



CARBIDE

Being the best through innovation



X-POWER END MILLS

- Medium Steels to High Hardened Steels up to HRc70

CARBIDE, 2 FLUTE SHORT LENGTH BALL NOSE

- ▶ Economic type with short overall length.
- ▶ Radius tolerance $\pm 0.02\text{mm}$ & short length of cut.



◇ Call for Availability

Unit : mm

EDP No.	Radius of Ball Nose R (± 0.02)	Mill Diameter		Shank Diameter	Length of Cut	Overall Length
		Metric	Inch			
EM876010	R0.5	1.0	.0394	3	3	38
EM876012	R0.6	1.2	.0472	3	3	38
EM876015	R0.75	1.5	.0591	3	3	38
EM876020	R1.0	2.0	.0787	6	3	50
EM876030	R1.5	3.0	.1181	6	4	50
EM876040	R2.0	4.0	.1575	6	5	54
EM876050	R2.5	5.0	.1969	6	6	54
EM876060	R3.0	6.0	.2362	6	7	54
EM876070	R3.5	7.0	.2756	8	8	58
EM876080	R4.0	8.0	.3150	8	9	58
EM876090	R4.5	9.0	.3543	10	10	66
EM876100	R5.0	10.0	.3937	10	11	66
EM876120	R6.0	12.0	.4724	12	12	73
EM876140	R7.0	14.0	.5512	14	14	75
EM876160	R8.0	16.0	.6299	16	16	82
EM876180	R9.0	18.0	.7087	18	18	84
EM876200	R10.0	20.0	.7874	20	20	92
EM876250	R12.5	25.0	.9843	25	25	104

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

P				H		M	K	N				S		
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HRc20	HRc20~30	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
○	◎	◎	◎	○	○		○							

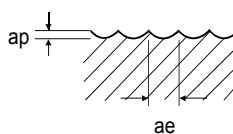
CARBIDE, 2 FLUTE BALL NOSE

EM209, EM876, EM813, EM823 SERIES

■ NORMAL SPEED

MATERIAL	P					
	NON-ALLOYED STEELS ALLOY STEELS CAST IRON		ALLOY STEELS HEAT RESISTANT STEELS		HARDENED STEELS	
HARDNESS	~ HRC30		HRC30 ~ HRC40		HRC45 ~ HRC65	
STRENGTH	~ 1000N/mm ²		1000 ~ 1250N/mm ²		1500N/mm ² ~	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED
R1/64 × 1/32	15760	9.8	12720	7.8	5800	3.5
R1/32 × 1/16	15760	13.8	12140	10.6	5320	4.7
R3/64 × 3/32	14400	29.5	10700	19.3	4680	5.9
R1/16 × 1/8	13100	26.7	10000	18.1	4520	5.9
R3/32 × 3/16	9140	32.3	7300	22.8	3680	7.1
R1/8 × 1/4	7780	33.0	6300	24.8	3160	7.5
R5/32 × 5/16	5260	37.5	4420	26.0	2100	7.5
R3/16 × 3/8	4620	40.1	3780	28.0	1780	7.5
R1/4 × 1/2	3780	35.4	2940	26.0	1360	7.5
R5/16 × 5/8	2740	36.2	2320	26.0	1160	7.5
R3/8 × 3/4	2100	33.0	1900	25.0	840	7.5

ap: D1/32~D1/4 =.008"
D5/16~D3/4=.012"
ae: 0.2×D



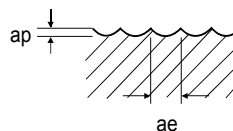
ap: D1/32~D1/4 =.008"
D5/16~D3/4 =.012"
ae: 0.1×D

RPM = rev./min.
FEED = inch/min.

■ HIGH SPEED

MATERIAL	P			
	NON-ALLOYED STEELS ALLOY STEELS CAST IRON		HARDENED STEELS	
HARDNESS	~ HRC45		HRC45 ~ HRC65	
STRENGTH	~ 1500N/mm ²		1500N/mm ² ~	
DIAMETER	RPM	FEED	RPM	FEED
R1/64 × 1/32	25000	25.6	25000	15.7
R1/32 × 1/16	23000	27.5	23000	16.9
R3/64 × 3/32	21000	34.6	19000	19.3
R1/16 × 1/8	21000	39.4	17000	20.5
R3/32 × 3/16	21000	70.9	12000	23.6
R1/8 × 1/4	21000	90.9	10500	24.8
R5/32 × 5/16	15760	111.8	7880	29.1
R3/16 × 3/8	13660	120.0	6300	33.0
R1/4 × 1/2	10500	103.5	5260	33.0
R5/16 × 5/8	8200	103.5	3780	28.0
R3/8 × 3/4	6300	99.0	2940	20.8

ap: D1/32~D1/4 =.008"
D5/16~D3/4=.012"
ae: 0.05×D



RPM = rev./min.
FEED = inch/min.