

Indexable End Mill for Deep Shoulder Milling

# ***DCCC Series***

**Suitable for heavy cutting  
due to holder rigidity.**



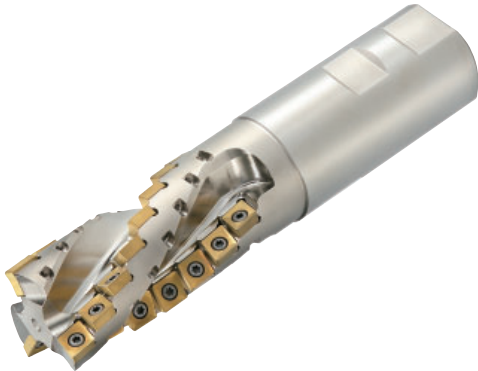
# Indexable End Mill for Deep Shoulder Milling

## DEEP SHOULDER MILLING



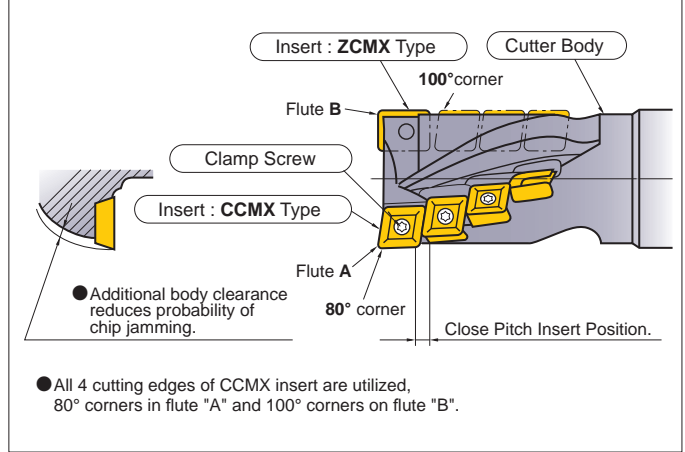
# DCCC

- P
- M
- K
- N
- S
- H

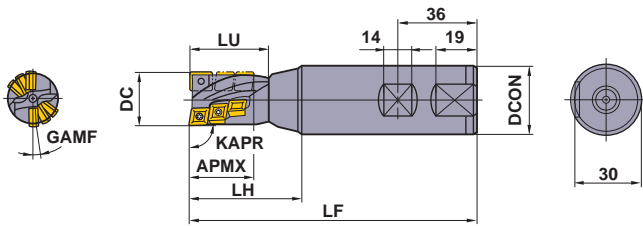


- Different helical flute angles prevents chattering.
- Suitable for heavy cutting due to holder rigidity.

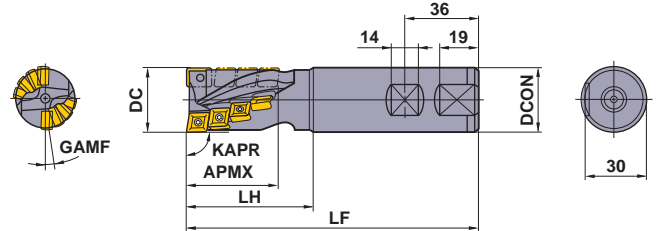
### DESIGN FEATURES OF DCCC TYPE END MILL



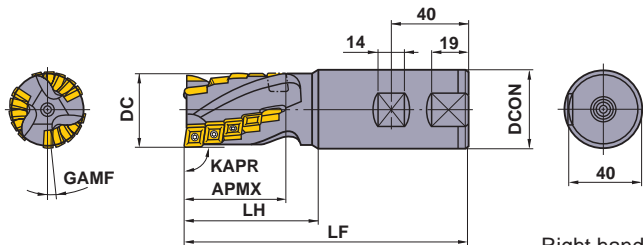
#### ● $\phi 25$ 2 flute



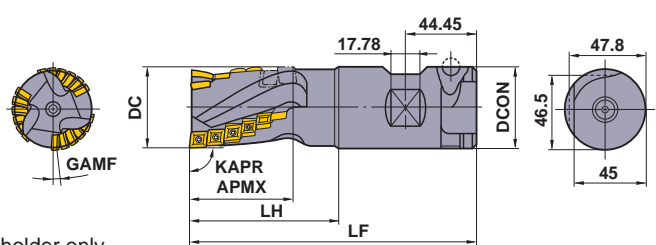
#### ● $\phi 32$ 2 flute



#### ● $\phi 40$ 3 flute



#### ● $\phi 50$ (Combination Shank) 3 flute



KAPR : 90°

Right hand tool holder only.

(mm)

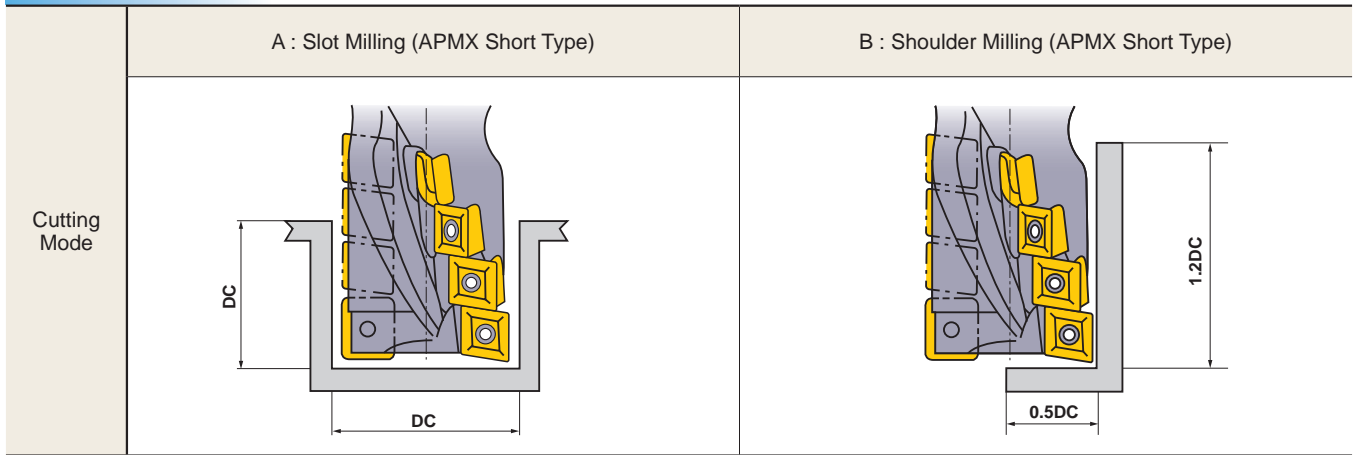
DC	Order Number	Stock	LF	DCON	LH	LU	APMX	GAMF	*1 WT	No. of Teeth		Peripheral and Bottom		Bottom insert only	
										Bottom	Total	Type	*2 N	Type	*2 N
25	DCCCR2506S32	●	130	32	50	36	27	8°	0.6	2	6	CCMX08	5	ZCMX08	1
25	DCCCR2510S32	●	150	32	70	56	44	8°	0.7	2	10	CCMX08	9	ZCMX08	1
32	DCCCR3208S32	●	140	32	60	—	43	8°36'	0.8	2	8	CCMX09	7	ZCMX09	1
32	DCCCR3212S32	●	160	32	80	—	63	8°36'	0.8	2	12	CCMX09	11	ZCMX09	1
40	DCCCR4015S42	●	150	42	70	—	53	5°31'	1.3	3	15	CCMX09	14	ZCMX09	1
40	DCCCR4024S42	●	180	42	100	—	83	5°31'	1.4	3	24	CCMX09	23	ZCMX09	1
50	DCCCR5018S508	●	175	50.8	90	—	63	5°51'	2.3	3	18	CCMX09	17	ZCMX09	1
50	DCCCR5027S508	●	205	50.8	120	—	93	5°51'	2.6	3	27	CCMX09	26	ZCMX09	1

\*1 WT : Tools Weight (Kg)

\*2 N : Number of Inserts

● : Inventory maintained in Japan.

## RECOMMENDED CUTTING CONDITIONS



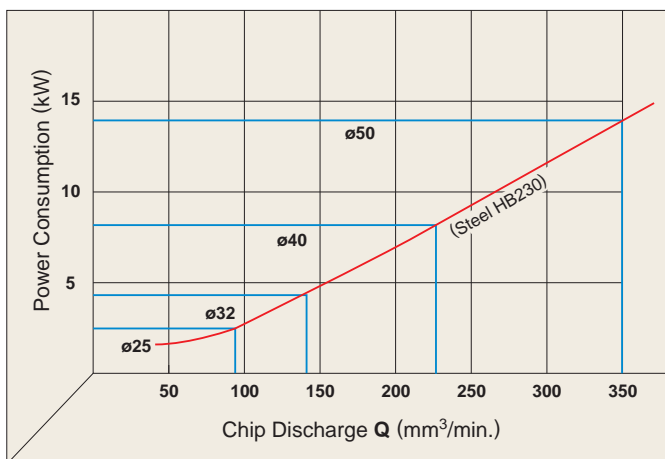
Work Material	Hardness	Grade	Cutting Mode	Cutting Speed (m/min)	Table Feed (mm/min)			
					φ25	φ32	φ40	φ50
P Mild Steel	≤180HB	F7030	A	200 (160–240)	120 (100–140)	120 (100–140)	120 (100–140)	120 (100–140)
		F7030	B	200 (160–240)	200 (180–220)	200 (180–220)	230 (200–250)	230 (200–250)
Carbon Steel Alloy Steel	180–280HB	F7030	A	160 (130–180)	120 (100–140)	120 (100–140)	140 (120–150)	140 (120–150)
		F7030	B	160 (130–180)	150 (120–180)	150 (120–180)	180 (150–200)	180 (150–200)
	280–350HB	F7030	A	160 (130–180)	100 (80–120)	100 (80–120)	130 (100–150)	130 (100–150)
		F7030	B	160 (130–180)	120 (100–140)	120 (100–140)	150 (120–180)	150 (120–180)
M Stainless Steel	≤200HB	F7030	A	80 (60–100)	70 (50–90)	70 (50–90)	70 (50–90)	70 (50–90)
		F7030	B	130 (100–160)	100 (80–120)	100 (80–120)	120 (100–140)	120 (100–140)
K Cast Iron	Tensile Strength ≤450MPa	UT120T	A	120 (100–140)	200 (180–220)	200 (180–220)	230 (200–250)	230 (200–250)
		UT120T	B	120 (100–140)	230 (200–250)	230 (200–250)	260 (240–280)	260 (240–280)

● Revolution (min<sup>-1</sup>)=(1000 x Cutting Speed)÷(3.14 x DC)

● Table Feed (mm/min)=Feed per Tooth x Number of Teeth x Cutter Revolution

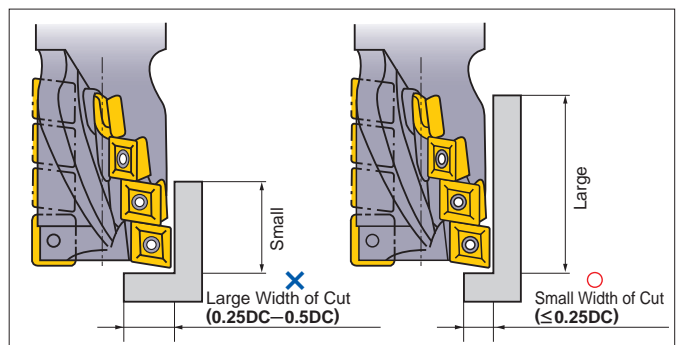
### POWER CONSUMPTION

- Please use the chart below for reference, please select the conditions that suits the machines power.
- Chip Discharge Q (mm<sup>3</sup>/min.)=Table Feed x Depth of Cut x Cutting Width÷1000



### FOR USE OF APMX LONG TYPE

- Since the overhang from the milling chuck is long, a large width of cut will cause chattering and tool breakage.
- Keep the width of cut small and the depth of cut in axial direction large. (See the following illustration.)
- For slot milling, keep the table feed at not more than half the value listed in the above table. (Use the APMX Short type as much as possible.)



## INSERTS

Work Material	P	Steel	Cutting Conditions (Guide) :				Cutting Conditions (Guide) :					Geometry
	M	Stainless Steel	●	●	●	●						
Shape	K	Cast Iron	Honing : E : Round				Dimensions (mm)					Geometry
	Class	Honing	Coated	Carbide	LE	W1	IC	S	RE			
	Order Number		F7030	VP15TF	UP20M	UTi20T						
	CCMX083508EN-A	M	E	●	●	●	-	-	7.94	3.5	0.8	
	CCMX09T308EN-A	M	E	●	●	●	-	-	9.525	3.97	0.8	
Strong Cutting Edge Type 	CCMX09T308EN-B	M	E	●			-	-	9.525	3.97	0.8	
	ZCMX083508ER-A	M	E	●			10.4	7.94	-	3.5	0.8	
	ZCMX09T308ER-A	M	E	●	●	●	12	9.525	-	3.97	0.8	
Strong Cutting Edge Type 	ZCMX09T308ER-B	M	E	●	●	●	12	9.525	-	3.97	0.8	

● : Inventory maintained in Japan. (10 inserts in one case)

## SPARE PARTS

Tool Holder Number	*			Insert	
	Clamp Screw	Wrench	Wrench	Peripheral and Bottom Insert	Bottom Insert (One Pocket Only)
DCCCR25	CS300890T	TKY08F	TKY08DS	CCMX083508EN-A	ZCMX083508ER-A
DCCCR32	CS350990T	TKY10F	TKY10DS	CCMX09T308EN-A or B	ZCMX09T308ER-A or B
DCCCR40					
DCCCR50					

\* Clamp Torque (N • m) : CS300890T=1.0, CS350990T=2.5

### For Your Safety

●Don't handle inserts and chips without gloves. ●Please machine within the recommended application range and exchange expired tools with new ones in advance of breakage. ●Please use safety covers and wear safety glasses. ●When using compounded cutting oils, please take fire precautions. ●When attaching inserts or spare parts, please use only the correct wrench or driver. ●When using rotating tools, please make a trial run to check run-out, vibration and abnormal sounds etc.

# MITSUBISHI MATERIALS CORPORATION

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Overseas Sales Dept, Asian Region  
KFC bldg., 8F, 1-6-1 Yokoami, Sumida-ku, Tokyo 130-0015, Japan  
TEL +81-3-5819-8771 FAX +81-3-5819-8774

Overseas Sales Dept, European & American Region  
KFC bldg., 8F, 1-6-1 Yokoami, Sumida-ku, Tokyo 130-0015, Japan  
TEL +81-3-5819-8772 FAX +81-3-5819-8774

<http://www.mitsubishicarbide.com/en/>  
(Tools specifications subject to change without notice.)