CWMM Indexable Shoulder Milling

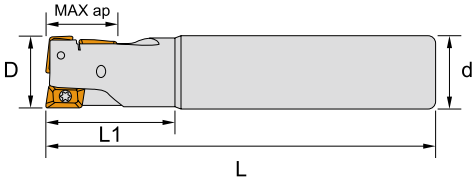
CWMMD is for drilling or milling

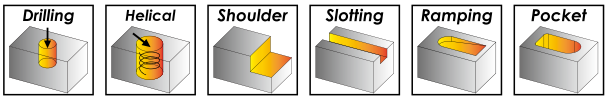
CWMME is for shoulder milling

Application / Series	Drilling	Helical	Shoulder	Slotting	Ramping	Pocketing
CWMMD	●	●	●	●	●	●
CWMME		●	●	●	●	●

Shoulder Milling - CWMM

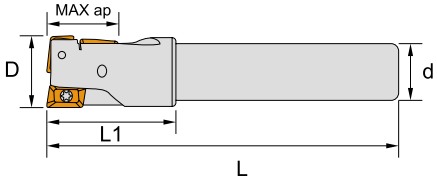
CWMMD - Drilling or Milling tools

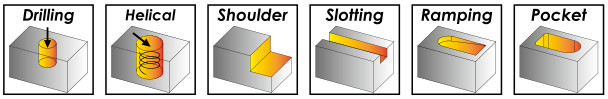




Insert Brand : Winstar, Sumitomo, Nachi, ...

Order No.	D	L1	L	d	Insert Number	Max ap	Inserts	Screw	Wrench	Stock
ICWMMD303020120	20	35	125	20	3	16	APMT1035	ITS2515	ITK08	●
ICWMMD303020180	20	35	185	20	3	16				●
ICWMMD304025140	25	35	140	25	4	24				●
ICWMMD304025220	25	35	220	25	4	24				●
ICWMMD604032150	32	50	150	32	4	40	APET1605 APMT1605	ITS4004	ITK15	●
ICWMMD604032230	32	60	230	32	4	40				●





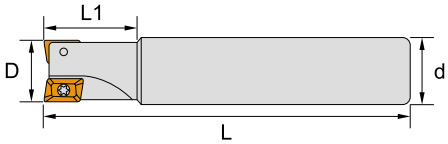
Insert Brand : Winstar, Sumitomo, Nachi, ...

Order No.	D	L1	L	d	Insert Number	Max ap	Inserts	Screw	Wrench	Stock
ICWMMD303021120	21	35	125	20	3	16	APMT1035	ITS2515	ITK08	●
ICWMMD304026140	26	35	140	25	4	24				●
ICWMMD305030150	30	50	150	25	5	32				●
ICWMMD604033150	33	50	150	32	4	40	APET1605 APMT1605	ITS4004	ITK15	●
ICWMMD604040160	40	60	160	32	4	40				●
ICWMMD604040240	40	60	240	32	4	40				●

● stock ○ by inquiry

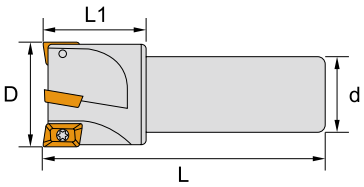
Shoulder Milling - CWMM

CWMME - Milling tools



Insert Brand : Winstar, Sumitomo, Nachi, ...

Order No.	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICWMME301010100	10	20	100	12	1	APMT1035	ITS2515	ITK08	●
ICWMME301012100	12	25	100	12	1				●
ICWMME302016120	16	25	120	16	2				●
ICWMME303020120	20	30	120	20	3				●
ICWMME304025150	25	35	150	25	4				●
ICWMME305032150	32	45	150	32	5				●
ICWMME602025150	25	40	150	25	2	APET1605 APMT1605	ITS4004	ITK15	●
ICWMME602025220	25	40	220	25	2				●
ICWMME602032150	32	45	150	32	2				●
ICWMME602032250	32	45	250	32	2				●
ICWMME603032150	32	45	150	32	3				●



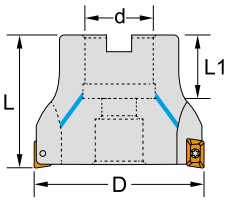
Insert Brand : Winstar, Sumitomo, Nachi, ...

Order No.	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICWMME306040130	40	45	135	32	6	APMT1035	ITS2515	ITK08	○
ICWMME306050130	50	45	135	32	6				○
ICWMME306063130	63	45	135	32	6				○
ICWMME603035150	35	45	150	32	3	APET1605 APMT1605	ITS4004	ITK15	○
ICWMME603035250	35	45	250	32	3				○
ICWMME603040130	40	45	135	32	3				○
ICWMME604050130	50	45	135	32	4				○

● stock ○ by inquiry

Shoulder Milling - CWMM

CWMMF - Milling tools



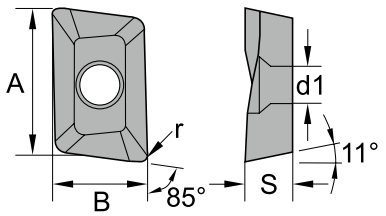
Insert Brand : Winstar, Sumitomo, Nachi, ...

Order No.	D	L1	L	d	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICWMMF306050221	50	20	45	22	6	✓	APMT1035	ITS2515	ITK08	●
ICWMMF306050250	50	20	45	25.4	6					●
ICWMMF306063220	63	20	45	22	6					●
ICWMMF306063250	63	20	45	25.4	6					●
ICWMMF604050221	50	20	45	22	4	✓	APET1605 APMT1605	ITS4004	ITK15	●
ICWMMF604050251	50	20	45	25.4	4	✓				●
ICWMMF605063220	63	20	45	22	5					○
ICWMMF605063251	63	20	45	25.4	5	✓				●
ICWMMF606080250	80	26	50	25.4	6					●
ICWMMF606080270	80	26	50	27	6					○

● stock ○ by inquiry

Insert Specifications

Insert	Dimensions (mm)				
	A	B	S	r	d1
APMT103508	10	6.6	3.5	0.8	3
APET160508	16	9.525	5.56	0.8	4.4
APMT160508	16	9.525	5.56	0.8	4.4

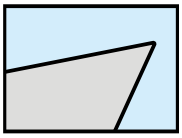
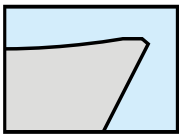


Insert Designation

Insert	Order No.	Designation	Working Material					
			P	M	K	N	S	H
	IAPMT103508ERG23AX	APMT103508PDER-RG-CX23AX	○	○	○		○	●
	IAPMT103508ERG32HS	APMT103508PDER-RG-CX32HS	●	●	●		○	
	IAPMT103508ERG33TX	APMT103508PDER-RG-CX33TX	●	●	●		●	●
	IAPMT103508ERG43TX	APMT103508PDER-RG-CX43TX	●	●	○		●	
	IAPET160508FAL10	APET160508PDFR-AL-CX10				●		
	IAPMT160508ERG32HS	APMT160508PDER-RG-CX32HS	●	●	●		○	
	IAPMT160508ERG33TX	APMT160508PDER-RG-CX33TX	●	●	●		●	●

Shoulder Milling - CWMM

Insert Geometry

Chipbreaker	Application
 **AL**	Large positive rake angle with sharp cutting edge for non-ferrous materials.
 **RG**	Strong geometry design for rough cutting in carbon steel, alloy steel, stainless steel, cast iron and hardened steel.

Insert Grade

Grade Type	Properties	Application	Working Material						Industry Area	Previous Grade
			P	M	K	N	S	H		
CX23AX *(PVD)*	• Wear resistance	• Continuous finishing machining • For hardened steel is 1st recommended	○	○	○		○	●	• Mold & Die • Hardened parts	***CX22HX***
CX33TX *(PVD)*	• Wear resistance • Anti-corrosion	• Medium to roughing • General machining • For carbon steel & alloy steel is 1st recommended	●	●	●		●	●	• Mold & Die • Automotive • Machinery • Aerospace	***CX32HS***
CX43TX *(PVD)*	• Tough substrate • Anti-corrosion	• Medium to roughing • Interrupted machining • For stainless steel is 1st recommended	●	●	○		●		• Electronics • Medical • Aerospace	–
CX10 *(Uncoated)*	• Wear resistance	• Finishing and medium cutting • For aluminum alloy is 1st recommended				●			• Bike parts • Automotive • Electronics	–

CWMM Recommended Cutting Conditions

CWMMD Cutting Conditions

Working Material	Vc	APMT1035			APET1605 / APMT1605		
		Shoulder	Slotting	Drilling	Shoulder	Slotting	Drilling
		fz					
Carbon Steel / Alloy Steel	100 ~ 160	0.06 ~ 0.20	0.06 ~ 0.12	0.06 ~ 0.18	0.06 ~ 0.25	0.06 ~ 0.15	0.06 ~ 0.20
Stainless Steel	80 ~ 120	0.05 ~ 0.15	0.05 ~ 0.10	0.05 ~ 0.12	0.05 ~ 0.20	0.05 ~ 0.12	0.05 ~ 0.18
Cast Iron	90 ~ 180	0.06 ~ 0.20	0.06 ~ 0.12	0.06 ~ 0.18	0.06 ~ 0.25	0.06 ~ 0.15	0.06 ~ 0.20
Aluminum Alloy	200 ~ 500	-	-	-	0.10 ~ 0.20	0.05 ~ 0.10	0.05 ~ 0.10
High Temperature Alloy	60 ~ 100	0.05 ~ 0.12	0.05 ~ 0.08	0.05 ~ 0.10	0.05 ~ 0.17	0.05 ~ 0.10	0.05 ~ 0.15
Hardened Steel	60 ~ 100	0.05 ~ 0.12	0.05 ~ 0.08	0.05 ~ 0.10	0.05 ~ 0.17	0.05 ~ 0.10	0.05 ~ 0.15

※ Use step feed in drilling, per step ap 0.5 ~ 1.0mm.

CWMME, CWMMF Cutting Conditions

Working Material	Vc	APMT1035		APET1605 / APMT1605	
		fz	ap	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.10 ~ 0.22	0.3 ~ 7.0	0.12 ~ 0.28	0.5 ~ 11.0
Stainless Steel	100 ~ 180	0.08 ~ 0.18	0.3 ~ 4.0	0.10 ~ 0.22	0.5 ~ 7.0
Cast Iron	120 ~ 250	0.10 ~ 0.22	0.3 ~ 6.0	0.12 ~ 0.28	0.5 ~ 10.0
Aluminum Alloy	300 ~ 1000	-	-	0.10 ~ 0.40	0.5 ~ 11.0
High Temperature Alloy	40 ~ 100	0.07 ~ 0.14	0.3 ~ 4.0	0.10 ~ 0.18	0.5 ~ 7.0
Hardened Steel	50 ~ 100	0.07 ~ 0.15	0.3 ~ 4.0	0.10 ~ 0.20	0.5 ~ 7.0