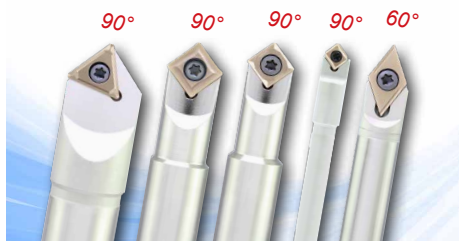
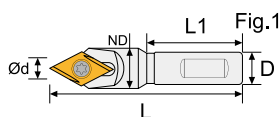
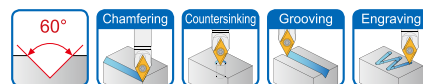


**DTS Series**



- Use DCEX, SCGX, SCMX, SDMX, TCMX inserts.
- Engraving, chamfering, countersinking, grooving and spotting functions in one tool.
- 使用 DCEX, SCMX 或 TCMX 銑刀片
- 一種刀具搞定雕刻、倒角、開槽和定位等功能

**DTS60 - Milling Tools** 雕刻倒角銑刀



DTS 60 - DCEX11T3

Insert Brand 建議刀片 : Winstar

Order No. 訂購編碼	D	ND	L	L1	Fig	Insert	Screw	Wrench	Stock
IDTS1006006011	10	12	60	30	1	DCEX11T3	ITS3520	ITK15	●
IDTS1210006011	12	12	100	-	2				●

● stock ○ by inquiry

**Recommended Cutting Conditions** 建議切削數據

**DTS 60 Chamfering / Countersinking**

Material	Vc (m/min)	fr (mm/rev)
Carbon steel	12 ~ 180	0.05 ~ 0.15
Alloy steel	12 ~ 180	0.05 ~ 0.15
Stainless steel	12 ~ 180	0.05 ~ 0.15
Cast iron	12 ~ 180	0.05 ~ 0.15
Aluminum	12 ~ 180	0.10 ~ 0.20
Hardened steel	12 ~ 180	0.03 ~ 0.10

**DTS 60 Grooving / Engraving**



Material	Vc (m/min)	fr (mm/rev)
Carbon steel	10 ~ 170	0.005 ~ 0.05
Alloy steel	10 ~ 170	0.005 ~ 0.03
Stainless steel	10 ~ 170	0.005 ~ 0.05
Cast iron	10 ~ 170	0.005 ~ 0.03
Aluminum	10 ~ 170	0.005 ~ 0.08
Hardened steel	10 ~ 170	0.005 ~ 0.02

**DTS 60 Cutting Depth of Passes**

No. of Passes	ap of one pass (mm)					
	Aluminum	Cast iron	Carbon steel	Alloy steel	Stainless steel	Hardened steel
1	1.0	0.8	0.8	0.6	0.5	0.2
2	0.8	0.7	0.6	0.5	0.4	0.2
3	0.2	0.3	0.3	0.3	0.3	0.15
4		0.2	0.2	0.3	0.3	0.15
5			0.1	0.2	0.2	0.1
6				0.1	0.2	0.1
7					0.1	0.1

※ Max ap is 2mm

**Insert Designation** 刀片型號

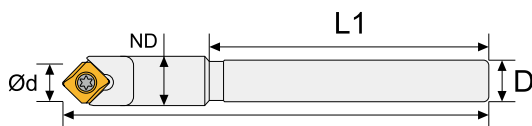
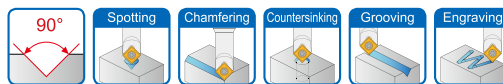
Insert	Order No. 訂購編碼	Designation	r	Engraving Ød	P	M	K	N	S	H
	IDCEX11T301SG32HS	DCEX11T301-SG-CX32HS	0.1	0.2 ~ 1	●	●	●	●	●	
	IDCEX11T302SG32HS	DCEX11T302-SG-CX32HS	0.2	0.4 ~ 2	●	●	●	●	●	
	IDCEX11T304SG32HS	DCEX11T304-SG-CX32HS	0.4	0.8 ~ 3	●	●	●	●	●	
	IDCEX11T30132HS	DCEX11T301-CX32HS	0.1	0.8 ~ 3	●	●	●		●	●
	IDCEX11T30232HS	DCEX11T302-CX32HS	0.2	0.8 ~ 3	●	●	●		●	●
	IDCEX11T30432HS	DCEX11T304-CX32HS	0.4	0.8 ~ 3	●	●	●		●	●
	IDCEX11T30832HS	DCEX11T308-CX32HS	0.8	0.8 ~ 3	●	●	●		●	●

Indexable Milling

**Engraving / Chamfering - DTS90**

雕刻倒角銑刀

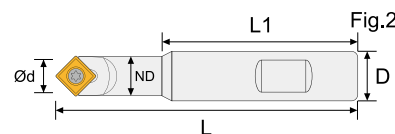
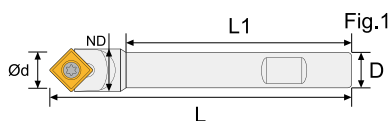
**DTS90 - Milling Tools** 雕刻倒角銑刀



DTS90 - SDMX05T1 (for small lathe 適用於小型車床)

Insert Brand 建議刀片 : Winstar

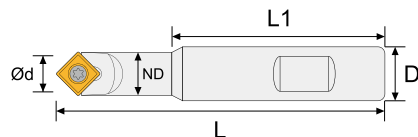
Order No. 訂購編碼	D	L	ND	L1	Spotting $\varnothing d$	Engraving $\varnothing d$	Insert	Screw	Wrench	Stock
IDTS0604009005	6	40	7	20	1 ~ 5	0.8 ~ 1.5	SDMX05T1	ITS1801	ITK06	●
IDTS0606009005	6	60	7	40						●



DTS90 - SCGX09T3, SCM09T3

Insert Brand 建議刀片 : Winstar

Order No. 訂購編碼	D	L	ND	L1	Fig	Spotting $\varnothing d$	Engraving $\varnothing d$	Insert	Screw	Wrench	Stock
IDTS1010009009	10	100	12.2	71	1	2 ~ 11	0.8 ~ 2.5	SCGX09T3 SCM09T3	ITS3520	ITK15	●
IDTS1210009009	12	100	12.2	71							●
IDTS1610009009	16	100	12.2	71	2						●
IDTS1613009009	16	130	12.2	101							●

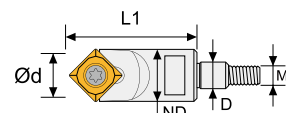


DTS90 - SDMX11T3

Insert Brand 建議刀片 : Winstar

Order No. 訂購編碼	D	L	ND	L1	Spotting $\varnothing d$	Engraving $\varnothing d$	Insert	Screw	Wrench	Stock
IDTS1610009011	16	100	14.1	71	3 ~ 14	1.6 ~ 4.0	SDMX11T3	ITS3521	ITK15	●

**DTS90 - Modular Milling Heads** 雕刻倒角銑刀頭



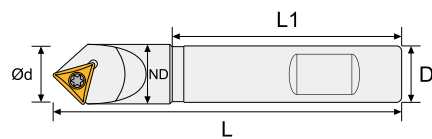
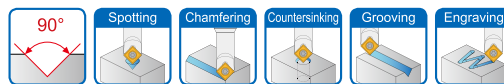
Insert Brand 建議刀片 : Winstar

Order No. 訂購編碼	L1	ND	D	M	Spotting $\varnothing d$	Engraving $\varnothing d$	Insert	Screw	Wrench	Stock
IDTSM603009009	30	12.4	6.5	M6	2 ~ 11	0.8 ~ 2.5	SCM09T3	ITS3520	ITK15	○

● stock ○ by inquiry

※ For screw-in type adapter, please refer to Tooling System 搭配鎖牙式刀桿, 請參考刀具系統

DTS90 - Milling Tools 雕刻倒角銑刀



DTS90 - TCMX16T3

Insert Brand 建議刀片 : Winstar

Order No. 訂購編碼	D	L	ND	L1	Spotting Ød	Engraving Ød	Insert	Screw	Wrench	Stock
IDTS2012009016	20	120	21.2	78	3 ~ 20	1.6 ~ 4.0	TCMX16T3	ITS3521	ITK15	●

● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

DTS 90 Spotting

Material	Vc (m/min)		Fr (mm/rev)	
	Ød = 2 ~ 4.9 mm	Ød ≥ 5 mm	Ød = 2 ~ 4.9 mm	Ød ≥ 5 mm
Carbon steel	60 ~ 120	90 ~ 220	0.04 ~ 0.08	0.06 ~ 0.10
Alloy steel	50 ~ 100	75 ~ 180	0.03 ~ 0.06	0.05 ~ 0.08
Stainless steel	30 ~ 60	45 ~ 120	0.02 ~ 0.04	0.04 ~ 0.06
Cast iron	40 ~ 80	60 ~ 130	0.04 ~ 0.08	0.06 ~ 0.10
Hardened steel	20 ~ 40	30 ~ 60	0.02 ~ 0.04	0.04 ~ 0.08








DTS 90 Chamfering / Countersinking

Material	Vc (m/min)	Fr (mm/rev)
Carbon steel	60 ~ 270	0.15 ~ 0.24
Alloy steel	50 ~ 220	0.12 ~ 0.20
Stainless steel	35 ~ 120	0.10 ~ 0.20
Cast iron	60 ~ 220	0.15 ~ 0.25
Hardened steel	20 ~ 60	0.03 ~ 0.08

DTS 90 Grooving / Engraving

Material	Vc (m/min)	Fr (mm/rev)
Carbon steel	40 ~ 140	0.12 ~ 0.18
Alloy steel	35 ~ 120	0.10 ~ 0.14
Stainless steel	25 ~ 70	0.08 ~ 0.12
Cast iron	30 ~ 100	0.12 ~ 0.18
Hardened steel	20 ~ 50	0.02 ~ 0.04

## Insert Designation 刀片型號

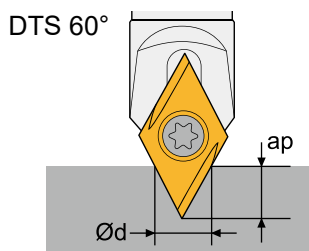
Insert	Order No. 訂購編碼	Designation	r	Spotting Ød	Engraving Ød	P	M	K	N	S	H
	ISCX09T304AG10	SCGX09T304-AG-CX10	0.4	2 ~ 11	0.8 ~ 2.5				●		
	ISCX09T304FG13TX	SCGX09T304-FG-CX13TX	0.4	2 ~ 11	0.8 ~ 2.5	●	●	●	○	●	●
	ISCMX09T304SM32HS	SCMX09T304-SM-CX32HS	0.4	2 ~ 11	0.8 ~ 2.5	●	●	●	○	●	○
	ISDMX05T104FG13TX	SDMX05T104-FG-CX13TX	0.4	1 ~ 5	0.8 ~ 1.5	●	●	●	○	●	●
	ISDMX05T104FG33TX	SDMX05T104-FG-CX33TX	0.4	1 ~ 5	0.8 ~ 1.5	●	●	●	○	●	●
	ISDMX11T308SG33TX	SDMX11T308-SG-CX33TX	0.8	3 ~ 14	1.6 ~ 4.0	●	●	●		●	●
	ITCMX16T308SM32HS	TCMX16T308-SM-CX32HS	0.8	3 ~ 20	1.6 ~ 4.0	●	●	●	○	●	●

How to calculate  $\varnothing d$ , RPM and Feed 如何計算  $\varnothing d$ , RPM 和 Feed

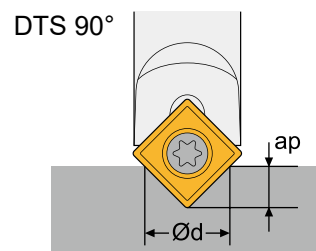
Formula :

$$RPM = \frac{V_c \times 1000}{\varnothing d \times \pi}$$

$$Feed = RPM \times fr$$



$$\varnothing d \approx (0.577 \times (ap + r) + 0.05) \times 2$$



$$\varnothing d \approx (0.4r + ap + 0.05) \times 2$$

EX :

Working Material : Cast iron

Insert : SCGX09T304

Application : 90° Spotting

ap : 2.5mm

$$\varnothing d = (0.4r + ap + 0.05) \times 2 = (0.4 \times 0.4 + 2.5 + 0.05) \times 2 = 5.42 \text{ mm}$$

Reference conditions table get  $V_c \approx 85 \text{ m/min}$  and  $fr \approx 0.075 \text{ mm/rev}$

$$RPM = (V_c \times 1000) / (\varnothing d \times \pi) = (85 \times 1000) / (5.42 \times \pi) \approx 5000$$

$$Feed = RPM \times fr = 5000 \times 0.075 = 375 \text{ mm/min}$$

Working Demonstration 加工實例



Cutting parameter	
Tools	DTS 90° with SCMX09T304-SP CX32HS
Material	Cast Iron
Coolant	Dry
Application	Spotting
$V_c$	85 m/min
S	4800 rpm
Feed	360 mm/min
ap	2.5 mm