

MINI-TURN™

Ingersoll **TAEГУ** line **INTRODUCES "MINI-TURN"**
FOR SMALL PART MACHINING.

Ingersoll's new MINI-TURN family has been specifically designed for small part machining applications. The concept is to combine a high accuracy, ground insert with precision holders to provide improved machining conditions on small part production.

MINI-TURN inserts provide high precision machining on small workpieces due to the sharp cutting edge configuration.

Each insert has a very accurate index position due to the precision "E" tolerance.

MINI-TURN™

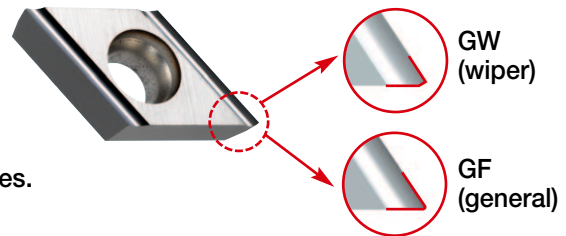
FEATURES:

- Accurate – E class tolerance insert.
 - Thickness tolerance: ± 0.001 " (G tolerance: ± 0.005 ")
 - Corner radius tolerance: ± 0.0008 " (G tolerance: ± 0.002 ")
- Accurate index position after insert replacement.
- GW geometry has a small corner radius with wiper geometry to provide excellent machining conditions and quality of surface finish.
- Application areas: wide range of steels, alloy steels, stainless steels and high temp. alloys.

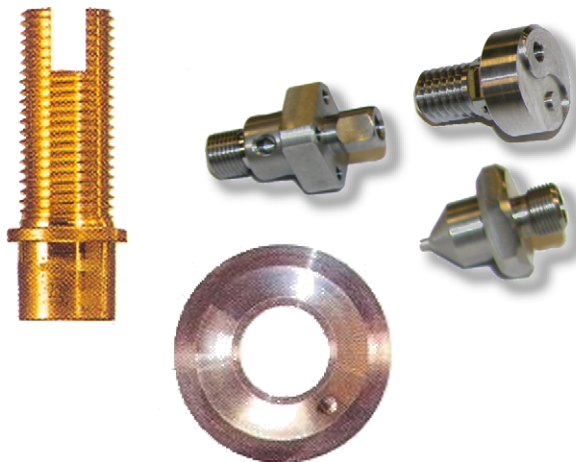
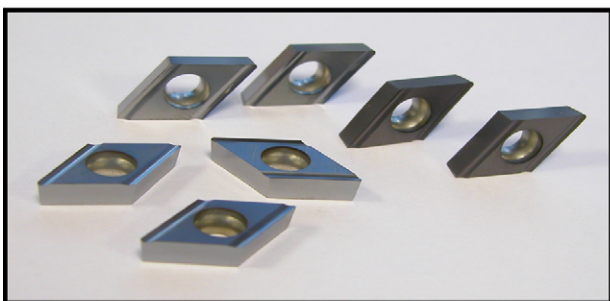
CHIPBREAKERS:

MINI-TURN inserts are available with two types of chip breakers.

- 1) GF geometry
For general to finishing applications.
- 2) GW geometry
Wiper designed insert for high quality surface finishes.



TT9020 is the standard grade for MINI-TURN inserts. It consists of a fine grain carbide substrate with a TiCN PVD coating. This has been proven in extensive testing to be the ultimate combination providing extended tool life with improved resistance to wear and insert chipping in all types of materials.



INSERT DESIGNATION SYSTEM:

ANSI: **CCET 32.5** // **X0** // **R-** // **GW**
 ISO: **CCET 09T3** // **003** // **R-** // **GW**

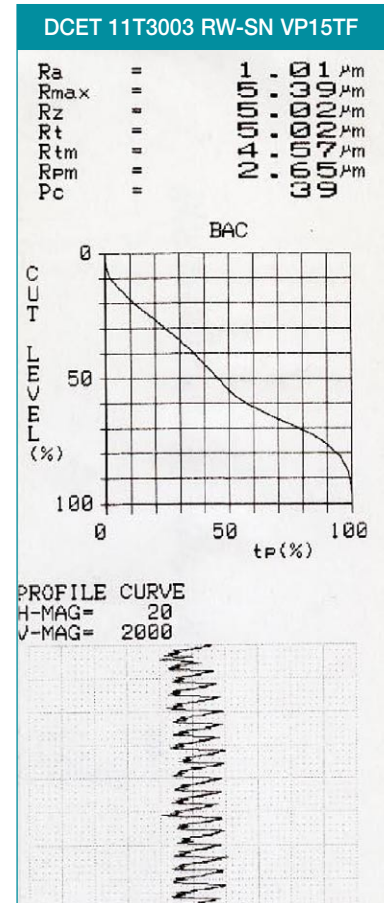
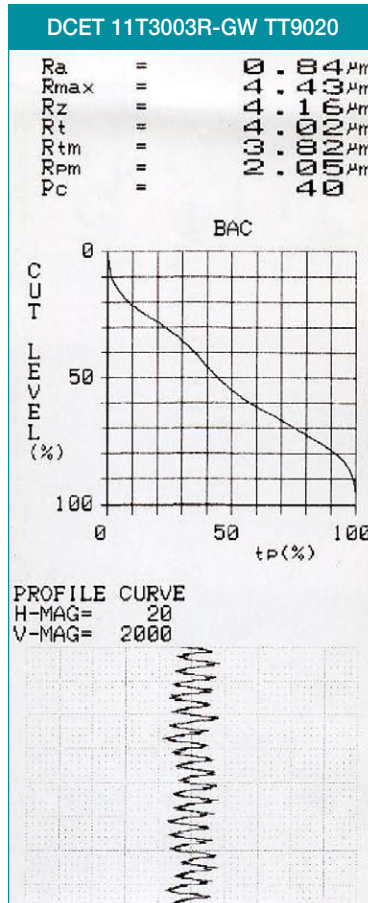
Corner Radius	
ANSI	ISO
X0: .001"	003: .03mm
0: .004"	01: .1mm
0.5: .008"	02: .2mm
1: .016"	04: .4mm

Hand of Insert
 R: Right Hand
 L: Left Hand

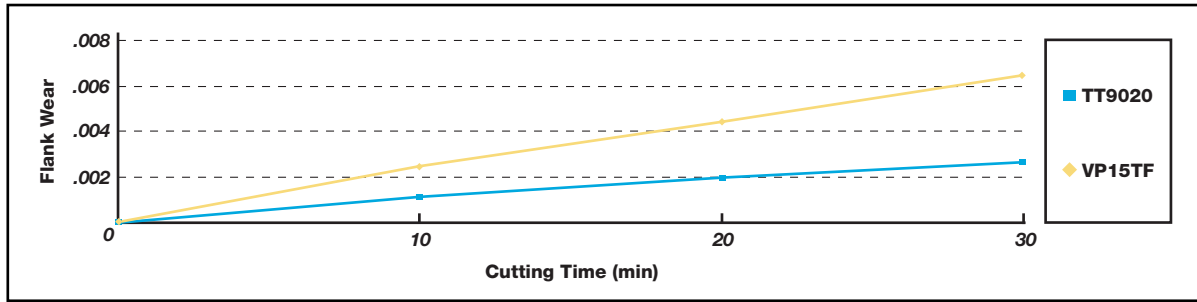
Chipbreaker Design
 GW: Wiper Geometry
 GF: Conventional Geometry

COMPARISON TEST RESULT OF SURFACE FINISH FROM TECH CENTER:

Cutting Conditions: V= 325 SFM
 f= .004 IPR
 d= .006"
Material: 300 stainless steel (HB 160-180)



COMPARISON TEST RESULT OF TOOL LIFE FROM TECH CENTER:



Insert: DCET 32.5X0 R-GW TT9020
DCET 32.5X0 RW-SN VP15TF

Cutting Conditions: V= 325 SFM
f= .004 IPR
d= .006"
Wet

Material: 300 stainless steel (HB 160-180)

External Turning

FIELD TEST RESULTS:

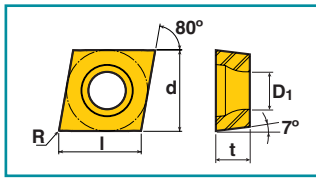
Test 1.

Component:	Bushing, Stainless Steel	
Cutting Speed (Vc):	500 SFM	
Feed Rate (f):	.0012 IPR	
Depth of Cut (ap):	.012"	
Operation:	External turning, wet	
Tool Life		
Existing Method:	CCET 32.50.5 FR-U PR930	1,200 pcs/edge
Test Insert:	CCET 32.51 R-GF TT9020	2,100 pcs/edge

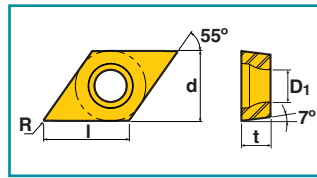
Test 2.

Component:	Pin, Free cutting carbon steel	
Cutting Speed (Vc):	400 SFM	
Feed Rate (f):	.0012 IPR	
Depth of Cut (ap):	.014"	
Operation:	External turning, wet	
Tool Life		
Existing Method:	DCET 32.5X0 R-JSF PR930	3,500 pcs/edge
Test Insert:	DCET 32.5X0 R-GW TT9020	4,000 pcs/edge

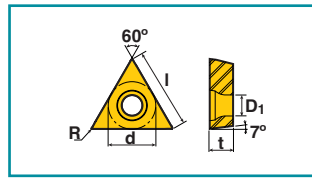
INSERTS:



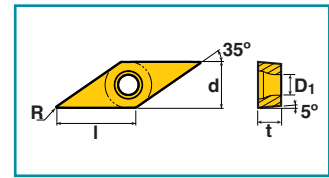
CCET



DCET



TCET



VBET

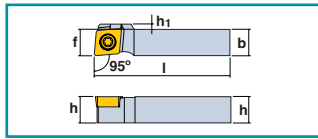
Shape	ISO Designation	ASA Designation	Geometry	Stock TT9020		Dimension (inch)				
				R	L	d	t	r	D ₁	l
	CCET 0602003 R-GW TT9020	CCET21.5X0R-GW TT9020	Wiper	●	-	.250	.094	.001	.110	.252
	CCET 060201 R-GF TT9020	CCET21.50R-GF TT9020	General	●	-	.250	.094	.004	.110	.248
	CCET 060202 R-GF TT9020	CCET21.50.5R-GF TT9020	General	●	-	.250	.094	.008	.110	.244
	CCET 060204 R-GF TT9020	CCET21.51R-GF TT9020	General	●	-	.250	.094	.016	.110	.236
	CCET 09T3003 R-GW TT9020	CCET32.5X0R-GW TT9020	Wiper	●	-	.375	.156	.001	.173	.378
	CCET 09T301 R-GF TT9020	CCET32.50R-GF TT9020	General	●	-	.375	.156	.004	.173	.374
	CCET 09T302 R-GF TT9020	CCET32.50.5R-GF TT9020	General	●	-	.375	.156	.008	.173	.370
	CCET 09T304 R-GF TT9020	CCET32.51R-GF TT9020	General	●	-	.375	.156	.016	.173	.362
	DCET 0702003 R-GW TT9020	DCET21.5X0R-GW TT9020	Wiper	●	-	.250	.094	.001	.110	.295
	DCET 070201 R-GF TT9020	DCET21.50R-GF TT9020	General	●	-	.250	.094	.004	.110	.299
	DCET 070202 R-GF TT9020	DCET21.50.5R-GF TT9020	General	●	-	.250	.094	.008	.110	.295
	DCET 070204 R-GF TT9020	DCET21.51R-GF TT9020	General	●	-	.250	.094	.016	.110	.287
	DCET 11T3003 R-GW TT9020	DCET32.5X0R-GW TT9020	Wiper	●	-	.375	.156	.001	.173	.449
	DCET 11T301 R-GF TT9020	DCET32.50R-GF TT9020	General	●	-	.375	.156	.004	.173	.449
	DCET 11T302 R-GF TT9020	DCET32.50.5R-GF TT9020	General	●	-	.375	.156	.008	.173	.445
	DCET 11T304 R-GF TT9020	DCET32.51R-GF TT9020	General	●	-	.375	.156	.016	.173	.441
	TCET 110301 R-GF TT9020	TCET220R-GF TT9020	General	●	-	.250	.125	.004	.110	.421
	TCET 110302 R-GF TT9020	TCET220.5R-GF TT9020	General	●	-	.250	.125	.008	.110	.413
	TCET 110304 R-GF TT9020	TCET221R-GF TT9020	General	●	-	.250	.125	.016	.110	.394
	VBET 1103003 R-GW TT9020	VBET22X0R-GW TT9020	Wiper	●	-	.250	.125	.001	.110	.417
	VBET 1103003 L-GW TT9020	VBET22X0L-GW TT9020	Wiper	-	●	.250	.125	.001	.110	.417
	VBET 110301 R-GF TT9020	VBET220R-GF TT9020	General	●	-	.250	.125	.004	.110	4.25
	VBET 110302 R-GF TT9020	VBET220.5R-GF TT9020	General	●	-	.250	.125	.008	.110	.417
	VBET 110304 R-GF TT9020	VBET221R-GF TT9020	General	●	-	.250	.125	.016	.110	.390

PRICING:

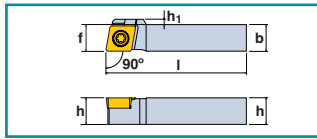
Please refer to GAL system or "Ask Margaret" for individual component prices.

METRIC HOLDERS:

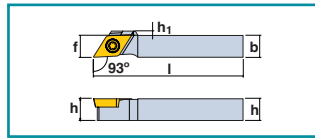
External Tool-Holders for Swiss Type and Small Machines (Screw-on Clamping)



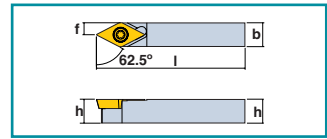
SCLCR



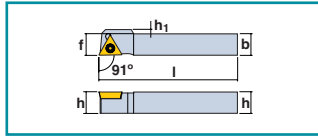
SCACR



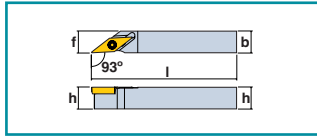
SDJCR



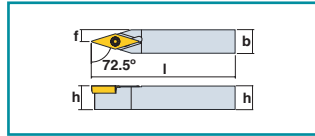
SDNCN



STGCR



SVJBR



SVVBN

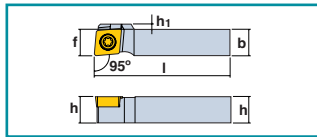
Shape	Designation	Stock		h	Dimension (mm)				Spare Part		Insert
		R	L		b	l	f	h1	Screw	Wrench	
	SCLCR/L 0808 K06-SH	●	-	8	8	125	8	0	SO 25065I	T7	CC□T21.5□□
	SCLCR/L 1010 K06-SH	●	-	10	10	125	10	0	SO 25065I	T7	(CC□T0602□□)
	SCLCR/L 1010 K09-SH	●	-	10	10	125	10	2	SO 35080I	T15	CC□T32.5□□
	SCLCR/L 1212 K09-SH	●	-	12	12	125	12	0	SO 35080I	T15	(CC□T09T3□□)
	SCLCR/L 1616 K09-SH	●	-	16	16	125	16	0	SO 35080I	T15	
	SCACR/L 0808 K06-SH	●	-	8	8	125	8	0	SO 25065I	T7	CC□T21.5□□
	SCACR/L 1010 K06-SH	●	-	10	10	125	10	0	SO 25065I	T7	(CC□T0602□□)
	SCACR/L 1010 K09-SH	●	-	10	10	125	10	2	SO 35080I	T15	CC□T32.5□□
	SCACR/L 1212 K09-SH	●	-	12	12	125	12	0	SO 35080I	T15	(CC□T09T3□□)
	SCACR/L 1616 K09-SH	●	-	16	16	125	16	0	SO 35080I	T15	
	SDJCR/L 0808 K07-SH	●	-	8	8	125	8	0	SO 25065I	T7	DC□T21.5□□
	SDJCR/L 1010 K07-SH	●	-	10	10	125	10	0	SO 25065I	T7	(DC□T0702□□)
	SDJCR/L 1010 K11-SH	●	-	10	10	125	10	2	SO 35080I	T15	DC□T32.5□□
	SDJCR/L 1212 K11-SH	●	●	12	12	125	12	0	SO 35080I	T15	(DC□T11T3□□)
	SDJCR/L 1616 K11-SH	-	-	16	16	125	16	0	SO 35080I	T15	
	SDNCN 0808 K07-SH	●	-	8	8	125	4	0	SO 25065I	T7	DC□T21.5□□
	SDNCN 1010 K07-SH	●	-	10	10	125	5	0	SO 25065I	T7	(DC□T0702□□)
	SDNCN 1010 K11-SH	●	-	10	10	125	5	0	SO 35080I	T15	DC□T32.5□□
	SDNCN 1212 K11-SH	●	-	12	12	125	6	0	SO 35080I	T15	(DC□T11T3□□)
	SDNCN 1616 K11-SH	●	-	16	16	125	8	0	SO 35080I	T15	
	STGCR/L 1010 K11-SH	●	-	10	10	125	10	2	SO 25065I	T7	TC□T22□□
	STGCR/L 1212 K11-SH	●	-	12	12	125	12	0	SO 25065I	T7	(TC□T1103□□)
	STGCR/L 1616 K11-SH	●	-	16	16	125	16	0	SO 25065I	T7	
	SVJBR/L 1010 K11-SH	●	-	10	10	125	10	0	SO 25065I	T7	VB□T22□□
	SVJBR/L 1212 K11-SH	●	●	12	12	125	12	0	SO 25065I	T7	(VB□T1103□□)
	SVJBR/L 1616 K11-SH	●	-	16	16	125	16	0	SO 25065I	T7	
	SVVBN 1010 K11-SH	●	-	10	10	125	5	0	SO 25065I	T7	VB□T22□□
	SVVBN 1212 K11-SH	●	-	12	12	125	6	0	SO 25065I	T7	(VB□T1103□□)
	SVVBN 1616 K11-SH	●	-	16	16	125	8	0	SO 25065I	T7	

PRICING:

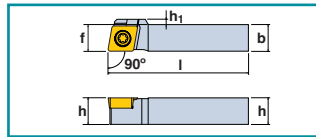
Please refer to GAL system or "Ask Margaret" for individual component prices.

INCH HOLDERS:

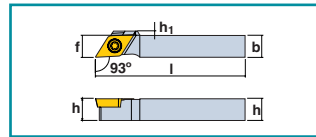
External Tool-Holders for Swiss Type and Small Machines (Screw-on Clamping)



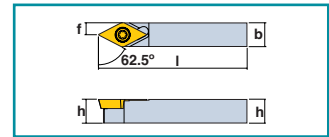
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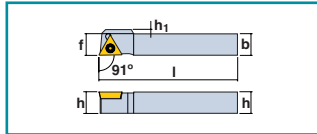
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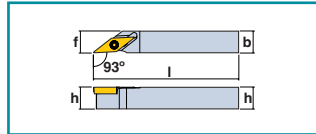
SDJCR



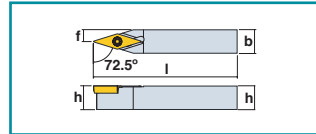
SDNCN



STGCR



SVJBR



SVVBN

Shape	Designation	Stock		h	Dimension (inch)				Spare Part		Insert
		R	L		b	l	f	h1	Screw	Wrench	
	SCLCR/L 06-2C-SH	●	-	.375	.375	5.0	.375	0	SO 25065I	T7	CC□T21.5□□ (CC□T0602□□)
	SCLCR/L 08-3C-SH	●	-	.500	.500	5.0	.500	0	SO 35080I	T15	CC□T32.5□□
	SCLCR/L 10-3C-SH	●	-	.625	.625	5.0	.625	0	SO 35080I	T15	(CC□T09T3□□)
	SCACR/L 06-2C-SH	●	-	.375	.375	5.0	.375	0	SO 25065I	T7	CC□T21.5□□ (CC□T0602□□)
	SCACR/L 08-3C-SH	●	-	.500	.500	5.0	.500	0	SO 35080I	T15	CC□T32.5□□
	SCACR/L 10-3C-SH	●	-	.625	.625	5.0	.625	0	SO 35080I	T15	(CC□T09T3□□)
	SDJCR/L 06-2C-SH	●	-	.375	.375	5.0	.375	0	SO 25065I	T7	DC□T21.5□□ (DC□T0702□□)
	SDJCR/L 08-3C-SH	●	-	.500	.500	5.0	.500	0	SO 35080I	T15	DC□T32.5□□
	SDJCR/L 10-3C-SH	●	-	.625	.625	5.0	.625	0	SO 35080I	T15	(DC□T11T3□□)
	SDNCN 06-2C-SH	●		.375	.375	5.0	.1875	0	SO 25065I	T7	DC□T21.5□□ (DC□T0702□□)
	SDNCN 08-3C-SH	●		.500	.500	5.0	.250	0	SO 35080I	T15	DC□T32.5□□
	SDNCN 10-3C-SH	●		.625	.625	5.0	.375	0	SO 35080I	T15	(DC□T11T3□□)
	STGCR/L 06-2C-SH	●	-	.375	.375	5.0	.375	.079	SO 25065I	T7	TC□T22□□ (TC□T1103□□)
	STGCR/L 08-2C-SH	●	-	.500	.500	5.0	.500	0	SO 25065I	T7	
	STGCR/L 10-2C-SH	●	-	.625	.625	5.0	.625	0	SO 25065I	T7	
	SVJBR/L 06-2C-SH	●	-	.375	.375	5.0	.375	0	SO 25065I	T7	VB□T22□□ (VB□T1103□□)
	SVJBR/L 08-2C-SH	●	●	.500	.500	5.0	.500	0	SO 25065I	T7	
	SVJBR/L 10-2C-SH	●	-	.625	.625	5.0	.625	0	SO 25065I	T7	
	SVVBN 06-2C-SH	●		.375	.375	5.0	.1875	0	SO 25065I	T7	VB□T22□□ (VB□T1103□□)
	SVVBN 08-2C-SH	●		.500	.500	5.0	.250	0	SO 25065I	T7	
	SVVBN 10-2C-SH	●		.625	.625	5.0	.375	0	SO 25065I	T7	

PRICING:

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