



TBB Cutting Tool

M2 Series

銑削系列

MILLING TOOLS SERIES

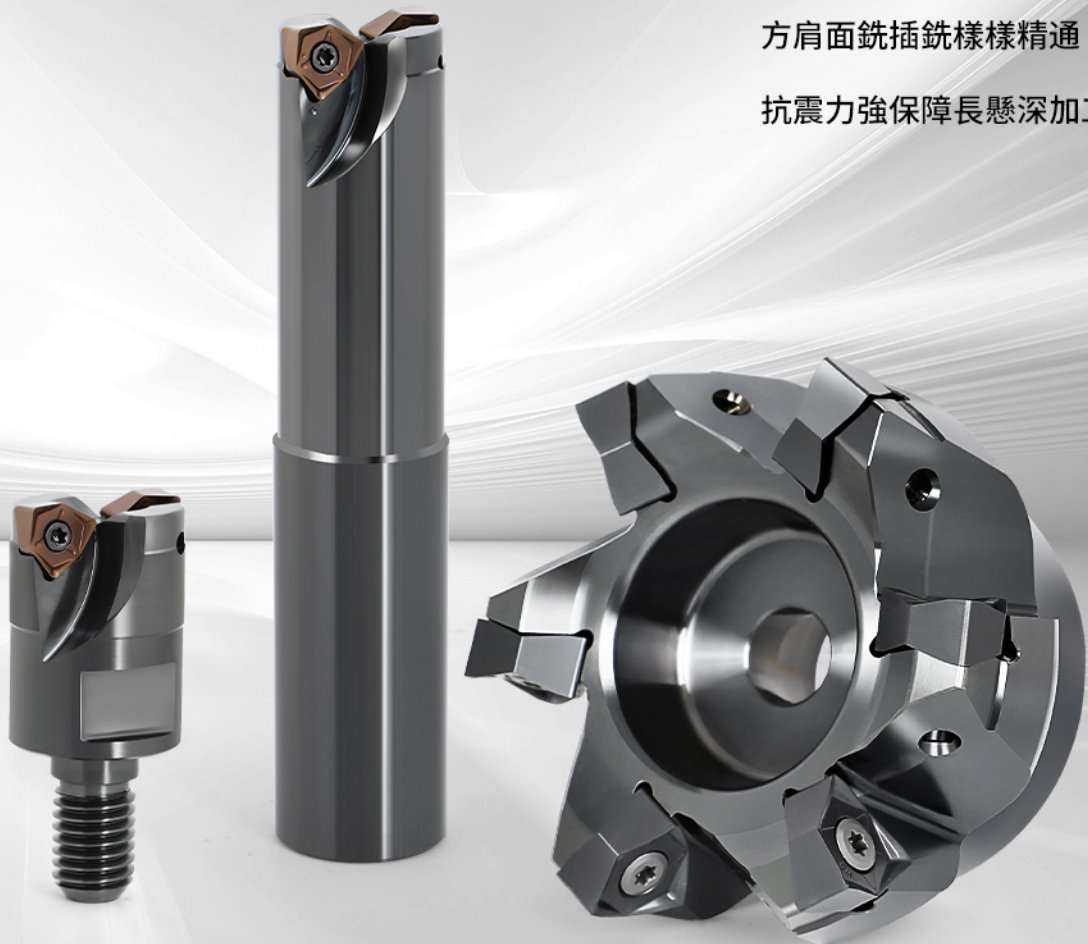
WNMU04 / WNMU05
WNMU06 / WNMU08
ZNMU08
(WNMU.ZNMU)

鋒利切削刃做到低阻力

刀片厚度保證抗崩性好

方肩面銑插銑樣樣精通

抗震力強保障長懸深加工



團隊切削 行家優選

TEAMCUTTING EXPERT PREFERRED

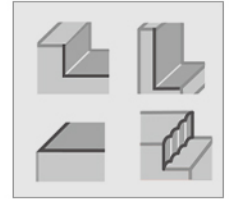
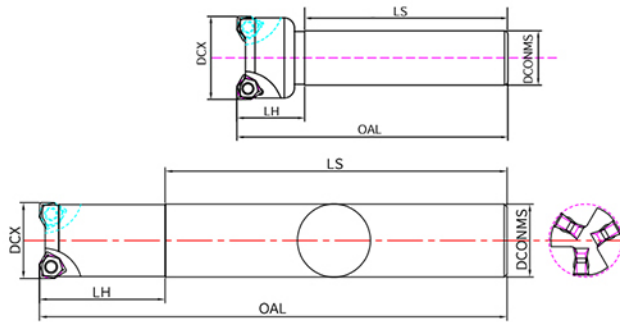
TE90WN04 (WNMU)

6刃雙面低阻力清角銑刀桿

Low Resistance End Mill Cutter



◀ 車銑複合機床
專用刀桿



Designation 型號	CIC 齒數	Dimension (mm)/尺寸							INSERT 刀片
		APMX	DCX	DC	DCONMS	OAL	LH	LS	
TE90WN04-216-16-80-MT	2	4	16	16	16	80	20	60	WNMU04...
TE90WN04-217-16-80-MT	2	4	17	17	16	80	20	60	WNMU04...
TE90WN04-218-16-80-MT	2	4	18	18	16	80	20	60	WNMU04...
TE90WN04-219-16-80-MT	2	4	19	19	16	80	20	60	WNMU04...
TE90WN04-320-16-80-MT	3	4	20	20	16	80	20	60	WNMU04...
TE90WN04-321-32-80-MT	3	4	21	21	16	80	20	60	WNMU04...
TE90WN04-322-16-80-MT	3	4	22	22	16	80	20	60	WNMU04...
TE90WN04-323-16-80-MT	3	4	23	23	16	80	20	60	WNMU04...
TE90WN04-324-16-80-MT	3	4	24	24	16	80	20	60	WNMU04...
TE90WN04-325-16-80-MT	3	4	25	25	16	80	20	60	WNMU04...
TE90WN04-326-16-80-MT	3	4	26	26	16	80	20	60	WNMU04...
TE90WN04-428-16-80-MT	4	4	28	28	16	80	20	60	WNMU04...
TE90WN04-430-16-80-MT	4	4	30	30	16	80	20	60	WNMU04...
TE90WN04-432-16-80-MT	4	4	32	32	16	80	20	60	WNMU04...
TE90WN04-535-16-80-MT	5	4	35	35	16	80	20	60	WNMU04...
TE90WN04-540-16-80-MT	5	4	40	40	16	80	20	60	WNMU04...
TE90WN04-216-16-120	2	4	16	16	16	120	35	85	WNMU04...
TE90WN04-216-16-160	2	4	16	16	16	160	35	125	WNMU04...
TE90WN04-216-16-200	2	4	16	16	16	200	35	165	WNMU04...
TE90WN04-217-16-120	2	4	17	17	16	120	17	103	WNMU04...
TE90WN04-217-16-160	2	4	17	17	16	160	17	143	WNMU04...
TE90WN04-217-16-200	2	4	17	17	16	200	22	178	WNMU04...
TE90WN04-320-20-120	3	4	20	20	20	120	44	76	WNMU04...
TE90WN04-320-20-160	3	4	20	20	20	160	44	116	WNMU04...
TE90WN04-320-20-200	3	4	20	20	20	200	44	156	WNMU04...
TE90WN04-321-20-120	3	4	21	21	20	120	21	99	WNMU04...
TE90WN04-321-20-160	3	4	21	21	20	160	21	139	WNMU04...
TE90WN04-321-20-200	3	4	21	21	20	200	22	178	WNMU04...
TE90WN04-325-25-120	3	4	25	25	25	120	55	65	WNMU04...
TE90WN04-325-25-160	3	4	25	25	25	160	55	105	WNMU04...
TE90WN04-325-25-200	3	4	25	25	25	200	55	145	WNMU04...
TE90WN04-326-25-120	3	4	26	26	25	120	26	94	WNMU04...
TE90WN04-326-25-160	3	4	26	26	25	160	26	134	WNMU04...
TE90WN04-326-25-200	3	4	26	26	25	200	26	174	WNMU04...
TE90WN04-432-32-120	4	4	32	32	32	120	64	56	WNMU04...
TE90WN04-432-32-160	4	4	32	32	32	160	64	96	WNMU04...
TE90WN04-432-32-200	4	4	32	32	32	200	70	130	WNMU04...
TE90WN04-433-32-120	4	4	33	33	32	120	33	87	WNMU04...
TE90WN04-433-32-160	4	4	33	33	32	160	33	127	WNMU04...
TE90WN04-433-32-200	4	4	33	33	32	200	33	167	WNMU04...

刀桿型號加MT的刀桿為車銑複合機床專用刀桿

刀片相關資訊請參照第M2-05頁

切削參數請參照第M2-07頁

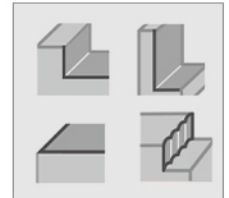
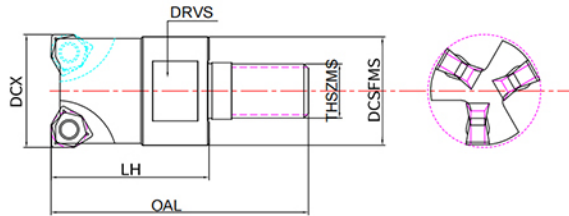
TM90WN04 (WNMU)

6刃雙面低阻力清角鎖牙頭

Low Resistance Modular Head

WNMU04系列

WNMU04 Series



Designation 型號	CICT 齒數	Dimension (mm)/尺寸							THSZMS 螺紋規格	INSERT 刀片
		APMX	DCX	DC	DCSFMS	OAL	LH	DRVS		
TM90WN04-216-M08	2	4	16	16	15	43	25	12	M8xP1.25	WNMU04...
TM90WN04-217-M08	2	4	17	17	15	43	25	12	M8xP1.25	WNMU04...
TM90WN04-320-M10	3	4	20	20	19	49	29	15	M10xP1.5	WNMU04...
TM90WN04-321-M10	3	4	21	21	19	49	29	15	M10xP1.5	WNMU04...
TM90WN04-325-M12	3	4	25	25	24	57	35	19	M12xP1.75	WNMU04...
TM90WN04-326-M12	3	4	26	26	24	57	35	19	M12xP1.75	WNMU04...
TM90WN04-432-M16	4	4	32	32	31	63	38	24	M16xP2.0	WNMU04...
TM90WN04-433-M16	4	4	33	33	31	63	38	24	M16xP2.0	WNMU04...
TM90WN04-535-M16	5	4	35	35	31	63	38	24	M16xP2.0	WNMU04...

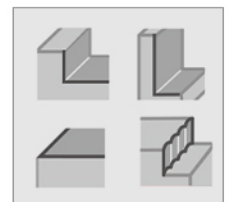
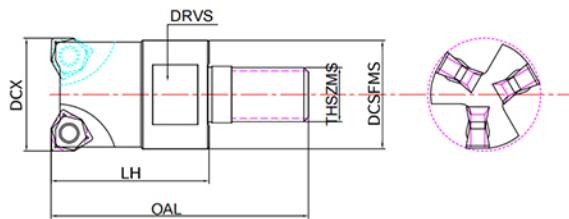
TM90WN05 (WNMU)

6刃雙面刀片90度低阻力鎖牙銑刀頭

Low Resistance Modular heads

WNMU05系列

WNMU05 Series



Designation 型號	CICT 齒數	Dimension (mm)/尺寸							Angel 角度	INSERT 刀片
		APMX	DCX	LH	OAL	DCSFMS	DRVS	THSZMS		
TM90WN05-225-M12	2	5	25	35	57	24	19	M12	90°	WNMU05...
TM90WN05-226-M12	2	5	26	36	57	24	19	M12	90°	WNMU05...
TM90WN05-332-M16	3	5	32	38	63	31	24	M16	90°	WNMU05...
TM90WN05-333-M16	3	5	33	38	63	31	24	M16	90°	WNMU05...
TM90WN05-435-M16	4	5	35	38	63	31	24	M16	90°	WNMU05...

刀片相關資訊請參照第M2-05頁

切削參數請參照第M2-07頁

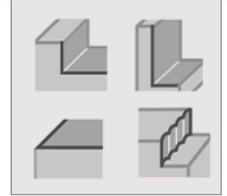
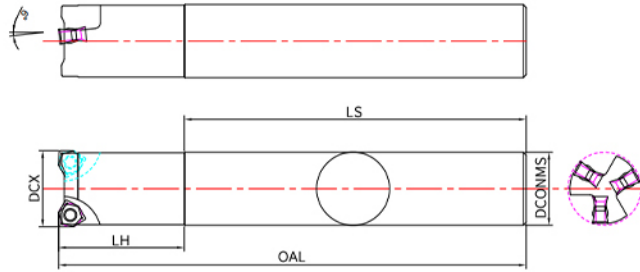
TE90WN05 (WNMU)

6刃雙面刀片90度低阻力銑刀桿

Low Resistance End Mills

WNMU05系列

WNMU05 Series



Designation 型號	CICT 齒數	Dimension (mm)/尺寸							Angel 角度	INSERT 刀片
		APMX	DCX	DC	DCONMS	OAL	LH	LS		
TE90WN05-225-25-120	2	5	25	25	25	120	55	65	90°	WNMU05...
TE90WN05-225-25-160	2	5	25	25	25	160	55	105	90°	WNMU05...
TE90WN05-226-25-120	2	5	26	26	25	120	26	94	90°	WNMU05...
TE90WN05-226-25-160	2	5	26	26	25	160	26	134	90°	WNMU05...
TE90WN05-226-25-200	2	5	26	26	25	200	26	174	90°	WNMU05...
TE90WN05-332-32-160	3	5	32	32	32	160	70	90	90°	WNMU05...
TE90WN05-332-32-200	3	5	32	32	32	200	70	130	90°	WNMU05...
TE90WN05-333-32-160	3	5	33	33	32	160	33	127	90°	WNMU05...
TE90WN05-333-32-200	3	5	33	33	32	200	33	167	90°	WNMU05...

TF90WN05 (WNMU)

6刃雙面刀片90度低阻力面銑刀盤

Low Resistance Face Mills

WNMU05系列

WNMU05 Series

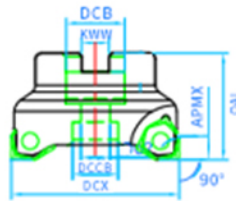
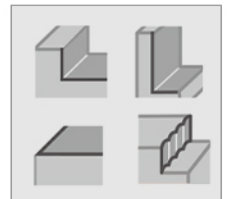


Fig.1



Designation 型號	CICT 齒數	Dimension (mm)/尺寸							Angel 角度	INSERT 刀片
		APMX	DCX	KWW	DCB	OAL	DCCB	Type		
TF90WN05-440-16	5	5	40	8.4	16	40	14	Fig.1	90°	WNMU05...
TF90WN05-550-22	5	5	50	10.4	22	40	17	Fig.1	90°	WNMU05...
TF90WN05-663-22	6	5	63	10.4	22	40	17	Fig.1	90°	WNMU05...
TF90WN05-880-27	8	5	80	12.4	27	50	34	Fig.1	90°	WNMU05...

可插銑，最大橫切深 (ae) 5mm

刀片相關資訊請參照第M2-05頁

切削參數請參照第M2-07頁

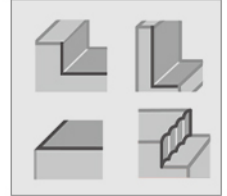
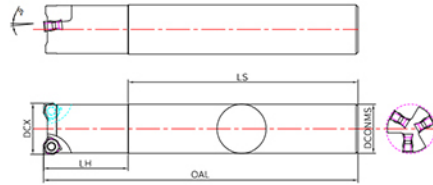
TE90WN06 (WNMU)

6刃雙面低阻力清角銑刀桿

Low Resistance End Mill Cutter

WNMU06系列

WNMU06 Series



Designation 型號	CICT 齒數	Dimension (mm)/尺寸							INSERT 刀片	
		APMX	DCX	DC	DCONMS	OAL	LH	LS		
TE90WN06-225-25-120	2	6	25	25	25	120	55	65	WNMU06...	*
TE90WN06-225-25-160	2	6	25	25	25	160	55	105	WNMU06...	*
TE90WN06-225-25-200	2	6	25	25	25	200	55	145	WNMU06...	*
TE90WN06-226-25-160	2	6	26	26	25	160	26	134	WNMU06...	*
TE90WN06-226-25-200	2	6	26	26	25	200	26	174	WNMU06...	*
TE90WN06-332-32-160	3	6	32	32	32	160	70	90	WNMU06...	*
TE90WN06-332-32-200	3	6	32	32	32	200	70	130	WNMU06...	*
TE90WN06-333-32-160	3	6	33	33	32	160	33	127	WNMU06...	*
TE90WN06-333-32-200	3	6	33	33	32	200	33	167	WNMU06...	*

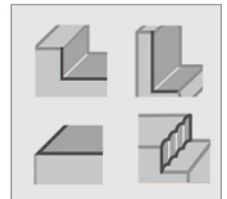
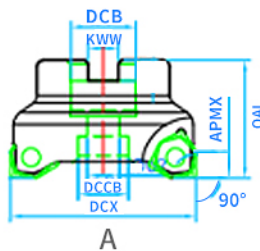
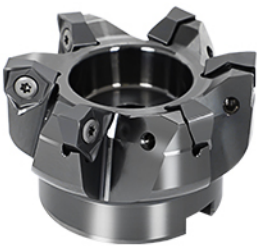
TF90WN06 (WNMU)

6刃雙面低阻力清角銑刀盤

Low Resistance Milling Cutter

WNMU06系列

WNMU06 Series



Designation 型號	CICT 齒數	Dimension (mm)/尺寸							Angel 角度	INSERT 刀片
		APMX	DCX	DCB	OAL	DCCB	KWW	Type		
TF90WN06-440-16	4	6	40	16	40	14	8.4	A	90°	WNMU06...
TF90WN06-550-22	5	6	50	22	40	17	10.4	A	90°	WNMU06...
TF90WN06-663-22	6	6	63	22	40	17	10.4	A	90°	WNMU06...
TF90WN06-880-27	8	6	80	27	50	34	12.4	A	90°	WNMU06...

刀片相關資訊請參照第M2-06頁

切削參數請參照第M2-07頁

TF90WN08 (WNMU)

6刃雙面刀片90度低阻力面銑刀盤

Low Resistance Face Mills

WNMU08系列

WNMU08 Series

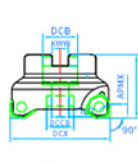


Fig.1

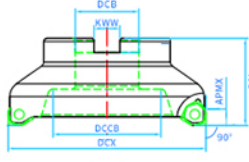


Fig.2

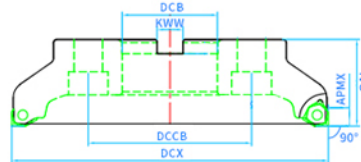
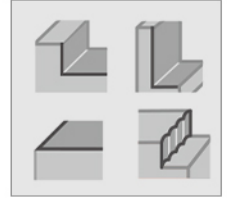


Fig.3



Designation 型號	CIC 齒數	Dimension (mm)/尺寸							Angel 角度	INSERT 刀片
		APMX	DCX	KWW	DCB	OAL	DCCB	Type		
TF90WN08-450-22	4	8	50	10.4	22	40	17	Fig.1	90°	WNMU08...
TF90WN08-563-22	5	8	63	10.4	22	40	17	Fig.1	90°	WNMU08...
TF90WN08-680-27	6	8	80	12.4	27	50	34	Fig.1	90°	WNMU08...
TF90WN08-7100-32	7	8	100	14.4	32	50	42	Fig.1	90°	WNMU08...
TF90WN08-8125-40	8	8	125	16.4	40	63	68	Fig.2	90°	WNMU08...
TF90WN08-10160-40	10	8	160	16.4	40	63	103	Fig.2	90°	WNMU08...
TF90WN08-12200-60	12	8	200	25.7	60	63	101.6	Fig.3	90°	WNMU08...
TF90WN08-14250-60	14	8	250	25.7	60	63	101.6	Fig.3	90°	WNMU08...

WNMU040304 (WNMU)

6刃雙面低阻力清角銑刀片

Low Resistance Milling Inserts

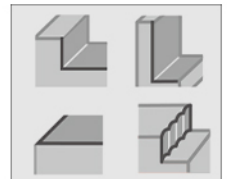
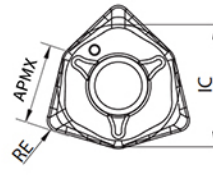
WNMU04系列

WNMU04 Series



P 鋼
M 不鏽鋼
S 鈦、鎳

K 鑄鐵



Designation 型號	Dimension (mm)/尺寸						Grade 材質	Use 用途
	IC/大小	S/厚度	RE/圓角	APMX/最大切深	Screw/螺絲	Wrench/扳手		
WNMU040304-GM	6.70	3.31	0.4	4	TSA-25060-1	TWA-T8	TC3320	P *
							TC5520	M S *
WNMU040304EM	6.70	3.31	0.4	4	TSA-25060-1	TWA-T8	TC9125H	P K

可插銑，最大橫切深 (ae) 4mm

銑刀桿相關資訊請參照第M2-01頁，鎖牙銑刀頭相關資訊請參照第M2-02頁

切削參數請參照第M2-07頁

WNMU050408 (WNMU)

6刃雙面低阻力清角銑刀片

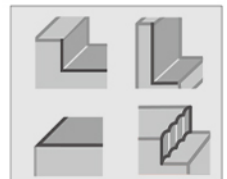
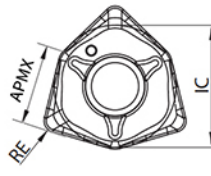
Low Resistance Face Mill Inserts

WNMU05系列

WNMU05 Series



P 鋼
M 不鏽鋼
S 鈦、鎳



Designation 型號	Dimension (mm)/尺寸						Grade 材質	Use 用途
	IC/大小	S/厚度	RE/圓角	APMX/最大切深	Screw/螺絲	Wrench/扳手		
WNMU050408-GM	8.8	4.2	0.8	5	TSA-30064-1	TWA-T8	TC3320	P *
							TC5520	M S *

可插銑，最大橫切深 (ae) 5mm

鎖牙銑刀頭相關資訊請參照第M2-02頁，銑刀桿、刀盤相關資訊請參照第M2-03頁

切削參數請參照第M2-07頁

WNMU060408 (WNMU)

6刃雙面低阻力清角銑刀片

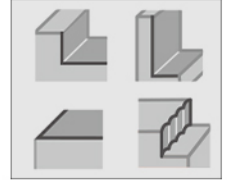
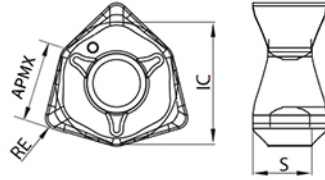
Low Resistance Face Mill Inserts

WNMU06系列

WNMU06 Series



P 鋼
M 不鏽鋼
S 鈦、鎳



Designation 型號	Dimension (mm)/尺寸						Grade 材質	Use 用途
	IC/大小	S/厚度	RE/圓角	APMX/最大切深	Screw/螺絲	Wrench/扳手		
WNMU060408-GM	11.66	4	0.8	6	TSA-35100-1	TWA-T15	TC3320	P *
							TC5520	M S *

可插銑，最大橫切深 (ae) 6mm

銑刀桿、刀盤相關資訊請參照第M2-04頁

切削參數請參照第M2-07頁

WNMU080608 (WNMU)

6刃雙面低阻力清角銑刀片

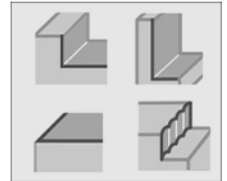
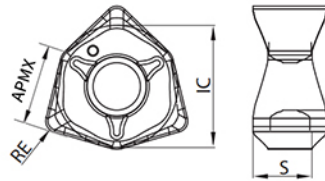
Low Resistance Face Mill Inserts

WNMU08系列

WNMU08 Series



P 鋼
M 不鏽鋼
S 鈦、鎳



Designation 型號	Dimension (mm)/尺寸						Grade 材質	Use 用途
	IC/大小	S/厚度	RE/圓角	APMX/最大切深	Screw/螺絲	Wrench/扳手		
WNMU080608-GM	14.0	6.7	0.8	8	TSA-50120-1	TWA-T15	TC3320	P *
							TC5520	M S *

可插銑，最大橫切深 (ae) 8mm

刀盤相關資訊請參照第M2-05頁

切削參數請參照第M2-07頁

WNMU040304/050408/060408 (WNMU)

6刃雙面低阻力銑刀片

Low Resistance Face Mill Inserts

WNMU04/05/06系列

WNMU04/05/06 Series

切削參數 / Cutting Conditions

ISO	Material/工件材料	Hardness/硬度	Vc (m/min)/切削速度	fz (mm/t)/每齒進給量	
P	碳鋼 S45C, S55C ... C45, C55 ...	-300HB	120-250	0.1-0.25	
	合金鋼 SCM440, SCr415 ... 42CrMo4 ...	-300HB	100-220	0.1-0.2	
	預硬化鋼 NAK80, PX5 ...	30-40HRC	80-180	0.1-0.2	
M	不銹鋼 SUS304, SUS316 ... X5CrNi18-9 X5CrNiMo17-12-2 ...	-200HB	100-250	0.1-0.2	
K	灰鑄鐵 FC250, FC300 ... 250, 300 ...	150-250HB	120-250	0.1-0.25	
	球墨鑄鐵 FCD400 ... 400-15, 600-3 ...	150-250HB	100-200	0.1-0.2	
S	鈦合金 Ti-6Al-4V ...	-40HRC	20-50	0.1-0.2	
	耐熱合金 Inconel, Hastelloy...	-40HRC	20-50	0.1-0.2	
H	淬火鋼	SKD61 ... X40CrMoV5-1 ...	40-50HRC	80-150	0.1-0.2
		SKD11 ... X153CrMoV12...	50-60HRC	50-70	0.1-0.2

斜降、螺旋加工時，被切削工件與刀片後斜角發生干涉，故無法加工。

可插銑，最大橫切深 (ae)：WNMU040304=4mm, WNMU050408=5mm, WNMU060408=6mm

WNMU080608 (WNMU)

6刃雙面低阻力銑刀片

Low Resistance Face Mill Inserts

WNMU08系列

WNMU08 Series

切削參數 / Cutting Conditions

ISO	Material/工件材料	Hardness/硬度	Vc (m/min)/切削速度	fz (mm/t)/每齒進給量	
P	碳鋼 S45C, S55C ... C45, C55 ...	-300HB	120-250	0.1-0.3	
	合金鋼 SCM440, SCr415 ... 42CrMo4 ...	-300HB	100-220	0.1-0.3	
	預硬化鋼 NAK80, PX5 ...	30-40HRC	80-180	0.1-0.25	
M	不銹鋼 SUS304, SUS316 ... X5CrNi18-9 X5CrNiMo17-12-2 ...	-200HB	100-250	0.1-0.25	
K	灰鑄鐵 FC250, FC300 ... 250, 300 ...	150-250HB	120-250	0.1-0.3	
	球墨鑄鐵 FCD400 ... 400-15, 600-3 ...	150-250HB	100-200	0.1-0.3	
S	鈦合金 Ti-6Al-4V ...	-40HRC	20-50	0.1-0.2	
	耐熱合金 Inconel, Hastelloy...	-40HRC	20-50	0.1-0.2	
H	淬火鋼	SKD61 ... X40CrMoV5-1 ...	40-50HRC	80-150	0.1-0.2
		SKD11 ... X153CrMoV12...	50-60HRC	50-70	0.1-0.2

斜降、螺旋加工時，被切削工件與刀片後斜角發生干涉，故無法加工。

可插銑，最大橫切深 (ae) 8mm

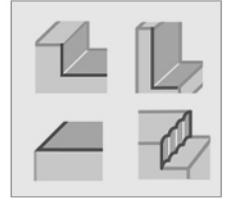
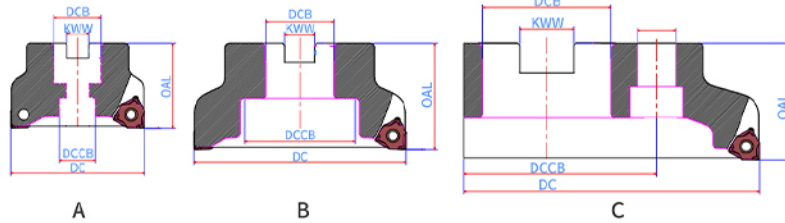
TF90ZN08 (ZNMU)

6刃雙面低阻力清角銑刀盤

Low Resistance Milling Cutter

ZNMU08系列

ZNMU08 Series



Designation 型號	CICT 齒數	Dimension (mm)/尺寸								Angel 角度	INSERT 刀片
		APMX	DC	DCB	OAL	DCCB	KWW	Type	出水孔		
TF90ZN08-450-22	4	7.3	50	22	40	17	10.4	A	NO	90°	ZNMU08...
TF90ZN08-450-22-A	4	7.3	50	22	40	17	10.4	A	YES	90°	ZNMU08...
TF90ZN08-563-22	5	7.3	63	22	40	17	10.4	A	NO	90°	ZNMU08...
TF90ZN08-563-22-A	5	7.3	63	22	40	17	10.4	A	YES	90°	ZNMU08...
TF90ZN08-680-27	6	7.3	80	27	50	34	12.4	A	NO	90°	ZNMU08...
TF90ZN08-680-27-A	6	7.3	80	27	50	34	12.4	A	YES	90°	ZNMU08...
TF90ZN08-7100-32	7	7.3	100	32	50	42	14.4	A	NO	90°	ZNMU08...
TF90ZN08-7100-32-A	7	7.3	100	32	50	42	14.4	A	YES	90°	ZNMU08...
TF90ZN08-8125-40	8	7.3	125	40	55	50	16.4	B	NO	90°	ZNMU08...
TF90ZN08-8125-40-A	8	7.3	125	40	55	50	16.4	B	YES	90°	ZNMU08...
TF90ZN08-10160-40	10	7.3	160	40	55	80	16.4	B	NO	90°	ZNMU08...
TF90ZN08-10160-40-A	10	7.3	160	40	55	80	16.4	B	YES	90°	ZNMU08...
TF90ZN08-12200-60	12	7.3	200	60	55	101.6	25.8	C	NO	90°	ZNMU08...
TF90ZN08-14250-60	14	7.3	250	60	55	101.6	25.8	C	NO	90°	ZNMU08...

ZNMU0806 (ZNMU)

6刃雙面低阻力清角銑刀片

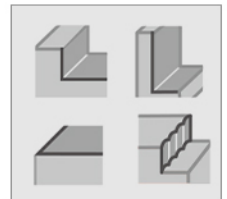
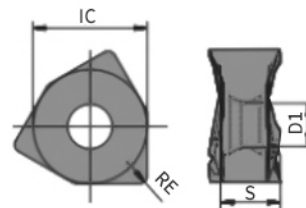
Milling Inserts

ZNMU08系列

ZNMU08 Series



P 鋼
M 不鏽鋼
S 鈦、鎳



Designation 型號	Dimension (mm)/尺寸							Grade 材質	Use 用途
	IC/大小	S/厚度	RE/圓角	APMX/最大切深	D1/螺絲孔徑	Screw/螺絲	Wrench/扳手		
ZNMU080608-GM	12	6.35	0.8	7.3	4.60	TSA-40100-1	TWA-T15	TC3320 TC5520	P M S

刀片相關資訊請參照第M2-1-01頁

刀盤相關資訊請參照第M2-1-01頁

ZNMU080608 (ZNMU)



TBB Cutting Tool

6刃雙面低阻力銑刀片

Low Resistance Face Mill Inserts

ZNMU08系列

ZNMU08 Series

切削參數 / Cutting Conditions

ISO	Material/工件材料	Hardness/硬度	Vc (m/min)/切削速度	fz (mm/t)/每齒進給量	
P	碳鋼 S45C, S55C ... C45, C55 ...	-300HB	120-250	0.1-0.3	
	合金鋼 SCM440, SCr415 ... 42CrMo4 ...	-300HB	100-220	0.1-0.3	
	預硬化鋼 NAK80, PX5 ...	30-40HRC	80-180	0.1-0.25	
M	不銹鋼 SUS304, SUS316 ... X5CrNi18-9 X5CrNiMo17-12-2 ...	-200HB	100-250	0.1-0.25	
K	灰鑄鐵 FC250, FC300 ... 250, 300 ...	150-250HB	120-250	0.1-0.3	
	球墨鑄鐵 FCD400 ... 400-15, 600-3 ...	150-250HB	100-200	0.1-0.3	
S	鈦合金 Ti-6Al-4V ...	-40HRC	20-50	0.1-0.2	
	耐熱合金 Inconel, Hastelloy...	-40HRC	20-50	0.1-0.2	
H	淬火鋼	SKD61 ... X40CrMoV5-1 ...	40-50HRC	80-150	0.1-0.2
		SKD11 ... X153CrMoV12...	50-60HRC	50-70	0.1-0.2

斜降、螺旋加工時，被切削工件與刀片後斜角發生干涉，故無法加工。

可插銑，最大橫切深 (ae) 7mm