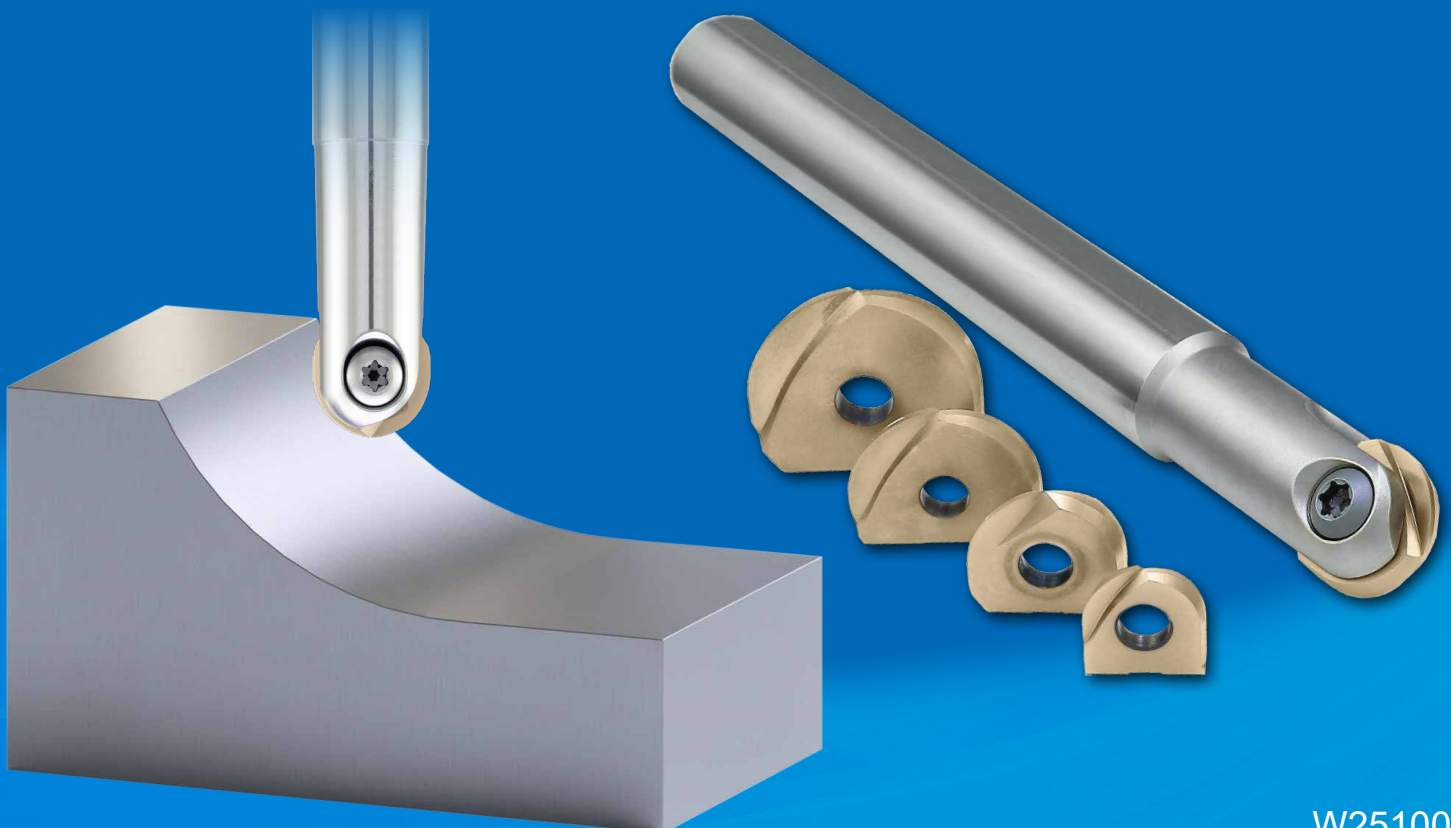


CF21 Series

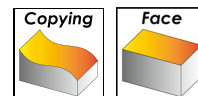
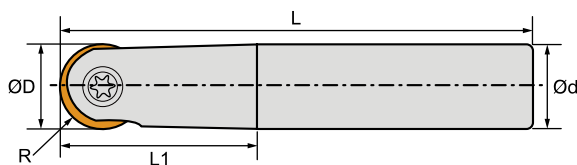
Copy Milling with Ball Nose Inserts

捨棄式仿形銑削刀具

- Replacing long shank solid carbide endmill with better cost saving.
- Use WP32 ball nose inserts include 8mm, 10mm, 12mm, 16mm, 20mm, 25mm, 30mm and 32mm.
- Suitable semi-finish to rough copy milling.
- $\varnothing 8 \sim \varnothing 32\text{mm}$ cutter diameter.
- 捨棄式銑刀取代整體式長柄鎢鋼立銑刀，給您更經濟實惠的選擇
- 使用 WP32 球形銑刀片，尺寸包含 4R, 5R, 6R, 8R, 10R, 12.5R, 15R 及 16R
- 適用於半精加工至粗加工仿形銑削
- $\varnothing 8 \sim \varnothing 32\text{mm}$ 刀桿直徑



CF21E Shank Type 仿形銑刀

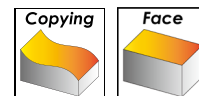
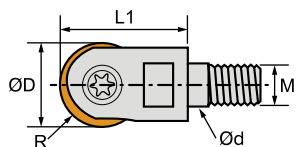


Insert Brand : Winstar

Order No.	R	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICF21E302008100	4R	8	20	100	8	2	WP3208..	IMGR3008	IETL08	●
ICF21E302008101	4R	8	35	100	10	2				●
ICF21E302010100	5R	10	25	100	10	2	WP3210..	IMGR4010	IETL15	●
ICF21E302010150	5R	10	25	150	10	2				●
ICF21E302012150	6R	12	32	150	12	2	WP3212..	IMGR5012	IETL20	●
ICF21E302012200	6R	12	58	200	16	2				●
ICF21E302016150	8R	16	36	150	16	2	WP3216..	IMGR5016	IETL20	●
ICF21E302016200	8R	16	36	200	16	2				●
ICF21E302016201	8R	16	65	200	20	2				●
ICF21E302020150	10R	20	45	150	20	2	WP3220..	IMGR5020	IETL20	●
ICF21E302020200	10R	20	45	200	20	2				●
ICF21E302020201	10R	20	76	200	25	2				●
ICF21E302020250	10R	20	76	250	25	2				●
ICF21E302025200	12.5R	25	45	200	25	2	WP3225..	IMGR6025	IETL30	●
ICF21E302025250	12.5R	25	45	250	25	2				●
ICF21E302025201	12.5R	25	98	200	32	2				●
ICF21E302025251	12.5R	25	98	250	32	2				●
ICF21E302025300	12.5R	25	98	300	32	2				●
ICF21E302030200	15R	30	50	200	32	2	WP3230..	IMGR8030	IETL30	●
ICF21E302030250	15R	30	50	250	32	2				●
ICF21E302030300	15R	30	50	300	32	2				●
ICF21E302032200	16R	32	50	200	32	2	WP3232..	IMGR8030	IETL30	●
ICF21E302032250	16R	32	50	250	32	2				●
ICF21E302032300	16R	32	50	300	32	2				●

● stock ○ by inquiry

CF21M Modular Type 仿形銑刀頭



Insert Brand : Winstar

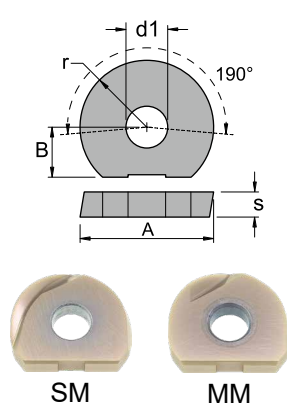
Order No.	R	D	L1	d	M	T	Inserts	 Screw	 Wrench	Stock
ICF21M302008050	4R	8	16	5.5	M5	2	WP3208..	IMGR3008	IETL08	●
ICF21M302010050	5R	10	20	5.5	M5	2	WP3210..	IMGR4010	IETL15	●
ICF21M302012060	6R	12	22	6.5	M6	2	WP3212..	IMGR5012	IETL20	●
ICF21M302012080	6R	12	30	8.5	M8	2				●
ICF21M302016080	8R	16	28	8.5	M8	2	WP3216 ..	IMGR5016	IETL20	●
ICF21M302020100	10R	20	30	10.5	M10	2	WP3220 ..	IMGR5020	IETL20	●
ICF21M302025120	12.5R	25	40	12.5	M12	2	WP3225 ..	IMGR6025	IETL30	●
ICF21M302030160	15R	30	43	17	M16	2	WP3230 ..	IMGR8030	IETL30	●
ICF21M302032160	16R	32	43	17	M16	2	WP3232 ..	IMGR8030	IETL30	●

● stock ○ by inquiry

※ For screw-in type adapter, please refer to Tooling System

Insert Specifications 刀片規格

Insert	Dimensions (mm)					Chipbreaker
	A	B	S	r	d1	
WP3208	8	4	2	4	3	SM, MM
WP3210	10	5	2.5	5	4	SM, MM
WP3212	12	6	2.5	6	5	SM, MM
WP3216	16	6	3	8	5	SM, MM
WP3220	20	6	3	10	5	SM, MM
WP3225	25	9	4	12.5	6	SM, MM
WP3230	30	10	5	15	8	SM, MM
WP3232	32	10	5	16	8	SM, MM



Insert Geometry 刀片幾何

Chipbreaker 斷屑槽	Application 加工特性
 SM	Sharp geometry design for semi-finishing to medium cutting in hardened steel, difficult-to-cut material and alloy steel. 鋒利的刀口設計，適用於硬化鋼、難切削材及合金鋼的半精加工至中加工應用
 MM	General geometry design for medium to rough cutting in hardened steel, difficult-to-cut material and alloy steel. 泛用的刀口設計，適用於硬化鋼、難切削材及合金鋼中加工至粗加工應用

Insert Grade 刀片材質

Grade Type 刀片材質	Color 刀片顏色	Properties 屬性	Application 加工特性	Working Material 加工材質							Industry Area 產業應用範圍
				P	M	K	N	S	H		
CX13TX		● PVD (AlTiSiN) ● High wear resistance ● 高耐磨性	● Finishing machining ● 適用於精加工	○	○	○			○	●	● Mold & Die ● Hardened parts ● 模具產業 ● 硬質零件
CX23TX		● PVD (AlTiSiN) ● Wear resistance ● 耐磨性	● Continuous semi-finishing machining ● For hardened steel is 1st recommended ● 適用於連續穩定半精加工 ● 加工高硬度鋼為第一建議	●	●	●			○	●	● Mold & Die ● Automotive ● Hardened parts ● 模具產業 ● 汽車零件 ● 硬質零件
CX43TX		● PVD (AlTiSiN) ● High impact resistance ● Anti-corrosion ● 高抗衝擊性 ● 抗腐蝕	● Medium to roughing ● Interrupted machining ● For super alloy is 1st recommended ● 適合中至粗加工 ● 適合斷續加工 ● 加工高溫合金為第一建議	●	●				●		● Aerospace ● Medical ● Electronics ● 航太零件 ● 醫療產業 ● 電子零件

Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IWP3208SM13TX	WP32-08-SM-CX13TX	●	●	●		○	●
	IWP3208SM23TX	WP32-08-SM-CX23TX	●	●	●		○	●
	IWP3208MM13TX	WP32-08-MM-CX13TX	●	●	●		○	●
	IWP3208MM23TX	WP32-08-MM-CX23TX	●	●	●		○	●
	IWP3210SM13TX	WP32-10-SM-CX13TX	●	●	●		○	●
	IWP3210SM23TX	WP32-10-SM-CX23TX	●	●	●		○	●
	IWP3210MM13TX	WP32-10-MM-CX13TX	●	●	●		○	●
	IWP3210MM23TX	WP32-10-MM-CX23TX	●	●	●		○	●
	IWP3212SM13TX	WP32-12-SM-CX13TX	●	●	●		○	●
	IWP3212SM23TX	WP32-12-SM-CX23TX	●	●	●		○	●
	IWP3212MM13TX	WP32-12-MM-CX13TX	●	●	●		○	●
	IWP3212MM23TX	WP32-12-MM-CX23TX	●	●	●		○	●
	IWP3216SM13TX	WP32-16-SM-CX13TX	●	●	●		○	●
	IWP3216SM23TX	WP32-16-SM-CX23TX	●	●	●		○	●
	IWP3216MM13TX	WP32-16-MM-CX13TX	●	●	●		○	●
	IWP3216MM23TX	WP32-16-MM-CX23TX	●	●	●		○	●
	IWP3220SM13TX	WP32-20-SM-CX13TX	●	●	●		○	●
	IWP3220SM23TX	WP32-20-SM-CX23TX	●	●	●		○	●
	IWP3220MM13TX	WP32-20-MM-CX13TX	●	●	●		○	●
	IWP3220MM23TX	WP32-20-MM-CX23TX	●	●	●		○	●
	IWP3225SM13TX	WP32-25-SM-CX13TX	●	●	●		○	●
	IWP3225SM23TX	WP32-25-SM-CX23TX	●	●	●		○	●
	IWP3225MM13TX	WP32-25-MM-CX13TX	●	●	●		○	●
	IWP3225MM23TX	WP32-25-MM-CX23TX	●	●	●		○	●
	IWP3230SM13TX	WP32-30-SM-CX13TX	●	●	●		○	●
	IWP3230SM23TX	WP32-30-SM-CX23TX	●	●	●		○	●
	IWP3230MM13TX	WP32-30-MM-CX13TX	●	●	●		○	●
	IWP3230MM23TX	WP32-30-MM-CX23TX	●	●	●		○	●
	IWP3232SM13TX	WP32-32-SM-CX13TX	●	●	●		○	●
	IWP3232SM23TX	WP32-32-SM-CX23TX	●	●	●		○	●
	IWP3232MM13TX	WP32-32-MM-CX13TX	●	●	●		○	●
	IWP3232MM23TX	WP32-32-MM-CX23TX	●	●	●		○	●

※ CX43TX grade is made to order

Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz								ap (D = cutting dia.)
		Ø8	Ø10	Ø12	Ø16	Ø20	Ø25	Ø30	Ø32	
Carbon Steel / Alloy Steel	150 ~ 280	0.15	0.18	0.20	0.25	0.30	0.35	0.40	0.42	0.02×D ~ 0.05×D
Stainless Steel	120 ~ 200	0.12	0.15	0.18	0.20	0.25	0.30	0.35	0.38	0.015×D ~ 0.045×D
Cast Iron	180 ~ 300	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.03×D ~ 0.06×D
Super Alloy	50 ~ 100	0.08	0.10	0.12	0.15	0.18	0.20	0.25	0.28	0.01×D ~ 0.03×D
Hardened Steel	60 ~ 150	0.06	0.08	0.10	0.12	0.15	0.18	0.20	0.25	0.01×D ~ 0.025×D