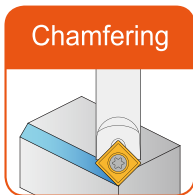
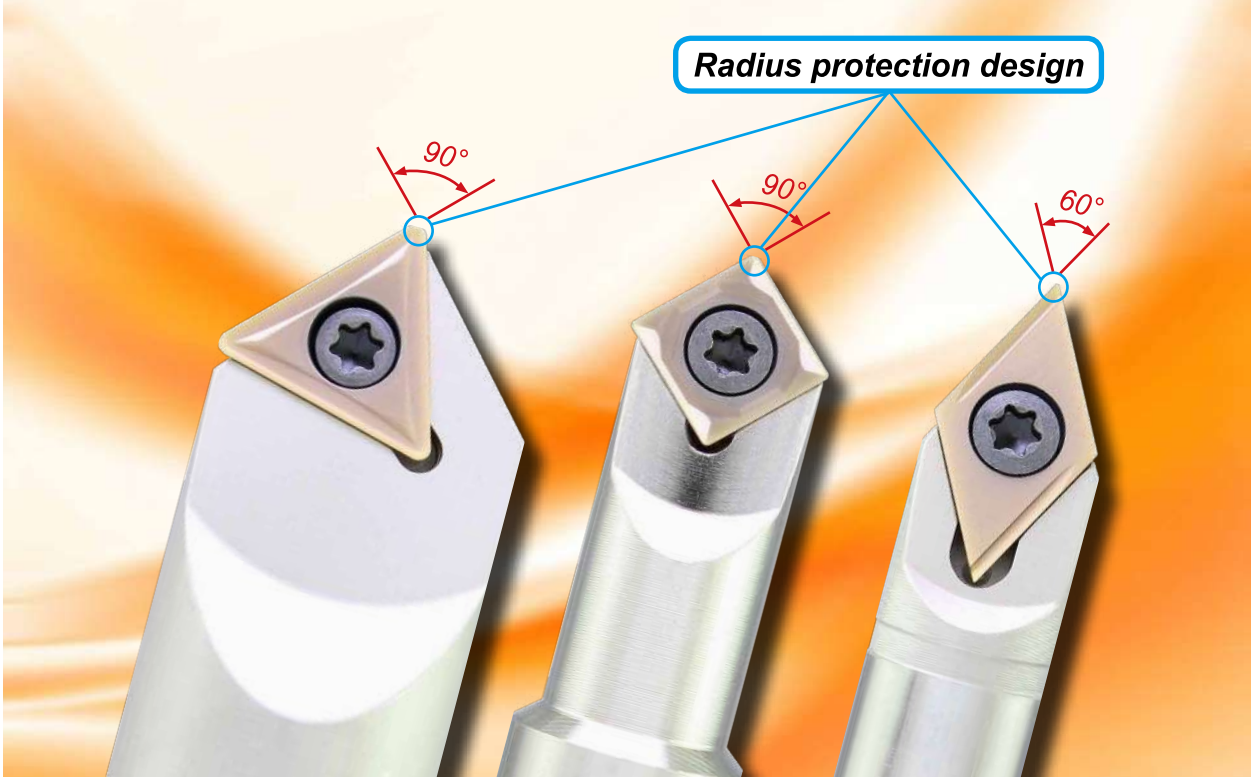










DTS Chamfering & Engraving



- Multiple-function in one tool.
- Many cutting edges insert for better cost efficiency.
- Working size up to 20mm.

DTS9 90° Spotting & Countersinking

■ Insert Order Code and Specifications

Insert	Order No.	Designation	r	Working Ød		Working Materials						Figure
				Spotting	Engraving	P	M	K	N	S	H	
	ISCGX09T304AG10	SCGX09T304-AG-CX10	0.4	2 ~ 11	0.8 ~ 2.5				●			
	ISCGX09T304FG12HS	SCGX09T304-FG-CX12HS	0.4	2 ~ 11	0.8 ~ 2.5	●	●	●	●	●		
	ISCMX09T304SM32HS	SCMX09T304-SM-CX32HS	0.4	2 ~ 11	0.8 ~ 2.5	●	●	●		○	○	
	ITCGX16T308AG10	TCGX16T308-AG-CX10	0.8	3 ~ 20	1.6 ~ 4.0				●			
	ITCGX16T308FG12HS	TCGX16T308-FG-CX12HS	0.8	3 ~ 20	1.6 ~ 4.0	●	●	●	●	●		
	ITCMX16T308MP32HS	TCMX16T308-MP-CX32HS	0.8	-	-	●	●	●		○	○	

Holmaking

Spotting & Centering Drills

Recommended Cutting Conditions

for 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
P 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
M Stainless steel	30 ~ 60	45 ~ 120	0.02 ~ 0.04	0.04 ~ 0.06
K Cast iron	40 ~ 80	60 ~ 130	0.04 ~ 0.08	0.06 ~ 0.10
H Hardened steel	20 ~ 40	30 ~ 60	0.02 ~ 0.04	0.04 ~ 0.08

for 90° Chamfering / Countersinking

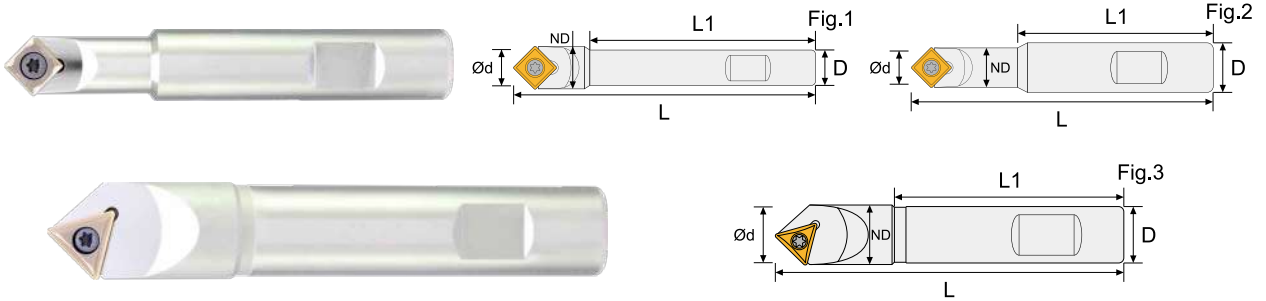
Material	Vc (m/min)	Fr (mm/rev)
P Carbon steel	60 ~ 270	0.15 ~ 0.24
Alloy steel	50 ~ 220	0.12 ~ 0.20
M Stainless steel	35 ~ 120	0.10 ~ 0.20
K Cast iron	60 ~ 220	0.15 ~ 0.25
H Hardened steel	20 ~ 60	0.03 ~ 0.08

for 90° Grooving / Engraving

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

DTS9 90° Chamfering & Engraving

Holder Order Code and Specifications



Order No.	D	ND	L	L1	Degree	Fig	Insert	Screw	Wrench	Stock
IDTS1010009009	10	12.2	100	71	90°	1	SCGX09T3 or SCMX09T3	ITS3520	ITK15	●
IDTS1210009009	12	12.2	100	71	90°	2				●
IDTS1610009009	16	12.2	100	71	90°					●
IDTS1613009009	16	12.2	130	101	90°					●
IDTS2012009016	20	21.2	120	78	90°	3	TCGX16T3 or TCMX16T3	ITS3521	ITK15	●

● stock ○ by inquiry

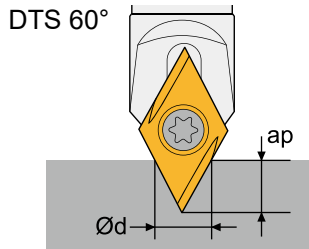
DTS Chamfering & Engraving

How to calculate Ød ,RPM and Feed

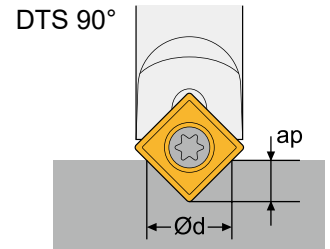
Formula :

$$RPM = \frac{V_c \times 1000}{\text{Ød} \times \pi}$$

$$\text{Feed} = RPM \times Fr$$



$$\text{Ød} \approx (0.577 \times (ap + r) + 0.05) \times 2$$



$$\text{Ød} \approx (0.4r + ap + 0.05) \times 2$$

EX :

Working Material = Cast iron

Use insert = SCGX09T304

Application = 90° Spotting

ap = 2.5mm

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

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

$$RPM = (V_c \times 1000) / (\text{Ød} \times \pi) = (85 \times 1000) / (5.42 \times \pi) \approx 5000$$

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

Working Demonstration



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