250	220	47	0.044	1550	970	58	0.156
14.0	2250	425	99	0.047	1400	210	62	0.038	1150	205	51	0.045	1400	1020	62	0.182
16.0	2000	380	101	0.048	1250	185	63	0.037	1050	185	53	0.044	1200	1050	60	0.219
20.0	1550	290	97	0.047	950	145	60	0.038	750	140	47	0.047	950	1120	60	0.295



RPM = rev./min.  
FEED = mm/min.  
Vc = m/min.  
fz = mm/t

### CARBIDE, 3 FLUTE SHORT END MILL



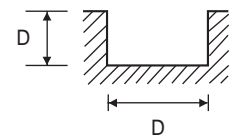
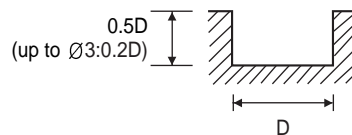
Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
G9F43010N	1.0	4	3	50
G9F43020N	2.0	4	6	50
G9F43030N	3.0	4	8	50
G9F43040N	4.0	4	11	50
G9F43050N	5.0	6	13	50
G9F43060N	6.0	6	16	50
G9F43080N	8.0	8	20	60
G9F43100N	10.0	10	25	75
G9F43120N	12.0	12	32	75
G9F43140N	14.0	14	32	75
G9F43160N	16.0	16	32	75
G9F43200N	20.0	20	32	100

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0 - 0.030	h6

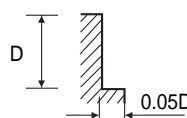
### CUTTING CONDITIONS

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS				ALLOY STEELS PRE-HARDENED STEELS				STAINLESS STEELS				CAST IRON			
HARDNESS	~ HRC30				HRC30 ~ HRC50											
STRENGTH	~ 1000N/mm <sup>2</sup>				1000 ~ 1500N/mm <sup>2</sup>											
DIAMETER	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz
1.0	15450	175	49	0.004	9200	105	29	0.004	7700	85	24	0.004	20200	330	63	0.005
2.0	8500	255	53	0.010	5550	165	35	0.010	4650	130	29	0.009	10100	360	63	0.012
3.0	6600	285	62	0.014	4100	195	39	0.016	3400	165	32	0.016	6550	360	62	0.018
4.0	5550	415	70	0.025	3400	250	43	0.024	2850	210	36	0.025	4950	360	62	0.024
5.0	4650	435	73	0.031	2750	255	43	0.031	2300	220	36	0.032	3950	360	62	0.030
6.0	4100	490	77	0.040	2500	310	47	0.041	2100	220	40	0.039	3200	415	60	0.043
8.0	3100	525	78	0.056	1850	280	46	0.050	1550	220	39	0.053	2400	445	60	0.061
10.0	2350	450	74	0.064	1450	220	46	0.050	1250	220	39	0.058	2000	465	63	0.078
12.0	2000	390	75	0.065	1250	180	47	0.048	1050	180	40	0.057	1550	480	58	0.103
14.0	1850	345	81	0.062	1150	165	51	0.048	900	165	40	0.061	1400	505	62	0.120
16.0	1600	300	80	0.063	1000	150	50	0.050	750	150	38	0.067	1200	520	60	0.144
20.0	1250	235	79	0.062	750	115	47	0.050	600	115	38	0.063	950	550	60	0.192



1.0	15450	210	49	0.005	9200	125	29	0.005	7700	100	24	0.004	20200	365	63	0.006
2.0	8500	305	53	0.012	5550	200	35	0.012	4650	155	29	0.011	10100	395	63	0.013
3.0	6600	340	62	0.017	4100	235	39	0.019	3400	200	32	0.020	6550	395	62	0.020
4.0	5550	500	70	0.030	3400	300	43	0.029	2850	250	36	0.029	4950	395	62	0.027
5.0	4650	520	73	0.037	2750	305	43	0.037	2300	265	36	0.038	3950	395	62	0.033
6.0	4100	590	77	0.048	2500	370	47	0.049	2100	265	40	0.042	3200	455	60	0.047
8.0	3100	630	78	0.068	1850	335	46	0.060	1550	265	39	0.057	2400	490	60	0.068
10.0	2350	540	74	0.077	1450	265	46	0.061	1250	265	39	0.071	2000	510	63	0.085
12.0	2000	470	75	0.078	1250	215	47	0.057	1050	215	40	0.068	1550	530	58	0.114
14.0	1850	415	81	0.075	1150	200	51	0.058	900	200	40	0.074	1400	555	62	0.132
16.0	1600	360	80	0.075	1000	180	50	0.060	750	180	38	0.080	1200	570	60	0.158
20.0	1250	280	79	0.075	750	140	47	0.062	600	140	38	0.078	950	605	60	0.212

RPM = rev./min.  
FEED = mm/min.  
Vc = m/min.  
fz = mm/t



### CARBIDE, 2 FLUTE SHORT BALL END MILL



MG HM
2
30°
R ±0.01
R ±0.02
PLAIN
X-Coating

R1.0~R3.0 R4.0~R10.0

Unit : mm

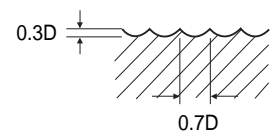
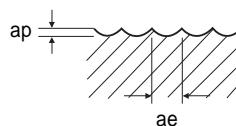
EDP No.	Ball Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
G9F44020N	R1.0	2.0	4	5	50
G9F44030N	R1.5	3.0	4	6	50
G9F44040N	R2.0	4.0	6	8	50
G9F44050N	R2.5	5.0	6	10	50
G9F44060N	R3.0	6.0	6	12	50
G9F44080N	R4.0	8.0	8	14	60
G9F44100N	R5.0	10.0	10	20	75
G9F44120N	R6.0	12.0	12	24	75
G9F44160N	R8.0	16.0	16	32	75
G9F44200N	R10.0	20.0	20	32	75

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0 - 0.030	h6

### CUTTING CONDITIONS

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS				CARBON STEELS ALLOY STEELS PRE-HARDENED STEELS				HARDENED STEELS				CAST IRON			
HARDNESS	~ HRc30				HRc30 ~ HRc50				HRc50 ~							
STRENGTH	~ 1000N/mm <sup>2</sup>				1000 ~ 1500N/mm <sup>2</sup>				1500N/mm <sup>2</sup>							
DIAMETER	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz
2.0	13350	690	84	0.026	9900	450	62	0.023	4300	135	27	0.016	11350	240	71	0.011
3.0	12300	620	116	0.025	9250	420	87	0.023	4100	135	39	0.016	7600	250	72	0.016
4.0	9650	680	121	0.035	7700	485	97	0.031	3900	160	49	0.021	5550	310	70	0.028
5.0	8400	755	132	0.045	6700	530	105	0.040	3350	160	53	0.024	4500	355	71	0.039
6.0	7850	940	148	0.060	6350	760	120	0.060	2900	170	55	0.029	3650	390	69	0.053
8.0	6600	1180	166	0.089	5300	850	133	0.080	2200	205	55	0.047	2700	495	68	0.092
10.0	5900	1435	185	0.122	4700	940	148	0.100	1900	205	60	0.054	2200	495	69	0.113
12.0	5400	1620	204	0.150	4250	1026	160	0.121	1600	225	60	0.070	1900	495	72	0.130
16.0	4400	1590	221	0.181	3450	975	173	0.141	1250	225	63	0.090	1400	495	70	0.177
20.0	3850	1540	242	0.200	3000	955	188	0.159	1050	225	66	0.107	1150	450	72	0.196

$A_p$  : D1 ~ D6=0.2mm  
 $A_p$  : D8 ~ D20=0.3mm  
 $A_e$  : 0.2D



RPM = rev./min.  
 FEED = mm/min.  
 Vc = m/min.  
 fz = mm/t