

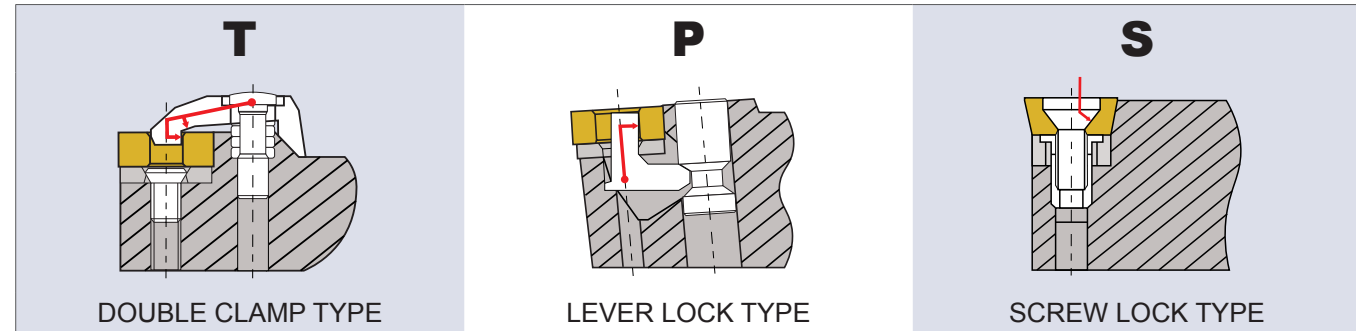
# TURNING



### EXTERNAL TURNING HOLDER CODE

1	2	3	4	5	6	7	8	9
<b>T</b>	<b>C</b>	<b>L</b>	<b>N</b>	<b>R</b>	<b>20</b>	<b>20</b>	<b>K</b>	<b>12</b>
Clamping System	Insert Shape	Tool Angle	Insert Clearance	Hand	Shank Height (H)	Shank Width (B)	Length (LF)	Insert Size

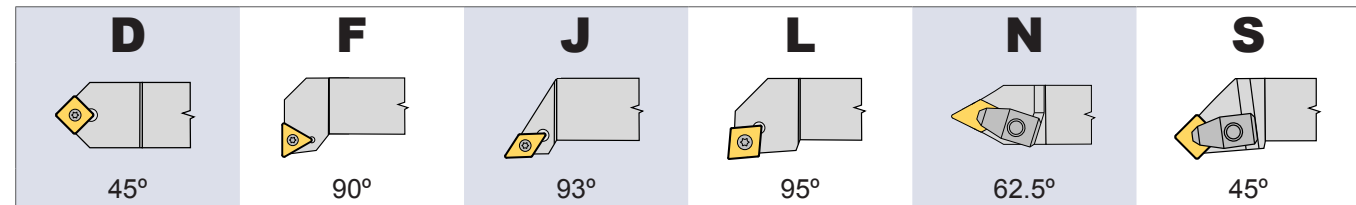
#### 1. Clamping System



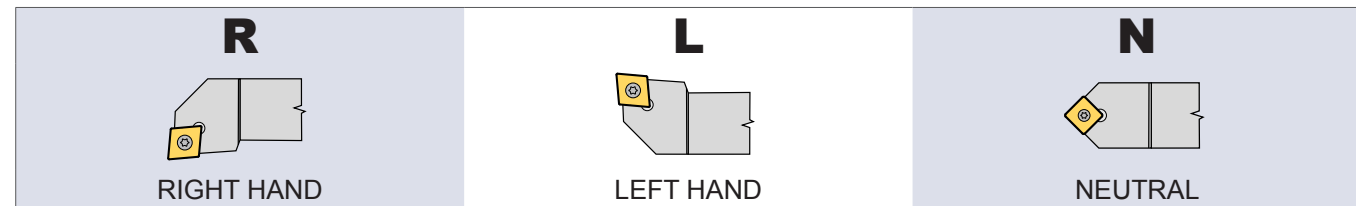
#### 2, 4, 9. Insert Compatibility and Size

HOLDER **T** **C** **L** **N** **R** **20** **20** **K** **12** INSERT **C** **N** **M** **G** **12** **0** **4** **0** **8**

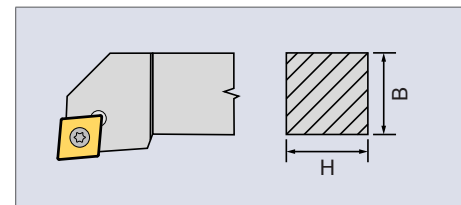
#### 3. Tool Approach Angle



#### 5. Tool Hand



#### 6, 7. Shank Height (H) and Width (B)



#### 8. Overall Length (LF)

Letter	<b>E</b>	<b>F</b>	<b>H</b>	<b>K</b>	<b>M</b>	<b>P</b>
Length (mm)	70	80	100	125	150	170
Letter	<b>Q</b>	<b>R</b>	<b>S</b>	<b>T</b>	<b>U</b>	<b>V</b>
Length (mm)	180	200	250	300	350	400

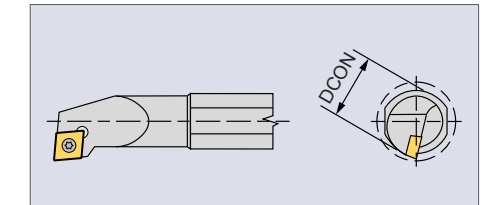
### INTERNAL TURNING HOLDER CODE

1	2	3	4	5	6	7	8	9
<b>S</b>	<b>12</b>	<b>M</b>	<b>S</b>	<b>C</b>	<b>L</b>	<b>C</b>	<b>R</b>	<b>09</b>
Coolant & Material	Shank Dia (DCON)	Length (LF)	Clamping System	Insert Shape	Tool Angle	Insert Clearance	Hand	Insert Size

#### 1. Coolant Type and Shank Material

Letter	<b>A</b>	<b>E</b>	<b>S</b>
Coolant Type	Through Coolant	Through Coolant	Solid
Shank Material	Steel	Carbide	Steel

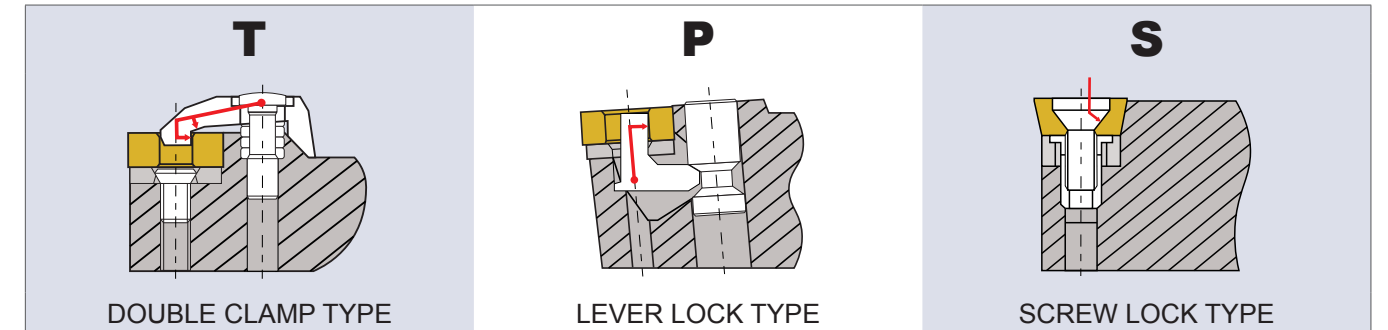
#### 2. Shank Diameter (DCON)



#### 3. Overall Length (LF)

Letter	<b>E</b>	<b>F</b>	<b>H</b>	<b>K</b>	<b>M</b>	<b>P</b>
Length (mm)	70	80	100	125	150	170
Letter	<b>Q</b>	<b>R</b>	<b>S</b>	<b>T</b>	<b>U</b>	<b>V</b>
Length (mm)	180	200	250	300	350	400

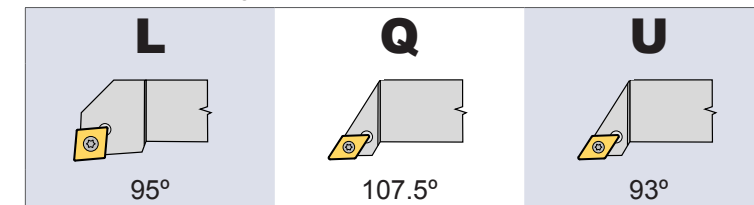
#### 4. Clamping System



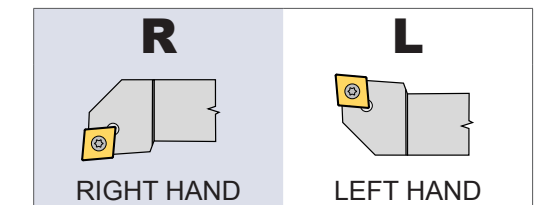
#### 5, 7, 9. Insert Compatibility and Size

HOLDER **S** **12** **M** **S** **C** **L** **C** **R** **09** INSERT **C** **C** **G** **T** **09** **T** **3** **0** **2**

#### 6. Tool Approach Angle



#### 8. Tool Hand



APPLICATION GUIDE & INDEX

Holder	Application	Type & Size Range	Page No	Insert	Page No.
TCLNR/L		External Double Clamp 20mm - 50mm sq	8	 CNGG CNMA CNMG	30-35
TDJNR/L		External Double Clamp 20mm - 50mm sq	9	 DNGG DNMA DNMG	36-40
TDNNN		External Double Clamp 20mm - 25mm sq	10		
TSSNR/L		External Double Clamp 20mm - 25mm sq	10	 SNMA SNMG	412-45
TTJNR/L		External Double Clamp 20mm - 40mm sq	11	 TNMA TNMG TNUX	46-50
TVJNR/L		External Double Clamp 20mm - 25mm sq	11	 VNMA VNMG	51-53
TWLNRL/L		External Double Clamp 20mm - 50mm sq	12	 WNGG WNMA WNMG	54-58
PCLNR/L		External Lever Lock 20mm - 40mm sq	13	 CNGG CNMA CNMG	30-35
PDJNR/L		External Lever Lock 20mm - 25mm sq	14	 DNGG DNMA DNMG	36-40
PWLNRL/L		External Lever Lock 16mm - 20mm sq	14	 WNMG 06	56-58
SCLCR/L		External Screw Lock 8mm - 25mm sq	15	 CCGT CCMT	59-60

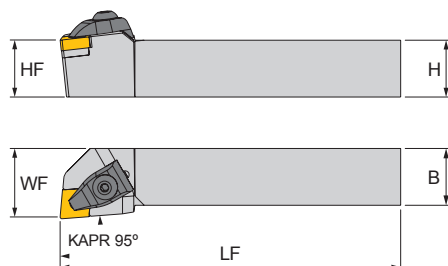
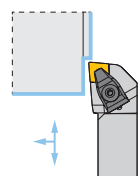
APPLICATION GUIDE & INDEX

Holder	Application	Type & Size Range	Page No	Insert	Page No.
SDJCR/L		External Screw Lock 10mm - 25mm sq	16	 DCGT DCMT	61-62
SRDCN		External Screw Lock 16mm - 25mm sq	16	 RCMT	63
SSDCN		External Screw Lock 12mm - 25mm sq	17	 SCGT SCMT	64
STFCR/L		External Screw Lock 12mm - 25mm sq	17	 TCGT TCMT	65-66
SVJBR/L		External Screw Lock 16mm - 25mm sq	18	 VBMT	67
SVJCR/L		External Screw Lock 12mm - 32mm sq	18	 VCGT VCMT	68
-PCLNR/L		Internal Lever Lock Ø20mm - 50mm	19	 CNGG CNMA CNMG	30-35
-SCLCR/L		Internal Screw Lock Ø8mm - 25mm	20	 CCGT CCMT	59-60
-SDUCR/L		Internal Screw Lock Ø10mm - 16mm	21	 DCGT DCMT	61-62
-SDQCR/L		Internal Screw Lock Ø10mm - 25mm	21		
INSERT INFORMATION					22-28



DOUBLE CLAMP EXTERNAL HOLDERS

**TCLNR/L**  
For CN.. negative inserts



Insert P.30-35	
	CNGG 1204..
	CNMA 1204.. CNMA 1606..
	CNMG 1204.. CNMG 1606..

Right hand holder shown. -TC = Through Coolant

EDP Code	Description	R	L	H	HF	B	LF	WF	Clamp	Clamp Screw	Shim	Shim Screw	Spring	Washer	Key							
TTH0110	TCLNR 2020 K12	●		20	20	20	125	25	TTBP-2.1	HMBV6M.1	HPC12NA	HBI5	HCY6.1	TTBR-2	HA3							
TTH0110L	TCLNL 2020 K12		●	20	20	20	125	25														
TTH0111	TCLNR 2525 M12	●		25	25	25	150	32														
TTH0111L	TCLNL 2525 M12		●	25	25	25	150	32														
TTH0112	TCLNR 3232 P12	●		32	32	32	170	40														
TTH0112L	TCLNL 3232 P12		●	32	32	32	170	40														
TTH0113	TCLNR 4040 S12	●		40	40	40	250	50														
TTH0113L	TCLNL 4040 S12		●	40	40	40	250	50														
TTH0143	TCLNR 5050 S12	○		50	50	50	250	63														
TTH0143L	TCLNL 5050 S12		○	50	50	50	250	63														
TTH0133	TCLNR 2020 K12-TC	●		20	20	20	125	25								TTBC-1R	HMBV6M.2	HPC12NA	HBI5.3	HCY7	TTBR-1	HA3
TTH0133L	TCLNL 2020 K12-TC		●	20	20	20	125	25								TTBC-1L						
TTH0134	TCLNR 2525 M12-TC	●		25	25	25	150	32								TTBC-1R						
TTH0134L	TCLNL 2525 M12-TC		●	25	25	25	150	32	TTBC-1L													
TTH0135	TCLNR 3232 P12-TC	○		32	32	32	170	40	TTBC-1R													
TTH0135L	TCLNL 3232 P12-TC		○	32	32	32	170	40	TTBC-1L													
TTH0144	TCLNR 2525 M16	○		25	25	25	150	32	TTBP-2.1	HMBV7M.1	HPC16NA	HBI6	HCY6.2	TTBR-3	HA4							
TTH0144L	TCLNL 2525 M16		○	25	25	25	150	32														
TTH0145	TCLNR 3232 P16	○		32	32	32	170	40														
TTH0145L	TCLNL 3232 P16		○	32	32	32	170	40														

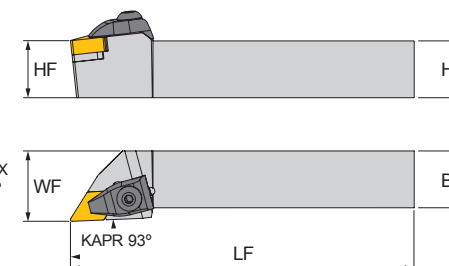
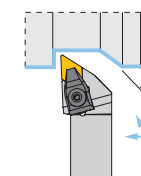
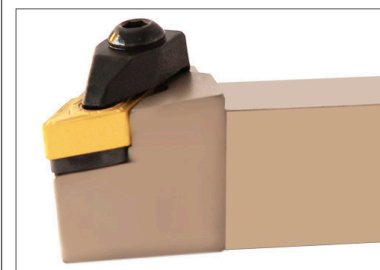
● : Stock ○ : Available to order

COOLANT CONNECTION SPARES

EDP Code	Description	Image	EDP Code	Description	Image
HCF01	DOUBLE CONNECTOR M10		HCG01	COPPER GASKET	
HCF02	DOUBLE CONNECTOR G1/8		HXS1855	BLANKING PLUG G1/8	
HCF03	ANGLE CONNECTOR G1/8		HCH01	CONNECTION HOSE TYPE 1	
HCF04	ANGLE CONNECTOR M10		HCH02	CONNECTION HOSE TYPE 2	
HCF05	G1/4-G1/8 REDUCER		HCH03	CONNECTION HOSE TYPE 3	

DOUBLE CLAMP EXTERNAL HOLDERS

**TDJNR/L**  
For DN.. negative inserts



Insert P.36-40	
	DNGG 1506..
	DNMA 1506..
	DNMG 1104.. DNMG 1506..

Right hand holder shown. -TC = Through Coolant

EDP Code	Description	R	L	H	HF	B	LF	WF	Clamp	Clamp Screw	Shim	Shim Screw	Spring	Washer	Key							
TTH0146	TDJNR 1616 H11	○		16	16	16	100	20	TTBP-1.1	HMBV5M.1	HSD11PA	HBI5.2			HA3							
TTH0146L	TDJNL 1616 H11		○	16	16	16	100	20														
TTH0147	TDJNR 2020 K11	○		20	20	20	125	25														
TTH0147L	TDJNL 2020 K11		○	20	20	20	125	25														
TTH0148	TDJNR 2525 M11	○		25	25	25	150	32														
TTH0148L	TDJNL 2525 M11		○	25	25	25	150	32														
TTH0114	TDJNR 2020 K15	●		20	20	20	125	25								TTBP-2.1	HMBV6M.1	HPD15NA	HBI5	HCY6.1	TTBR-2	HA3
TTH0114L	TDJNL 2020 K15		●	20	20	20	125	25														
TTH0115	TDJNR 2525 M15	●		25	25	25	150	32														
TTH0115L	TDJNL 2525 M15		●	25	25	25	150	32														
TTH0116	TDJNR 3232 P15	●		32	32	32	170	40														
TTH0116L	TDJNL 3232 P15		●	32	32	32	170	40														
TTH0117	TDJNR 4040 R15	●		40	40	40	200	48														
TTH0117L	TDJNL 4040 R15		●	40	40	40	200	48														
TTH0149	TDJNR 5050 S15	○		50	50	50	250	63														
TTH0149L	TDJNL 5050 S15		○	50	50	50	250	63														
TTH0136	TDJNR 2020 K15-TC	●		20	20	20	125	25	TTBC-1R	HMBV6M.2	HDP15NA	HBI5.3	HCY7	TTBR-1	HA3							
TTH0136L	TDJNL 2020 K15-TC		●	20	20	20	125	25	TTBC-1L													
TTH0137	TDJNR 2525 M15-TC	●		25	25	25	150	32	TTBC-1R													
TTH0137L	TDJNL 2525 M15-TC		●	25	25	25	150	32	TTBC-1L													
TTH0138	TDJNR 3232 P15-TC	○		32	32	32	170	40	TTBC-1R													
TTH0138L	TDJNL 3232 P15-TC		○	32	32	32	170	40	TTBC-1L													

● : Stock ○ : Available to order

For coolant connection spares refer to page 8

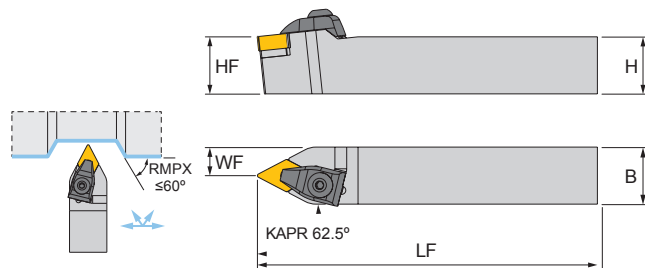


DOUBLE CLAMP EXTERNAL HOLDERS

**TDNNN**  
For DN.. negative inserts



-TC = Through Coolant



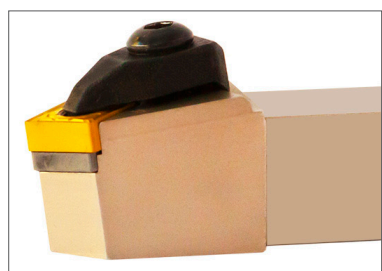
Insert P.36-40	
	DNGG 1506..
	DNMA 1506..
	DNMG 1104.. DNMG 1506..

EDP Code	Description	R	L	H	HF	B	LF	WF	Clamp	Clamp Screw	Shim	Shim Screw	Spring	Washer	Key
TTH0150	<b>TDNNN 2020 K11</b>	●	○	20	20	20	125	10	TTBP-1.1	HMBV5M.1	HSD11PA	HBI5.2	-	-	HA3
TTH0151	<b>TDNNN 2525 M11</b>	○	○	25	25	25	150	12.5							
TTH0118	<b>TDNNN 2020 K15</b>	●	○	20	20	20	125	10	TTBP-2.1	HMBV6M.1	HPD15NA	HBI5	HCY6.1	TTBR-2	HA3
TTH0119	<b>TDNNN 2525 M15</b>	●	○	25	25	25	150	12.5							
TTH0139	<b>TDNNN 2525 M15-TC</b>	●	○	25	25	25	150	12.5	TTBC-1R	HMBV6M.2	HPD15NA	HBI5.3	HCY7	TTBR-1	HA3

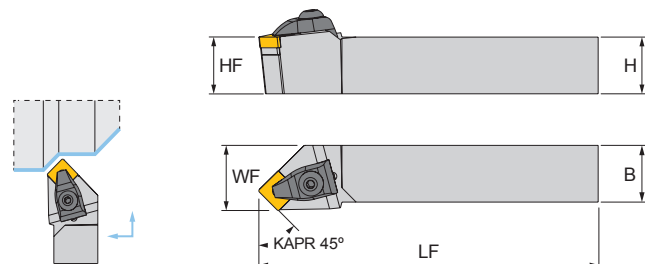
● : Stock ○ : Available to order

For coolant connection spares refer to page 8

**TSSNR/L**  
For SN.. negative inserts



Right hand holder shown



Insert P.42-45	
	SNMA 1204..
	SNMG 1204..

EDP Code	Description	R	L	H	HF	B	LF	WF	Clamp	Clamp Screw	Shim	Shim Screw	Spring	Washer	Key
TTH0120	<b>TSSNR/L 2020 K12</b>	●	○	20	20	20	125	25	TTBP-2.1	HMBV6M.1	HPS12NA	HBI5	HCY6.1	TTBR-2	HA3
TTH0121	<b>TSSNR/L 2525 M12</b>	●	○	25	25	25	150	32							

● : Stock ○ : Available to order

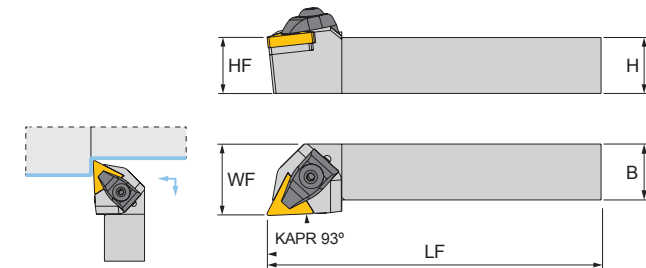
To order left hand add L to EDP code. Example: TSSNL 2020 K12 = TTH0120L

DOUBLE CLAMP EXTERNAL HOLDERS

**TTJNR/L**  
For TN.. negative inserts



Right hand holder shown



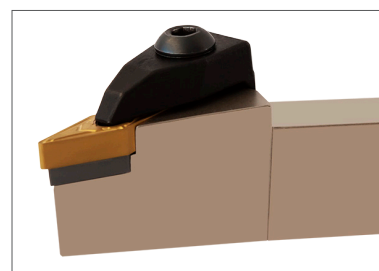
Insert P.46-49	
	TNMA 1604..
	TNMG 1604.. TNMG 2204..

EDP Code	Description	R	L	H	HF	B	LF	WF	Clamp	Clamp Screw	Shim	Shim Screw	Spring	Washer	Key
TTH0122	<b>TTJNR/L 2020 K16</b>	●	○	20	20	20	125	25	TTBP-1.1	HMBV5M.1	HPT16NA	HBI5.1	-	TTBR-2	HA3
TTH0123	<b>TTJNR/L 2525 M16</b>	●	○	25	25	25	150	32							
TTH0124	<b>TTJNR/L 2525 M22</b>	●	○	25	25	25	150	32	TTBP-2	HMBV6M.1	HPT22NA	HBI5	HCY6.1	TTBR-2	HA3
TTH0125	<b>TTJNR/L 3232 P22</b>	●	○	32	32	32	170	40							
TTH0126	<b>TTJNR/L 4040 R22</b>	●	○	40	40	40	200	50							

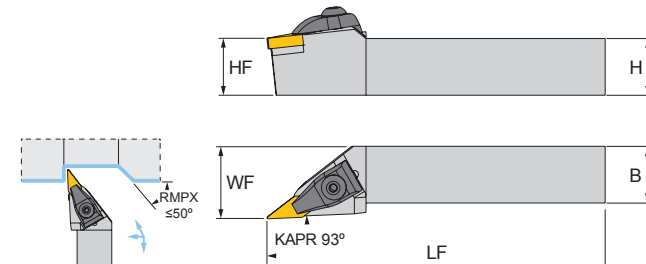
● : Stock ○ : Available to order

To order left hand add L to EDP code. Example: TTJNL 2020 K16 = TTH0122L

**TVJNR/L**  
For VN.. negative inserts



Right hand holder shown



Insert P.51-53	
	VNMA 1604..
	VNMG 1604..

EDP Code	Description	R	L	H	HF	B	LF	WF	Clamp	Clamp Screw	Shim	Shim Screw	Spring	Washer	Key
TTH0127	<b>TVJNR/L 2020 K16</b>	●	○	20	20	20	125	25	TTBP-3.1	HMBV6M.1	HPV16NA	HBI5.2	HCY6.1	TTBR-2	HA3
TTH0128	<b>TVJNR/L 2525 M16</b>	●	○	25	25	25	150	32							

● : Stock ○ : Available to order

To order left hand add L to EDP code. Example: TVJNL 2020 K16 = TTH0127L

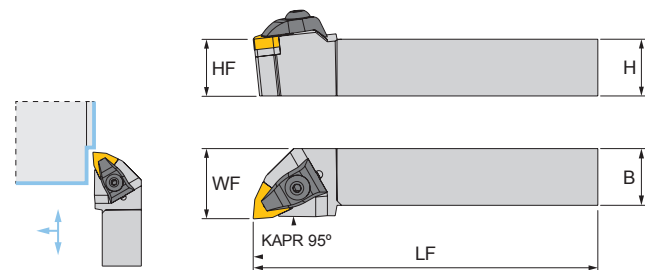
### DOUBLE CLAMP EXTERNAL HOLDERS

#### TWLNRL

For WN.. negative inserts



Right hand holder shown. -TC = Through Coolant



Insert P.54-58	
	WNGG 0804..
	WNMA 0804..
	WNUMG 0804..

EDP Code	Description	R	L	H	HF	B	LF	WF	Clamp	Clamp Screw	Shim	Shim Screw	Spring	Washer	Key							
TTH0129	<b>TWLNRL 2020 K08</b>	●		20	20	20	125	25	TTBP-2.1	HMBV6M.1	HPW08NA	HBI5	HCY6.1	TTBR-2	HA3							
TTH0129L	<b>TWLNRL 2020 K08</b>		●	20	20	20	125	25														
TTH0130	<b>TWLNRL 2525 M08</b>	●		25	25	25	150	32														
TTH0130L	<b>TWLNRL 2525 M08</b>		●	25	25	25	150	32														
TTH0131	<b>TWLNRL 3232 P08</b>	●		32	32	32	170	40														
TTH0131L	<b>TWLNRL 3232 P08</b>		●	32	32	32	170	40														
TTH0132	<b>TWLNRL 4040 R08</b>	●		40	40	40	200	48														
TTH0132L	<b>TWLNRL 4040 R08</b>		●	40	40	40	200	48														
TTH0152	<b>TWLNRL 5050 S08</b>	○		50	50	50	250	63														
TTH0152L	<b>TWLNRL 5050 S08</b>		○	50	50	50	250	63														
TTH0140	<b>TWLNRL 2020 K08-TC</b>	●		20	20	20	125	25								TTBC-1R	HMBV6M.2	HPW08NA	HBI5.3	HCY7	TTBR-1	HA3
TTH0140L	<b>TWLNRL 2020 K08-TC</b>		○	20	20	20	125	25								TTBC-1L						
TTH0141	<b>TWLNRL 2525 M08-TC</b>	●		25	25	25	150	32	TTBC-1R													
TTH0141L	<b>TWLNRL 2525 M08-TC</b>		○	25	25	25	150	32	TTBC-1L													
TTH0142	<b>TWLNRL 3232 P08-TC</b>	○		32	32	32	170	40	TTBC-1R													
TTH0142L	<b>TWLNRL 3232 P08-TC</b>		○	32	32	32	170	40	TTBC-1L													

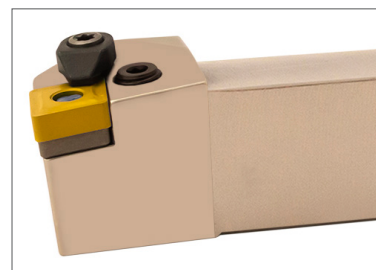
● : Stock ○ : Available to order

For coolant connection spares refer to page 8

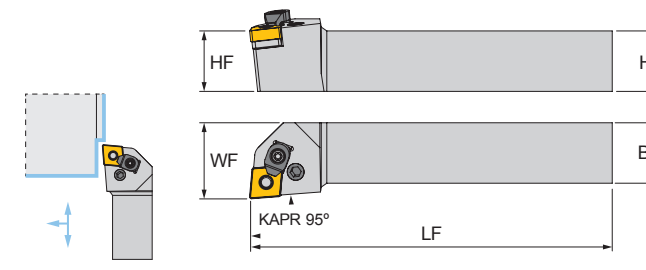
### LEVER LOCK EXTERNAL HOLDERS

#### PCLNRL

For CN.. negative inserts



Right hand holder shown - additional security clamp



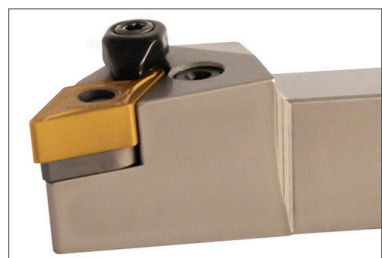
Insert P.30-35	
	CNGG 1204..
	CNMA 1204.. CNMA 1606.. CNMA 1906..
	CNMG 1204.. CNMG 1606.. CNMG 1906..

EDP Code	Description	R	L	H	HF	B	LF	WF	Clamp	Clamp Screw	Shim	Shim Pin	Lever	Lever Screw	Wrench	Key
TTH0089	<b>PCLNRL 2020 K12C</b>	●		20	20	20	125	25	TTAP-1	TXS4011	HPC12NA	HAY461	HL441	HLV441	TXW15	HA3
TTH0089L	<b>PCLNRL 2020 K12C</b>		●	20	20	20	125	25								
TTH0090	<b>PCLNRL 2525 M12C</b>	●		25	25	25	150	32								
TTH0090L	<b>PCLNRL 2525 M12C</b>		●	25	25	25	150	32								
TTH0153	<b>PCLNRL 2525 M16C</b>	○		25	25	25	150	32	TTAP-2	HBI6	HPC16NA	HAY464	HL443	HLV442	-	HA3
TTH0153L	<b>PCLNRL 2525 M16C</b>		○	25	25	25	150	32								
TTH0154	<b>PCLNRL 3232 P16C</b>	○		32	32	32	170	40								
TTH0154L	<b>PCLNRL 3232 P16C</b>		○	32	32	32	170	40								
TTH0155	<b>PCLNRL 2525 M19C</b>	○		50	50	50	250	63	TTAP-2	HBI6	HPC19NA	HAY465	HL444	HLV443	-	HA4
TTH0155L	<b>PCLNRL 2525 M19C</b>		○	50	50	50	250	63								
TTH0156	<b>PCLNRL 3232 P19C</b>	○		20	20	20	125	25								
TTH0156L	<b>PCLNRL 3232 P19C</b>		○	20	20	20	125	25								
TTH0157	<b>PCLNRL 4040 S19C</b>	○		25	25	25	150	32								
TTH0157L	<b>PCLNRL 4040 S19C</b>		○	25	25	25	150	32								

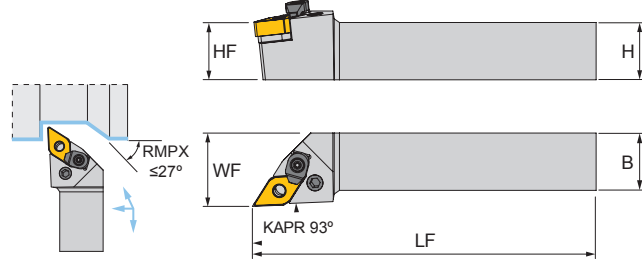
● : Stock ○ : Available to order

LEVER LOCK EXTERNAL HOLDERS

**PDJNR/L**  
For DN.. negative inserts



Right hand holder shown - additional security clamp

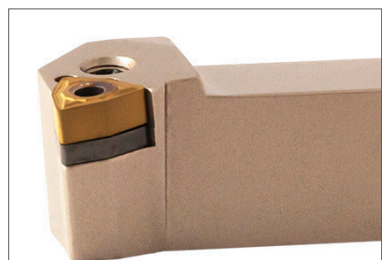


Insert P.36-40	
	DNGG 1506..
	DNMA 1506..
	DNMG 1506..

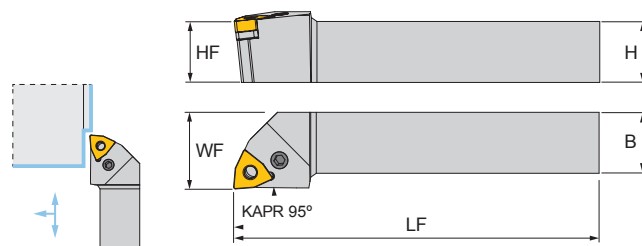
EDP Code	Description	R	L	H	HF	B	LF	WF	Clamp	Clamp Screw	Shim	Shim Pin	Lever	Lever Screw	Wrench	Key
TTH0091	<b>PDJNR 2020 K15C</b>	●		20	20	20	125	25	TTAP-1	TXS4011	HPD15NA	HAY461	HL442	HLV441	TXW15	HA3
TTH0091L	<b>PDJNL 2020 K15C</b>		●	20	20	20	125	25								
TTH0092	<b>PDJNR 2525 M15C</b>	●		25	25	25	150	32								
TTH0092L	<b>PDJNL 2525 M15C</b>		●	25	25	25	150	32								

● : Stock ○ : Available to order

**PWLNRL**  
For WN.. negative inserts



Right hand holder shown



Insert P.56-58	
	WNMG 0604..

EDP Code	Description	R	L	H	HF	B	LF	WF	Shim	Shim Pin	Lever	Lever Screw	Key
TTH0056	<b>PWLNRL 1616 H06</b>	●		16	16	16	100	20	HPW06NA	HAY463	HL440	HLV420	HA2.5
TTH0056L	<b>PWLNRL 1616 H06</b>		●	16	16	16	100	20					
TTH0057	<b>PWLNRL 2020 K06</b>	●		20	20	20	125	25					
TTH0057L	<b>PWLNRL 2020 K06</b>		●	20	20	20	125	25					

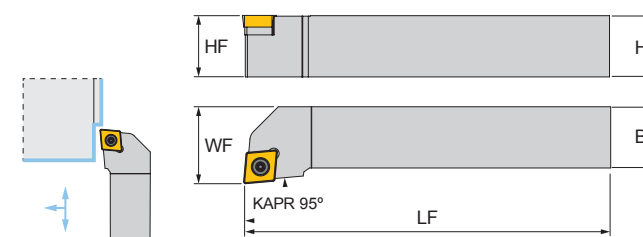
● : Stock ○ : Available to order

SCREW LOCK EXTERNAL HOLDERS

**SCLCR/L**  
For CC.. positive inserts



Right hand holder shown



Insert P.59-60	
	CCGT 0602..
	CCGT 09T3..
	CCGT 1204..
	CCMT 0602..
	CCMT 09T3..
	CCMT 1204..

EDP Code	Description	R	L	H	HF	B	LF	WF	Shim	Shim Screw	Shim Key	Insert Screw	Wrench
TTH0001	<b>SCLCR 0808 E06</b>	●		8	8	8	70	10	-	-	-	TXS2506	TXW08
TTH0001L	<b>SCLCL 0808 E06</b>		●	8	8	8	70	10					
TTH0002	<b>SCLCR 1010 E06</b>	●		10	10	10	70	12					
TTH0002L	<b>SCLCL 1010 E06</b>		●	10	10	10	70	12					
TTH0003	<b>SCLCR 1212 F09</b>	●		12	12	12	80	16	-	-	-	TXS3511	TXW15
TTH0003L	<b>SCLCL 1212 F09</b>		●	12	12	12	80	16					
TTH0004	<b>SCLCR 1616 H09</b>	●		16	16	16	100	20	HSC09PA	HSAV35	HA3.5	TXS3514	TXW15
TTH0004L	<b>SCLCL 1616 H09</b>		●	16	16	16	100	20					
TTH0005	<b>SCLCR 2020 K09</b>	●		20	20	20	125	25					
TTH0005L	<b>SCLCL 2020 K09</b>		●	20	20	20	125	25					
TTH0006	<b>SCLCR 2525 M09</b>	●		25	25	25	150	32					
TTH0006L	<b>SCLCL 2525 M09</b>		●	25	25	25	150	32					
TTH0007	<b>SCLCR 2020 K12</b>	●		20	20	20	125	25	HSC12PA	HSAV45	HA4.5	TXS4516	TXW20F
TTH0007L	<b>SCLCL 2020 K12</b>		●	20	20	20	125	25					
TTH0008	<b>SCLCR 2525 M12</b>	●		25	25	25	150	32					
TTH0008L	<b>SCLCL 2525 M12</b>		●	25	25	25	150	32					

● : Stock ○ : Available to order

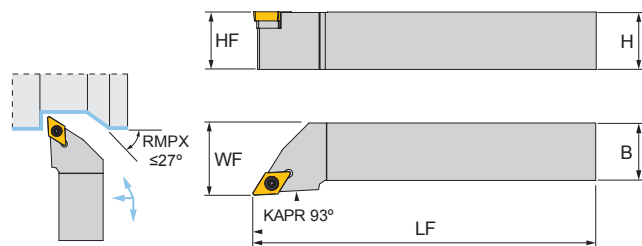


SCREW LOCK EXTERNAL HOLDERS

**SDJCR/L**  
For DC.. positive inserts



Right hand holder shown



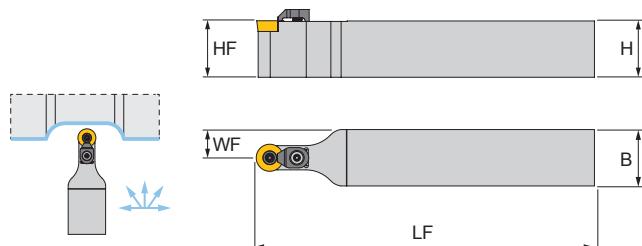
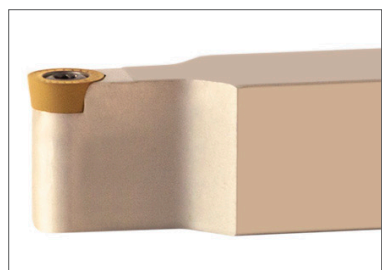
Insert P.61-62	
	DCGT 0702.. DCMT 11T3..
	DCMT 0702.. DCMT 11T3..

EDP Code	Description	R	L	H	HF	B	LF	WF	Shim	Shim Screw	Shim Key	Insert Screw	Wrench
TTH0068	<b>SDJCR/L 1010 E07</b>	●	○	10	10	10	70	12	-	-	-	TXS2506	TXW08
TTH0069	<b>SDJCR/L 1212 F07</b>	●	○	12	12	12	80	16	-	-	-	TXS2506	TXW08
TTH0070	<b>SDJCR/L 1212 F11</b>	●	○	12	12	12	80	16	HSD11PA	HSAV35	HA3.5	TXS3514	TXW15
TTH0071	<b>SDJCR/L 1616 H11</b>	●	○	16	16	16	100	20					
TTH0072	<b>SDJCR/L 2020 K11</b>	●	○	20	20	20	125	25					
TTH0073	<b>SDJCR/L 2525 M11</b>	●	○	25	25	25	150	32					

● : Stock ○ : Available to order

To order left hand add L to EDP code. Example: SDJCL 1010 H07 = TTH0093L

**SRDCN**  
For RC.. positive inserts

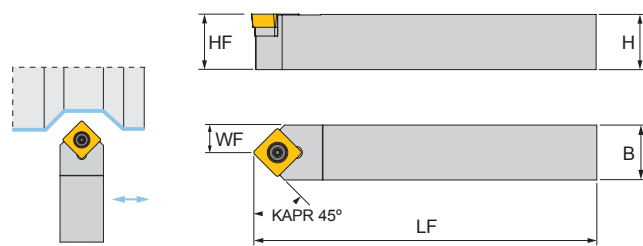
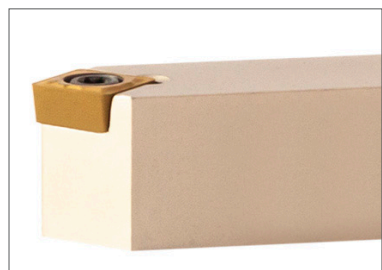


Insert P.63	
	RCMT 0602.. RCMT 0803.. RCMT 10T3.. RCMT 1204..

EDP Code	Description	R	L	H	HF	B	LF	WF	Clamp	Clamp Screw	Insert Screw	Wrench
TTH0101	<b>SRDCN 2020 K06</b>	●	○	20	20	20	125	10	TTAP-2	TXS3511	TXS3008	TXW08
TTH0102	<b>SRDCN 2525 M06</b>	●	○	25	25	25	150	12.5				
TTH0103	<b>SRDCN 2020 K08C</b>	●	○	20	20	20	125	10				
TTH0104	<b>SRDCN 2525 M08C</b>	●	○	25	25	25	150	12.5	TTAP-2	TXS3511	TXS3511	TXW15
TTH0009	<b>SRDCN 1616 H10C</b>	●	○	16	16	16	100	8				
TTH0010	<b>SRDCN 2020 K10C</b>	●	○	20	20	20	125	10				
TTH0105	<b>SRDCN 2525 M10C</b>	●	○	25	25	25	150	12.5				
TTH0106	<b>SRDCN 2020 K12C</b>	●	○	20	20	20	125	10				
TTH0011	<b>SRDCN 2525 M12C</b>	●	○	25	25	25	150	12.5	TTAP-1	TXS4011	TXS3511	TXW15

SCREW LOCK EXTERNAL HOLDERS

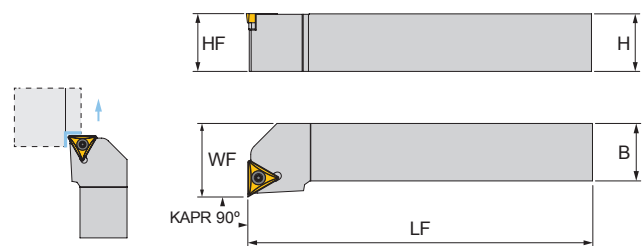
**SSDCN**  
For SC.. positive inserts



Insert P.63	
	SCMT 09T3.. SCMT 1204..
	SCGT 09T3..

EDP Code	Description	R	L	H	HF	B	LF	WF	Shim	Shim Screw	Shim Key	Insert Screw	Wrench
TTH0012	<b>SSDCN 1212 F09</b>	●	○	12	12	12	80	6	-	-	-	TXS3511	TXW15
TTH0013	<b>SSDCN 1616 H09</b>	●	○	16	16	16	100	8	HSS09PA	HSAV35	HA3.5	TXS3514	TXW15
TTH0014	<b>SSDCN 2020 K12</b>	●	○	20	20	20	125	10	HSS12PA	HSAV45	HA4.5	TXS4516	TXW20F
TTH0015	<b>SSDCN 2525 M12</b>	●	○	25	25	25	150	12.5					

**STFCR/L**  
For TC.. positive inserts



Insert P.65-66	
	TCMT 1102..
	TCGT 16T3.. TCMT 16T3..

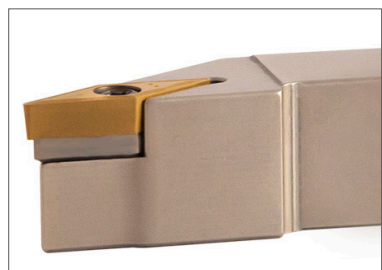
EDP Code	Description	R	L	H	HF	B	LF	WF	Shim	Shim Screw	Shim Key	Insert Screw	Wrench
TTH0079	<b>STFCR/L 1212 F11</b>	●	○	12	12	12	80	16	-	-	-	TXS2506	TXW08
TTH0080	<b>STFCR/L 1616 H11</b>	●	○	16	16	16	100	20					
TTH0081	<b>STFCR/L 1616 H16</b>	●	○	16	16	16	100	20					
TTH0082	<b>STFCR/L 2020 K16</b>	●	○	20	20	20	125	25	HST16PA	HSAV35	HA3.5	TXS3514	TXW15
TTH0083	<b>STFCR/L 2525 M16</b>	●	○	25	25	25	150	32					

● : Stock ○ : Available to order

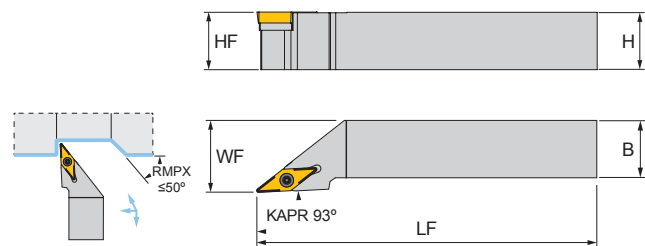
To order left hand add L to EDP code. Example: STFCL 1212 F11 = TTH0079L

SCREW LOCK EXTERNAL HOLDERS

**SVJBR/L**  
For VB.. positive inserts



Right hand holder shown



Insert P.67	
	VBMT 1604..

EDP Code	Description	R	L	H	HF	B	LF	WF	Shim	Shim Screw	Shim Key	Insert Screw	Wrench
TTH0086	<b>SVJBR/L 1616 H16</b>	●	○	16	16	16	100	20	HSV16PA	HSAV35	HA3.5	TXS3514	TXW15
TTH0087	<b>SVJBR 2020 K16</b>	●	○	20	20	20	125	25					
TTH0087L	<b>SVJBL 2020 K16</b>	○	●	20	20	20	125	25					
TTH0088	<b>SVJBR 2525 M16</b>	●	○	25	25	25	150	32					
TTH0088L	<b>SVJBL 2525 M16</b>	○	●	25	25	25	150	32					

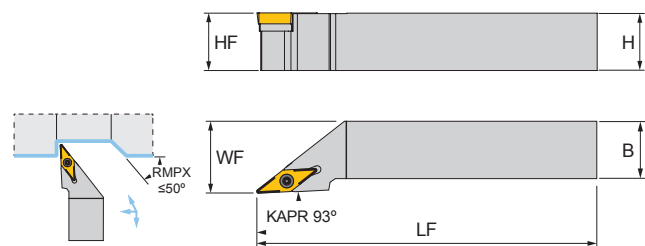
● : Stock ○ : Available to order

To order left hand add L to EDP code. Example: SVJBL 1616 H16 = TTH0086L

**SVJCR/L**  
For VC.. positive inserts



Right hand holder shown



Insert P.68	
	VCGT 1103..
	VCGT 1604..
	VCMT 1604

EDP Code	Description	R	L	H	HF	B	LF	WF	Shim	Shim Screw	Shim Key	Insert Screw	Wrench
TTH0162	<b>SVJCR/L 1212 F11</b>	●	○	12	12	12	80	16	-	-	-	TXS2506	TXW08
TTH0163	<b>SVJCR/L 1616 H11</b>	●	○	16	16	16	100	20					
TTH0164	<b>SVJCR/L 2020 K11</b>	●	○	20	20	20	125	25					
TTH0016	<b>SVJCR/L 2020 K16</b>	●	○	20	20	20	125	25	HSV16PA	HSAV35	HA3.5	TXS3514	TXW15
TTH0017	<b>SVJCR/L 2525 M16</b>	●	○	25	25	25	150	32					
TTH0018	<b>SVJCR/L 3232 P16</b>	●	○	32	32	32	170	40					

● : Stock ○ : Available to order

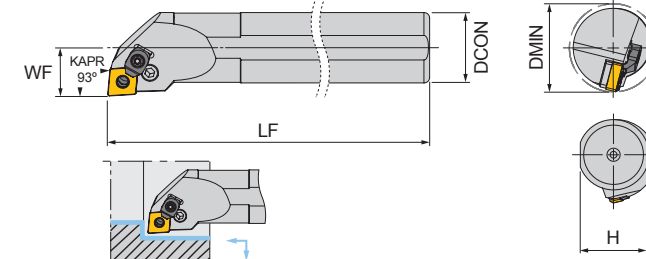
To order left hand add L to EDP code. Example: SVJCL 1212 F11 = TTH0162L

LEVER LOCK INTERNAL HOLDERS

**- PCLNR/L**  
For CN.. negative inserts



Right hand holder shown - additional security clamp



Insert P.30-35	
	CNGG 1204..
	CNMA 1204.. CNMA 1606.. CNMA 1906..
	CNMG 1204.. CNMG 1606.. CNMG 1906..

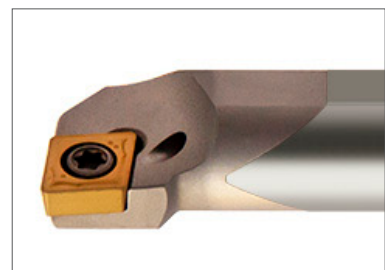
EDP Code	Description	▲	R	L	DCON	DMIN	H	LF	WF	Clamp	Clamp Screw	Shim	Shim Pin	Lever	Lever Screw	Wrench	Key
TTH0093	<b>A25R PCLNR/L 12C</b>	▲	●	○	25	32	23	200	17	TTAP-1	TXS4011	HPC12NA	HAY461	HL441	HLV441	TXW15	HA3
TTH0094	<b>A32S PCLNR/L 12C</b>	▲	●	○	32	40	30	250	22								
TTH0158	<b>A32S PCLNR/L 16C</b>	▲	○	○	32	40	30	250	22	TTAP-2	HB16	HPC16NA	HAY464	HL443	HLV442	-	HA3
TTH0159	<b>A40T PCLNR/L 16C</b>	▲	○	○	40	50	37.5	300	27								
TTH0160	<b>A40T PCLNR/L 19C</b>	▲	○	○	40	50	37.5	300	27	TTAP-2	HB16	HPC19NA	HAY465	HL444	HLV443	-	HA4
TTH0161	<b>A50U PCLNR/L 19C</b>	▲	○	○	50	63	47	350	35								

● : Stock ○ : Available to order

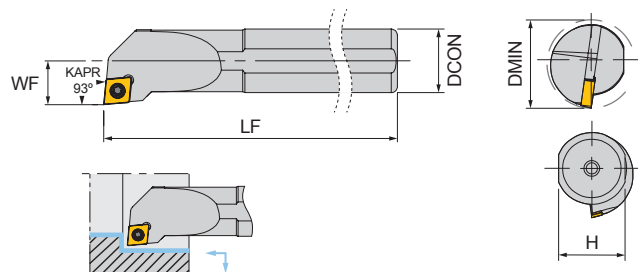
To order left hand add L to EDP code. Example: A25R PCLNL 12C = TTH0093L

SCREW LOCK INTERNAL HOLDERS

**- SCLCR/L**  
For CC.. positive inserts



Right hand holder shown



Insert P.59-60	
	CCGT 0602.. CCGT 09T3.. CCGT 1204..
	CCMT 0602.. CCMT 09T3.. CCMT 1204..

EDP Code	Description	♠	R	L	DCON	DMIN	H	LF	WF	Shim	Shim Screw	Shim Key	Insert Screw	Wrench
TTH0095	<b>E10M SCLCR/L 06*</b>	♠	●	○	10	13	9.5	150	7	-	-	-	TXS2506	TXW08
TTH0096	<b>E12Q SCLCR/L 06*</b>	♠	●	○	12	16	11	180	9	-	-	-	TXS2506	TXW08
TTH0097	<b>E16R SCLCR/L 09*</b>	♠	●	○	16	20	15	200	11	-	-	-	TXS3509	TXW15
TTH0062	<b>A08H SCLCR/L 06</b>	♠	●	○	8	11	7.3	100	6	-	-	-	TXS2506	TXW08
TTH0063	<b>A10H SCLCR/L 06</b>	♠	●	○	10	12	9	100	6	-	-	-	TXS2506	TXW08
TTH0064	<b>A12H SCLCR/L 06</b>	♠	●	○	12	16	11	100	9	-	-	-	TXS2506	TXW08
TTH0065	<b>A12H SCLCR/L 09</b>	♠	●	○	12	16	11	100	9	-	-	-	TXS2506	TXW08
TTH0066	<b>A16M SCLCR/L 09</b>	♠	●	○	16	20	15	150	11	-	-	-	TXS3509	TXW15
TTH0067	<b>A20P SCLCR/L 09</b>	♠	●	○	20	25	18	170	13	-	-	-	TXS3509	TXW15
TTH0019	<b>S08H SCLCR/L 06</b>	x	●	○	8	11	7.3	100	6	-	-	-	TXS2506	TXW08
TTH0020	<b>S10K SCLCR/L 06</b>	x	●	○	10	13	9	125	7	-	-	-	TXS2506	TXW08
TTH0021	<b>S12K SCLCR/L 06</b>	x	●	○	12	16	11	125	9	-	-	-	TXS2506	TXW08
TTH0023	<b>S12K SCLCR/L 09</b>	x	●	○	16	20	14.8	125	11	-	-	-	TXS3509	TXW15
TTH0022	<b>S16P SCLCR/L 06</b>	x	●	○	12	16	11	170	9	-	-	-	TXS3509	TXW15
TTH0024	<b>S16P SCLCR/L 09</b>	x	●	○	16	20	14.8	170	11	-	-	-	TXS3509	TXW15
TTH0025	<b>S20R SCLCR/L 09</b>	x	●	○	20	25	18.3	200	13	-	-	-	TXS3513	TXW15
TTH0026	<b>S25S SCLCR/L 09</b>	x	●	○	25	32	23	250	17	HSC09PA	HSAV35	HA3.5	TXS3513	TXW15

● : Stock ○ : Available to order

To order left hand add L to EDP code. Example: E10M SCLCL 06 = TTH0095L

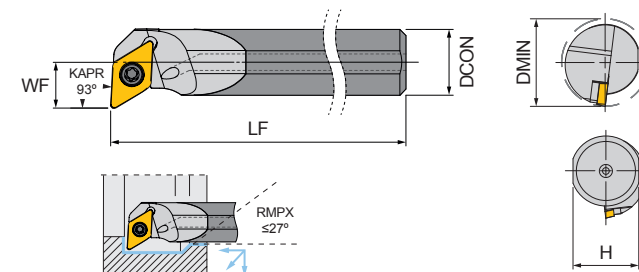
\*Carbide Shank

SCREW LOCK INTERNAL HOLDERS

**- SDUCR/L**  
For DC.. positive inserts



Right hand holder shown



Insert P.61-62	
	DCGT 0702.. DCGT 11T3..
	DCMT 0702.. DCMT 11T3..

EDP Code	Description	♠	R	L	DCON	DMIN	H	LF	WF	Shim	Shim Screw	Shim Key	Insert Screw	Wrench
TTH0098	<b>E10M SDUCR/L 07*</b>	♠	●	○	10	13	9.5	150	8	-	-	-	TXS2506	TXW08
TTH0099	<b>E12Q SDUCR/L 07*</b>	♠	●	○	12	16	11	180	9	-	-	-	TXS2506	TXW08
TTH0100	<b>E16R SDUCR/L 11*</b>	♠	●	○	16	20	15	200	11	-	-	-	TXS3509	TXW15

● : Stock ○ : Available to order

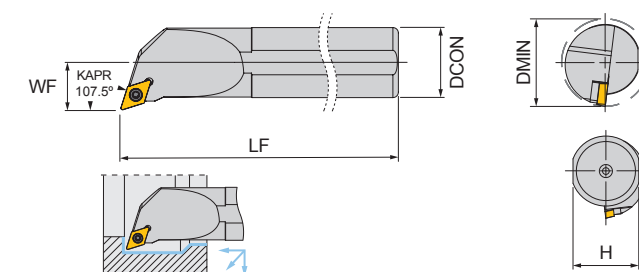
To order left hand add L to EDP code. Example: E10M SDUCL 07 = TTH0098L

\*Carbide Shank

**- SDQCR/L**  
For DC.. positive inserts



Right hand holder shown



Insert P.61-62	
	DCGT 0702.. DCGT 11T3..
	DCMT 0702.. DCMT 11T3..

EDP Code	Description	♠	R	L	DCON	DMIN	H	LF	WF	Shim	Shim Screw	Shim Key	Insert Screw	Wrench
TTH0074	<b>S10K SDQCR/L 07</b>	x	●	○	10	13	9	125	7	-	-	-	TXS2506	TXW08
TTH0075	<b>S12K SDQCR/L 07</b>	x	●	○	12	16	11	125	9	-	-	-	TXS2506	TXW08
TTH0076	<b>S16P SDQCR/L 11</b>	x	●	○	16	20	14.8	170	11	-	-	-	TXS3509	TXW15
TTH0077	<b>S20R SDQCR/L 11</b>	x	●	○	20	25	18.3	200	13	-	-	-	TXS3511	
TTH0078	<b>S25S SDQCR/L 11</b>	x	●	○	25	32	23	250	17	HSD11PA	HSAV35.1	HA3.5	TXS3513	TXW15

● : Stock ○ : Available to order

To order left hand add L to EDP code. Example: S10K SDQCL 07 = TTH0074L



**INSERT CODE GUIDE**

\*ISO

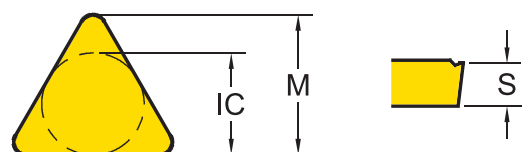
1	2	3	4	5	6	7	8	9
C	N	M	G	12	04	08	-BG	ET33C
Shape	Clearance	Tolerance	Clamping & Chipbreaker	Insert Size	Insert Thickness	Corner Radius	Chipbreaker Geometry	Grade

\*ANSI

1	2	3	4	5	6	7	8	9
C	N	M	G	4	3	2	-BG	ET33C
Shape	Clearance	Tolerance	Clamping & Chipbreaker	Insert Size	Insert Thickness	Corner Radius	Chipbreaker Geometry	Grade

**1 - Shape**

Symbol	Shape	
H	Hexagonal	
O	Octagonal	
P	Pentagonal	
S	Square	
T	Triangular	
C	Rhombic 80°	
D	Rhombic 55°	
V	Rhombic 35°	
W	Trigon	
L	Rectangular	
K	Parallelogram 55°	
R	Round	



**3 - Tolerance Class**

Symbol	Inner Circle IC (mm)	Nose Height M (mm)	Thickness S (mm)
E	±0.025	±0.025	±0.025
G	±0.025	±0.025	±0.13
K	±0.05~0.15	±0.013	±0.025
M	±0.05~0.15	±0.08~0.2	±0.13
U	±0.08~0.25	±0.13~0.38	±0.13

**4 - Clamping & Chipbreaker**

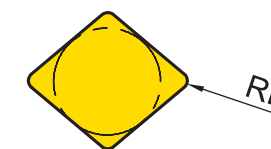
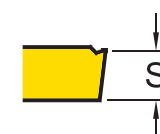
Symbol	Clamping	Chipbreaker	Figure
N	No clamping hole	X	
R		One Face	
A	Cylindrical Clamping hole	X	
M		One Face	
G		Both Faces	
W	Screw Hole	X	
T		One Face	
U		Both Faces	
X		Special	

**2 - Relief Angle (AN)**

Symbol	Relief Angle (AN)	
N	No Relief Angle	
C	Relief 7°	
P	Relief 11°	
D	Relief 15°	
E	Relief 20°	
F	Relief 25°	
O	Special	

**5 - Insert Size**

Metric (ISO)							Inscribed Circle IC (mm)	ANSI
S	T	C	D	V	W	R		
06	11	06	07	11			6.53	2
07							7.94	2.5
09	16	09	11	16	06	09 (00)	9.525	3
12	22	12	15	22	08	12 (00)	12.7	4
15		16					15.875	5
						06 (M0)	6	
						08 (M0)	8	
						10 (M0)	10	
						12 (M0)	12	
						16 (M0)	16	



**6 - Insert Thickness (S)**

Metric (ISO)	Thickness - S (mm)	ANSI
T1	1.98	1.2
02	2.38	1.5
03	3.18	2
T3	3.97	2.5
04	4.76	3
05	5.56	3.5
06	6.35	4
07	7.94	5

**7 - Corner Radius (RE)**

Metric (ISO)	Corner Radius - RE (mm)	ANSI
01	0.1	0
02	0.2	0.5
04	0.4	1
08	0.8	2
12	1.2	3
16	1.6	4
20	2.0	5
24	2.4	6



INSERT GRADES

CVD COATED GRADES		PVD COATED GRADES	
	<b>P01 - P10</b> <b>K10 - K25</b> CVD TiCN - Al <sub>2</sub> O <sub>3</sub>		<b>M05 - M20</b> PVD Coated
	<b>P05 - P20</b> <b>K15 - K35</b> CVD TiCN - Al <sub>2</sub> O <sub>3</sub>		<b>M20 - M35</b> PVD Coated
	<b>P10 - P25</b> CVD TiCN - Al <sub>2</sub> O <sub>3</sub>		<b>M30 - M40</b> PVD Coated
	<b>P15 - P30</b> CVD TiCN - Al <sub>2</sub> O <sub>3</sub>		<b>S05 - S15</b> PVD Coated
	<b>P20 - P35</b> <b>M20 - M30</b> CVD TiCN - Al <sub>2</sub> O <sub>3</sub>		<b>P10 - P30</b> <b>K20 - K30</b> PVD Coated
<b>NON-FERROUS GRADES</b>			
	<b>N05 - N35</b> TaC Diamond Coated		<b>N05 - N35</b> Uncoated

COATING

	Multi-layer CVD coated grades are finished with a special process to enable smoother chip flow.		Single layer PVD coated grades are designed to balance edge strength with extended tool life.		TaC coated inserts maintain sharp cutting edge due to coating thickness of ≤ 1 μm and highly polished face.
--	---	--	---	--	---

INSERT GRADE GUIDE

		P STEEL				M STAINLESS STEEL				K CAST IRON			
		05	15	25	35	05	15	25	35	05	15	25	35
CVD	ET1001	1001								1001			
	ET31C		31C								31C		
	ET315C			315C									
	ET32C				32C								
PVD	ET33C								33C				
	ET21P												
	ET23P												
	ET24P												
	ET41P												
	ET801				801								801
TaC	ET10D												
-	ET10U												

HARDER ← → TOUGHER    HARDER ← → TOUGHER    HARDER ← → TOUGHER

		N NON-FERROUS				S HRSA				H HARDENED STEEL			
		05	15	25	35	05	15	25	35	05	15	25	35
CVD	ET1001												
	ET31C												31C
	ET315C												
	ET32C												
PVD	ET33C												
	ET21P												
	ET23P												
	ET24P												
	ET41P								41P				
	ET801												801
TaC	ET10D				10D								
-	ET10U				10U								

HARDER ← → TOUGHER    HARDER ← → TOUGHER    HARDER ← → TOUGHER

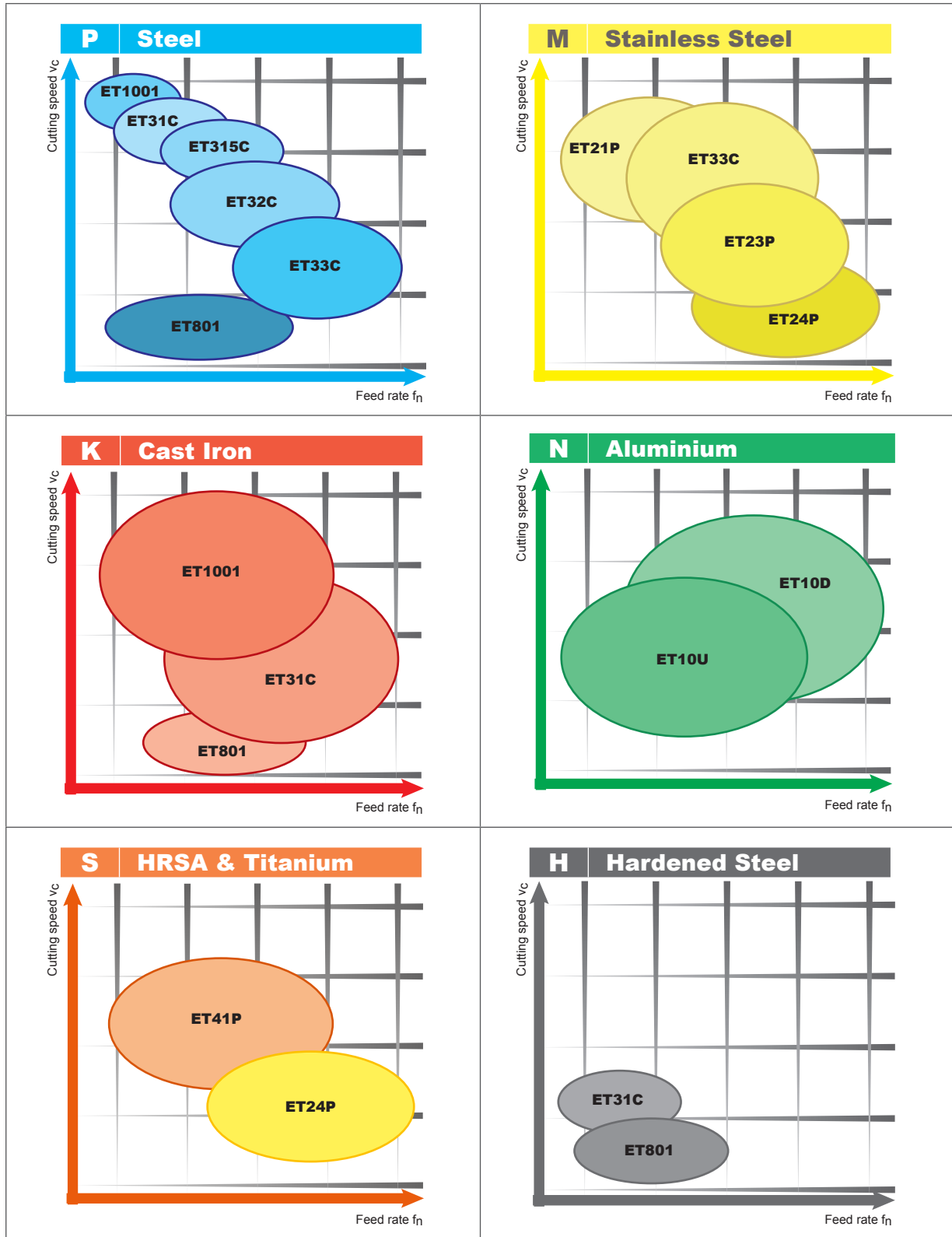
THEORETICAL SURFACE ROUGHNESS BY INSERT RADIUS

Ra (Rz) μm	Insert corner radius					
	0.2	0.4	0.8	1.2	1.6	2.4
0.4 (1.6)	0.05	0.07	0.10	0.12	0.14	0.18
1.6 (6.3)	0.10	0.14	0.20	.025	0.28	0.35
3.2 (12.5)	0.14	0.20	0.28	0.35	0.40	0.49
6.3 (25)	-	0.28	0.40	0.49	0.57	0.69
8 (32)	-	-	0.45	0.55	0.64	0.78

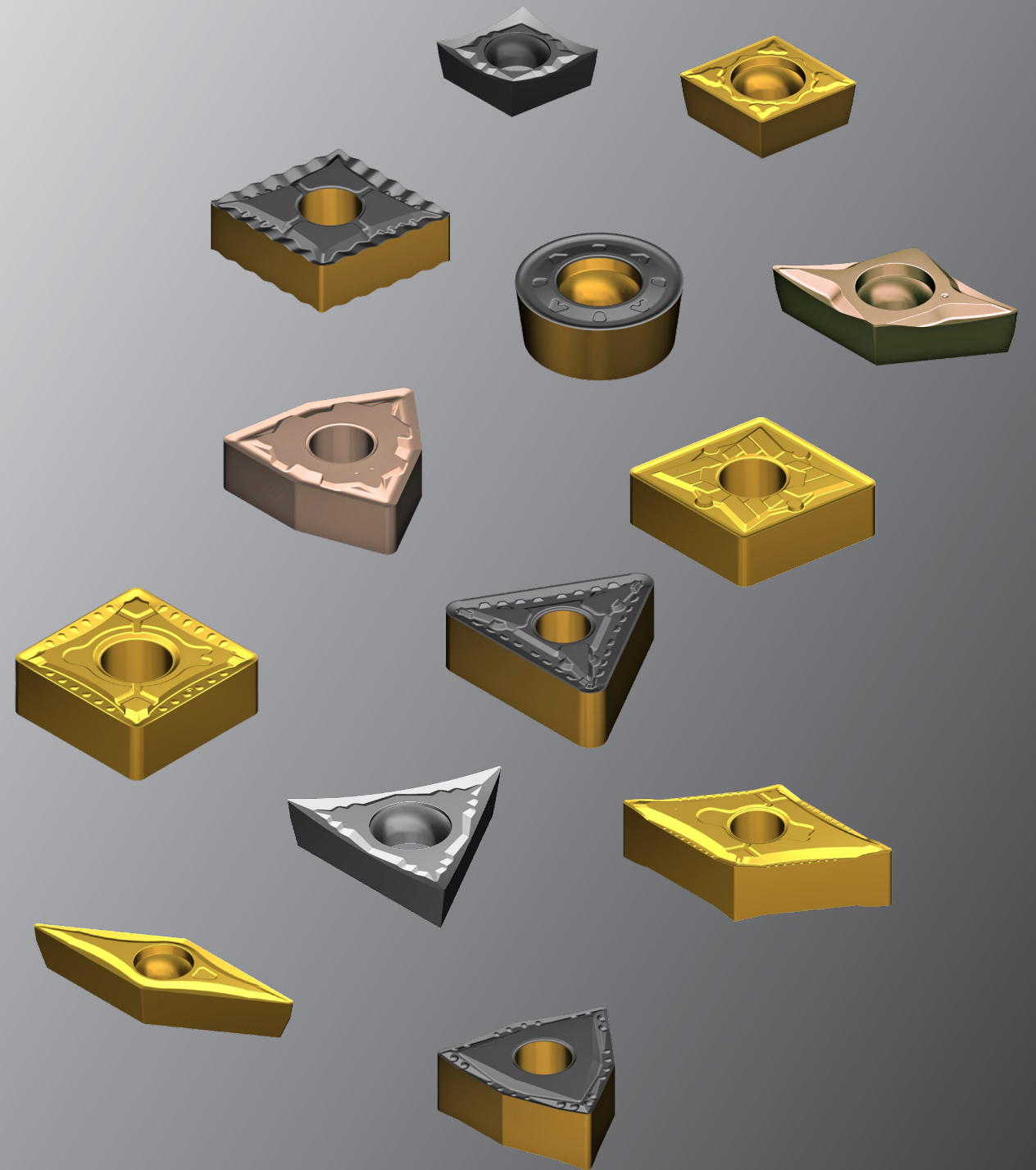


**INSERT GRADE APPLICATION AREA**

The charts below indicate grade selection in relation to cutting speed and feed rate



# INSERTS



CNGG 80° RHOMBIC TYPE

▶ EDP Code TI..... Example: CNGG 120404-SF ET41P = TI01032

INSERT	LE	IC	S
CNGG 1204	12	12.7	4.76

ISO	P	M	K	N	S	H
ET1001	●	●	●	●	●	●
ET31C	●	●	●	●	●	●
ET315C	●	●	●	●	●	●
ET32C	●	●	●	●	●	●
ET33C	●	●	●	●	●	●
ET801	●	●	●	●	●	●
ET21P	●	●	●	●	●	●
ET23P	●	●	●	●	●	●
ET24P	●	●	●	●	●	●
ET41P	●	●	●	●	●	●
ET10D	●	●	●	●	●	●
ET10U	●	●	●	●	●	●

CNGG	ISO DESIGNATION	RE (mm)	fn (mm/rev)	ap (mm)	ET1001	ET31C	ET315C	ET32C	ET33C	ET801	ET21P	ET23P	ET24P	ET41P	ET10D	ET10U
SF	CNGG 120404-SF	0.4	0.10 - 0.25	0.2 - 1.0										● 01032		
	CNGG 120408-SF	0.8	0.10 - 0.25	0.5 - 1.5										● 01033		

CNMA 80° RHOMBIC TYPE

▶ EDP Code TI..... Example: CNMA 120404 ET31C = TI00328

INSERT	LE	IC	S
CNMA 1204	12	12.7	4.76
CNMA 1606	16	15.88	6.35
CNMA 1906	19	19.05	6.35

ISO	P	M	K	N	S	H
ET1001	●	●	●	●	●	●
ET31C	●	●	●	●	●	●
ET315C	●	●	●	●	●	●
ET32C	●	●	●	●	●	●
ET33C	●	●	●	●	●	●
ET801	●	●	●	●	●	●
ET21P	●	●	●	●	●	●
ET23P	●	●	●	●	●	●
ET24P	●	●	●	●	●	●
ET41P	●	●	●	●	●	●
ET10D	●	●	●	●	●	●
ET10U	●	●	●	●	●	●

CNMA	ISO DESIGNATION	RE (mm)	fn (mm/rev)	ap (mm)	ET1001	ET31C	ET315C	ET32C	ET33C	ET801	ET21P	ET23P	ET24P	ET41P	ET10D	ET10U
	CNMA 120404	0.4	0.15 - 0.50	0.5 - 2.5	● 00072	● 00328										
	CNMA 120408	0.8	0.15 - 0.50	1.0 - 3.5	● 00025	● 00329										
	CNMA 120412	1.2	0.15 - 0.50	1.5 - 5.0	● 00026	● 00330										
	CNMA 120416	1.6	0.15 - 0.50	1.5 - 5.0	● 00960	● 01060										
	CNMA 160612	1.2	0.15 - 0.50	1.5 - 5.0	● 00027	● 00332										
	CNMA 160616	1.6	0.15 - 0.50	2.0 - 5.0	● 00333	● 00334										
	CNMA 190612	1.2	0.15 - 0.50	1.5 - 9.0	● 00888	● 00889										
CNMA 190616	1.6	0.15 - 1.00	3.0 - 10.0	● 00335	● 00336											

ISO	P	M	K	N	S	H					
MATERIAL	Non-alloy steel <25 HRC	Low alloy steel 25-35 HRC	High alloy steel, Tool steel 35-45 HRC	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel <55 HRC	
VDI GROUP	1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38-41	
Vc (m/min)	ET1001	220 - 480	220 - 420	-	-	170 - 420	120 - 410	-	-	-	
	ET31C	170 - 450	180 - 380	100 - 330	-	120 - 300	120 - 280	-	-	40 - 80	
	ET315C	170 - 410	130 - 360	80 - 310	-	-	-	-	-	-	
	ET32C	180 - 380	110 - 350	60 - 300	-	-	-	-	-	-	
	ET33C	150 - 350	90 - 300	70 - 250	120 - 220	50 - 180	-	-	-	-	
	ET801	120 - 200	70 - 230	70 - 180	70 - 180	-	60 - 160	60 - 120	-	-	40 - 80
	ET21P	-	-	-	130 - 230	100 - 200	-	-	-	30 - 90	-
	ET23P	-	-	-	110 - 180	40 - 130	-	-	-	20 - 40	-
	ET24P	-	-	-	80 - 150	30 - 120	-	-	-	20 - 40	-
	ET41P	-	-	-	-	-	-	-	-	35 - 90	-
	ET10D	-	-	-	-	-	-	-	350 - 1200	-	-
ET10U	-	-	-	-	-	-	-	250 - 800	-	-	

ISO	P	M	K	N	S	H					
MATERIAL	Non-alloy steel <25 HRC	Low alloy steel 25-35 HRC	High alloy steel, Tool steel 35-45 HRC	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel <55 HRC	
VDI GROUP	1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38-41	
Vc (m/min)	ET1001	220 - 480	220 - 420	-	-	170 - 420	120 - 410	-	-	-	
	ET31C	170 - 450	180 - 380	100 - 330	-	120 - 300	120 - 280	-	-	40 - 80	
	ET315C	170 - 410	130 - 360	80 - 310	-	-	-	-	-	-	
	ET32C	180 - 380	110 - 350	60 - 300	-	-	-	-	-	-	
	ET33C	150 - 350	90 - 300	70 - 250	120 - 220	50 - 180	-	-	-	-	
	ET801	120 - 200	70 - 230	70 - 180	70 - 180	-	60 - 160	60 - 120	-	-	40 - 80
	ET21P	-	-	-	130 - 230	100 - 200	-	-	-	30 - 90	-
	ET23P	-	-	-	110 - 180	40 - 130	-	-	-	20 - 40	-
	ET24P	-	-	-	80 - 150	30 - 120	-	-	-	20 - 40	-
	ET41P	-	-	-	-	-	-	-	-	35 - 90	-
	ET10D	-	-	-	-	-	-	-	350 - 1200	-	-
ET10U	-	-	-	-	-	-	-	250 - 800	-	-	

CNMG 80° RHOMBIC TYPE

EDP Code TI..... Example: CNMG 120404-BF ET31C = T100402

		INSERT				Material Matrix																				
		LE	IC	S		P	M	K	N	S	H	ET1001	ET31C	ET315C	ET32C	ET33C	ET801	ET21P	ET23P	ET24P	ET41P	ET10D	ET10U			
		CNMG 1204	12	12.7	4.76	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
		CNMG 1606	16	15.88	6.35	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
		CNMG 1906	19	19.05	6.35	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
CNMG	ISO DESIGNATION	RE (mm)	f <sub>n</sub> (mm/rev)	a <sub>p</sub> (mm)																						
	<b>BF</b>																									
	CNMG 120404-BF	0.4	0.05 - 0.25	0.5 - 1.5		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	CNMG 120408-BF	0.8	0.05 - 0.25	1.0 - 2.5		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	<b>MF</b>																									
	CNMG 120404-MF	0.4	0.07 - 0.30	0.2 - 1.5		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	CNMG 120408-MF	0.8	0.07 - 0.30	0.2 - 1.5		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	CNMG 120412-MF	1.2	0.07 - 0.30	0.2 - 1.5		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	<b>BL</b>																									
	CNMG 120404-BL	0.4	0.10 - 0.30	0.5 - 2.0		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	CNMG 120408-BL	0.8	0.10 - 0.30	1.0 - 3.0		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	CNMG 120412-BL	1.2	0.10 - 0.30	1.5 - 3.5		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	<b>BG</b>																									
	CNMG 120404-BG	0.4	0.20 - 0.40	0.5 - 2.0		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	CNMG 120408-BG	0.8	0.20 - 0.40	1.0 - 3.0		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	CNMG 120412-BG	1.2	0.20 - 0.40	1.5 - 4.0		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	CNMG 160608-BG	0.8	0.20 - 0.40	1.5 - 5.0		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	CNMG 160612-BG	1.2	0.20 - 0.40	1.5 - 5.0		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	CNMG 160616-BG	1.6	0.20 - 0.40	1.8 - 5.0		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	CNMG 190608-BG	0.8	0.20 - 0.50	3.0 - 7.0		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	

Continued ▶

CNMG 80° RHOMBIC TYPE

EDP Code TI..... Example: CNMG 120404-BF ET31C = T100402

		INSERT				Material Matrix																				
		LE	IC	S		P	M	K	N	S	H	ET1001	ET31C	ET315C	ET32C	ET33C	ET801	ET21P	ET23P	ET24P	ET41P	ET10D	ET10U			
		CNMG 1204	12	12.7	4.76	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
		CNMG 1606	16	15.88	6.35	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
		CNMG 1906	19	19.05	6.35	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
CNMG	ISO DESIGNATION	RE (mm)	f <sub>n</sub> (mm/rev)	a <sub>p</sub> (mm)																						
	<b>MM</b>																									
	CNMG 120404-MM	0.4	0.20 - 0.35	0.5 - 3.0		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	CNMG 120408-MM	0.8	0.20 - 0.35	1.0 - 3.5		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	CNMG 120412-MM	1.2	0.20 - 0.35	1.5 - 3.5		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	CNMG 190608-MM	0.8	0.20 - 0.40	1.5 - 5.0		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	CNMG 190612-MM	1.2	0.20 - 0.40	1.5 - 5.0		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	CNMG 190616-MM	1.6	0.20 - 0.40	1.8 - 5.0		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	<b>SM</b>																									
	CNMG 120408-SM	0.8	0.15 - 0.35	1.0 - 3.5		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	CNMG 120412-SM	1.2	0.10 - 0.25	1.0 - 3.5		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	<b>BM</b>																									
	CNMG 120404-BM	0.4	0.15 - 0.30	0.5 - 1.5		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	CNMG 120408-BM	0.8	0.15 - 0.30	0.5 - 2.0		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	CNMG 120412-BM	1.2	0.15 - 0.30	1.5 - 3.0		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	<b>MG</b>																									
	CNMG 120408-MG	0.8	0.20 - 0.40	1.0 - 3.0		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	CNMG 120412-MG	1.2	0.20 - 0.40	1.5 - 4.0		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	CNMG 160608-MG	0.8	0.20 - 0.40	1.5 - 5.0		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	CNMG 160612-MG	1.2	0.20 - 0.40	1.5 - 5.0		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	CNMG 160616-MG	1.6	0.20 - 0.40	1.8 - 5.0		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	CNMG 190616-MG	1.6	0.20 - 0.50	3.0 - 7.0		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	

Continued ▶

ISO	P			M		K		N	S	H	
MATERIAL	Non-alloy steel <25 HRC	Low alloy steel 25-35 HRC	High alloy steel, Tool steel 35-45 HRC	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super-Alloys	Hardened steel <55 HRC	
VDI GROUP	1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38-41	
Vc (m/min)	ET1001	220 - 480	220 - 420	-	-	170 - 420	120 - 410	-	-	-	
	ET31C	170 - 450	180 - 380	100 - 330	-	120 - 300	120 - 280	-	-	40 - 80	
	ET315C	170 - 410	130 - 360	80 - 310	-	-	-	-	-	-	
	ET32C	180 - 380	110 - 350	60 - 300	-	-	-	-	-	-	
	ET33C	150 - 350	90 - 300	70 - 250	120 - 220	50 - 180	-	-	-	-	
	ET801	120 - 200	70 - 230	70 - 180	70 - 180	-	60 - 160	60 - 120	-	-	40 - 80
	ET21P	-	-	-	130 - 230	100 - 200	-	-	-	30 - 90	-
	ET23P	-	-	-	110 - 180	40 - 130	-	-	-	20 - 40	-
	ET24P	-	-	-	80 - 150	30 - 120	-	-	-	20 - 40	-
	ET41P	-	-	-	-	-	-	-	-	35 - 90	-
	ET10D	-	-	-	-	-	-	-	350 - 1200	-	-
ET10U	-	-	-	-	-	-	-	250 - 800	-	-	

ISO	P			M		K		N	S	H
MATERIAL	Non-alloy steel <25 HRC	Low alloy steel 25-35 HRC	High alloy steel, Tool steel 35-45 HRC	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super-Alloys	Hardened steel <55 HRC
VDI GROUP	1-5	6-9	10-11	12-13	14					



















TNMG 60° TRIANGULAR TYPE

▶ EDP Code TI..... Example: TNMG 160404-BF ET31C = TI00423

		INSERT	LE	IC	S	Material Matrix															
		TNMG 1604	16	9.53	4.76	P	M	K	N	S	H	O	O	O	O	O	O	O	O	O	O
		TNMG 2204	22	12.7	4.76	P	M	K	N	S	H	O	O	O	O	O	O	O	O	O	O
TNMG	ISO DESIGNATION	RE (mm)	f <sub>n</sub> (mm/rev)	a <sub>p</sub> (mm)	ET1001	ET31C	ET315C	ET32C	ET33C	ET801	ET21P	ET23P	ET24P	ET41P	ET10D	ET10U					
					CVD			PVD			TaC										
	TNMG 160404-MM	0.4	0.20 - 0.35	0.5 - 3.0							●	●	●								
	TNMG 160408-MM	0.8	0.20 - 0.35	1.0 - 3.5							●	●	●	●							
	TNMG 160412-MM	1.2	0.20 - 0.35	1.5 - 3.5							●	●	●	●							
	TNMG 160408-SM	0.8	0.15 - 0.35	1.0 - 3.0							●	●	●	●							
	TNMG 160412-SM	1.2	0.15 - 0.35	1.2 - 3.5							●	●	●	●							
	TNMG 160404-BM	0.4	0.15 - 0.30	0.5 - 2.0	●	●	●	●	●												
	TNMG 160408-BM	0.8	0.15 - 0.30	1.0 - 3.0	●	●	●	●	●												
	TNMG 160412-BM	1.2	0.15 - 0.30	1.5 - 3.0	●	●	●	●	●												
	TNMG 160404-MG	0.4	0.20 - 0.40	1.0 - 2.5							●	●	●	●							
	TNMG 160408-MG	0.8	0.20 - 0.40	1.0 - 3.0							●	●	●	●							
	TNMG 160404-BC	0.4	0.20 - 0.40	0.5 - 2.5	●	●		●	●												
	TNMG 160408-BC	0.8	0.20 - 0.40	1.0 - 3.0	●	●		●	●												
	TNMG 160412-BC	1.2	0.20 - 0.40	1.5 - 3.5	●	●		●	●												

Continued ▶

ISO	P			M		K		N	S	H	
MATERIAL	Non-alloy steel <25 HRC	Low alloy steel 25-35 HRC	High alloy steel, Tool steel 35-45 HRC	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel <55 HRC	
VDI GROUP	1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38-41	
V <sub>c</sub> (m/min)	ET1001	220 - 480	220 - 420	-	-	170 - 420	120 - 410	-	-	-	
	ET31C	170 - 450	180 - 380	100 - 330	-	120 - 300	120 - 280	-	-	40 - 80	
	ET315C	170 - 410	130 - 360	80 - 310	-	-	-	-	-	-	
	ET32C	180 - 380	110 - 350	60 - 300	-	-	-	-	-	-	
	ET33C	150 - 350	90 - 300	70 - 250	120 - 220	50 - 180	-	-	-	-	
	ET801	120 - 200	70 - 230	70 - 180	70 - 180	-	60 - 160	60 - 120	-	-	40 - 80
	ET21P	-	-	-	130 - 230	100 - 200	-	-	-	30 - 90	-
	ET23P	-	-	-	110 - 180	40 - 130	-	-	-	20 - 40	-
	ET24P	-	-	-	80 - 150	30 - 120	-	-	-	20 - 40	-
	ET41P	-	-	-	-	-	-	-	-	35 - 90	-
	ET10D	-	-	-	-	-	-	-	350 - 1200	-	-
ET10U	-	-	-	-	-	-	-	250 - 800	-	-	

TNMG 60° TRIANGULAR TYPE

▶ EDP Code TI..... Example: TNMG 160404-BF ET31C = TI00423

		INSERT	LE	IC	S	Material Matrix															
		TNMG 1604	16	9.53	4.76	P	M	K	N	S	H	O	O	O	O	O	O	O	O	O	O
		TNMG 2204	22	12.7	4.76	P	M	K	N	S	H	O	O	O	O	O	O	O	O	O	O
TNMG	ISO DESIGNATION	RE (mm)	f <sub>n</sub> (mm/rev)	a <sub>p</sub> (mm)	ET1001	ET31C	ET315C	ET32C	ET33C	ET801	ET21P	ET23P	ET24P	ET41P	ET10D	ET10U					
					CVD			PVD			TaC										
	TNMG 160408-BR	0.8	0.30 - 0.50	1.0 - 3.0	●	●		●													
	TNMG 160412-BR	1.2	0.30 - 0.50	1.5 - 3.0	●	●	●	●	●	●											
	TNMG 220412-BR	1.2	0.30 - 0.65	1.5 - 4.0	●	●	●	●	●	●											
	TNMG 220416-BR	1.6	0.30 - 0.65	2.0 - 4.0	●	●	●	●	●	●											
	TNMG 160408-MR	0.8	0.30 - 0.55	2.0 - 5.5					●		●	●	●								
	TNMG 160412-MR	1.2	0.30 - 0.55	2.0 - 5.5					●		●	●	●								
	TNMG 160408-SR	0.8	0.30 - 0.55	2.0 - 4.5																●	01052
	TNMG 160412-SR	1.2	0.30 - 0.55	2.0 - 5.0																●	01053



TNUX 60° TRIANGULAR TYPE

▶ EDP Code TI..... Example: TNUX 160404L ET31C = TI00629

		INSERT				EDP Code TI..... Example: TNUX 160404L ET31C = TI00629																		
		LE	IC	S	P	M	K	N	S	H	ET1001	ET31C	ET315C	ET32C	ET33C	ET801	ET21P	ET23P	ET24P	ET41P	ET10D	ET10U		
		16	9.53	4.76	●	●	●	●	●	●	●	●	●	●	●	○	○	○	○	○	○	○	○	○
TNUX	ISO DESIGNATION	RE (mm)	f <sub>n</sub> (mm/rev)	a <sub>p</sub> (mm)	CVD			PVD					TaC	-										
	TNUX 160404L	0.4	0.10 - 0.30	0.5 - 4.0	●	●	●	●	●	●	00629	00630	01010	00054										
	TNUX 160408L	0.8	0.10 - 0.40	0.5 - 6.0	●	●	●	●	●	●	●	00633	00634		00056									
	TNUX 160404R	0.4	0.10 - 0.30	0.5 - 4.0	●	●	●	●	●	●	00631	00632	01011	00055										
	TNUX 160408R	0.8	0.10 - 0.40	0.5 - 6.0	●	●	●	●	●	●	●	00635	00636		00057									

VNMA 35° DIAMOND TYPE

▶ EDP Code TI..... Example: VNMA 160408 ET31C = TI01017

		INSERT				EDP Code TI..... Example: VNMA 160408 ET31C = TI01017																		
		LE	IC	S	P	M	K	N	S	H	ET1001	ET31C	ET315C	ET32C	ET33C	ET801	ET21P	ET23P	ET24P	ET41P	ET10D	ET10U		
		16	9.53	4.76	●	●	●	●	●	●	●	●	●	●	●	○	○	○	○	○	○	○	○	○
VNMA	ISO DESIGNATION	RE (mm)	f <sub>n</sub> (mm/rev)	a <sub>p</sub> (mm)	CVD			PVD					TaC	-										
	VNMA 160408	0.8	0.15 - 0.50	1.0 - 3.5	●	●	●	●	●	●	00337	01017												

ISO	P			M		K		N	S	H	
MATERIAL	Non-alloy steel <25 HRC	Low alloy steel 25-35 HRC	High alloy steel, Tool steel 35-45 HRC	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel <55 HRC	
VDI GROUP	1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38-41	
V <sub>c</sub> (m/min)	ET1001	220 - 480	220 - 420	-	-	170 - 420	120 - 410	-	-	-	
	ET31C	170 - 450	180 - 380	100 - 330	-	120 - 300	120 - 280	-	-	40 - 80	
	ET315C	170 - 410	130 - 360	80 - 310	-	-	-	-	-	-	
	ET32C	180 - 380	110 - 350	60 - 300	-	-	-	-	-	-	
	ET33C	150 - 350	90 - 300	70 - 250	120 - 220	50 - 180	-	-	-	-	
	ET801	120 - 200	70 - 230	70 - 180	70 - 180	-	60 - 160	60 - 120	-	-	40 - 80
	ET21P	-	-	-	130 - 230	100 - 200	-	-	-	30 - 90	-
	ET23P	-	-	-	110 - 180	40 - 130	-	-	-	20 - 40	-
	ET24P	-	-	-	80 - 150	30 - 120	-	-	-	20 - 40	-
	ET41P	-	-	-	-	-	-	-	-	35 - 90	-
	ET10D	-	-	-	-	-	-	-	350 - 1200	-	-
	ET10U	-	-	-	-	-	-	-	250 - 800	-	-

ISO	P			M		K		N	S	H	
MATERIAL	Non-alloy steel <25 HRC	Low alloy steel 25-35 HRC	High alloy steel, Tool steel 35-45 HRC	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel <55 HRC	
VDI GROUP	1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38-41	
V <sub>c</sub> (m/min)	ET1001	220 - 480	220 - 420	-	-	170 - 420	120 - 410	-	-	-	
	ET31C	170 - 450	180 - 380	100 - 330	-	120 - 300	120 - 280	-	-	40 - 80	
	ET315C	170 - 410	130 - 360	80 - 310	-	-	-	-	-	-	
	ET32C	180 - 380	110 - 350	60 - 300	-	-	-	-	-	-	
	ET33C	150 - 350	90 - 300	70 - 250	120 - 220	50 - 180	-	-	-	-	
	ET801	120 - 200	70 - 230	70 - 180	70 - 180	-	60 - 160	60 - 120	-	-	40 - 80
	ET21P	-	-	-	130 - 230	100 - 200	-	-	-	30 - 90	-
	ET23P	-	-	-	110 - 180	40 - 130	-	-	-	20 - 40	-
	ET24P	-	-	-	80 - 150	30 - 120	-	-	-	20 - 40	-
	ET41P	-	-	-	-	-	-	-	-	35 - 90	-
	ET10D	-	-	-	-	-	-	-	350 - 1200	-	-
	ET10U	-	-	-	-	-	-	-	250 - 800	-	-

VNMG 35° DIAMOND TYPE

▶ EDP Code TI..... Example: VNMG 160404-BF ET31C = TI00435

		INSERT	LE	IC	S	Material Matrix																		
		VNMG 1604	16	9.53	4.76	P	M	K	N	S	H	ET1001	ET31C	ET315C	ET32C	ET33C	ET801	ET21P	ET23P	ET24P	ET41P	ET10D	ET10U	
	<b>BF</b>	VNMG 160404-BF	0.4	0.05 - 0.25	0.5 - 2.0								●		●	●								
		VNMG 160408-BF	0.8	0.05 - 0.25	1.0 - 2.5								●		●	●								
	<b>MF</b>	VNMG 160404-MF	0.4	0.07 - 0.30	0.2 - 1.0													●	●					
		VNMG 160408-MF	0.8	0.07 - 0.30	0.2 - 1.5										●			●	●					
	<b>BL</b>	VNMG 160404-BL	0.4	0.10 - 0.30	0.5 - 2.5								●		●	●								
		VNMG 160408-BL	0.8	0.10 - 0.30	1.0 - 3.0								●	●	●									
	<b>BG</b>	VNMG 160404-BG	0.4	0.20 - 0.40	0.5 - 3.0							●	●		●	●								
		VNMG 160408-BG	0.8	0.20 - 0.40	1.0 - 3.0							●	●		●	●	●							
		VNMG 160412-BG	1.2	0.20 - 0.40	1.5 - 3.0							●	●		●	●								
	<b>MM</b>	VNMG 160404-MM	0.4	0.20 - 0.35	0.5 - 3.5													●	●	●				
		VNMG 160408-MM	0.8	0.20 - 0.35	0.5 - 3.5													●	●	●				

Continued ▶

VNMG 35° DIAMOND TYPE

▶ EDP Code TI..... Example: VNMG 160404-BF ET31C = TI00435

		INSERT	LE	IC	S	Material Matrix																		
		VNMG 1604	16	9.53	4.76	P	M	K	N	S	H	ET1001	ET31C	ET315C	ET32C	ET33C	ET801	ET21P	ET23P	ET24P	ET41P	ET10D	ET10U	
	<b>BM</b>	VNMG 160412-BM	1.2	0.15 - 0.30	1.5 - 3.0								●	●	●	●	●							
	<b>BC</b>	VNMG 160404-BC	0.4	0.20 - 0.40	0.5 - 2.5								●	●		●	●							
		VNMG 160408-BC	0.8	0.20 - 0.40	1.0 - 3.0								●	●		●	●							
	<b>BR</b>	VNMG 160412-BR	1.2	0.30 - 0.50	1.2 - 3.0								●	●	●	●	●							
	<b>MR</b>	VNMG 160408-MR	0.8	0.30 - 0.55	2.0 - 5.5												●		●	●				
	<b>SR</b>	VNMG 160408-SR	0.8	0.30 - 0.55	2.0 - 5.0																			●

ISO	P			M		K	N	S	H		
MATERIAL	Non-alloy steel <25 HRC	Low alloy steel 25-35 HRC	High alloy steel, Tool steel 35-45 HRC	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel <55 HRC	
VDI GROUP	1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38-41	
Vc (m/min)	ET1001	220 - 480	220 - 420	-	-	170 - 420	120 - 410	-	-	-	
	ET31C	170 - 450	180 - 380	100 - 330	-	120 - 300	120 - 280	-	-	40 - 80	
	ET315C	170 - 410	130 - 360	80 - 310	-	-	-	-	-	-	
	ET32C	180 - 380	110 - 350	60 - 300	-	-	-	-	-	-	
	ET33C	150 - 350	90 - 300	70 - 250	120 - 220	50 - 180	-	-	-	-	
	ET801	120 - 200	70 - 230	70 - 180	70 - 180	-	60 - 160	60 - 120	-	-	40 - 80
	ET21P	-	-	-	130 - 230	100 - 200	-	-	-	30 - 90	-
	ET23P	-	-	-	110 - 180	40 - 130	-	-	-	20 - 40	-
	ET24P	-	-	-	80 - 150	30 - 120	-	-	-	20 - 40	-
	ET41P	-	-	-	-	-	-	-	-	35 - 90	-
	ET10D	-	-	-	-	-	-	-	350 - 1200	-	-
ET10U	-	-	-	-	-	-	-	250 - 800	-	-	

ISO	P			M		K	N	S	H		
MATERIAL	Non-alloy steel <25 HRC	Low alloy steel 25-35 HRC	High alloy steel, Tool steel 35-45 HRC	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel <55 HRC	
VDI GROUP	1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38-41	
Vc (m/min)	ET1001	220 - 480	220 - 420	-	-	170 - 420	120 - 410	-	-	-	
	ET31C	170 - 450	180 - 380	100 - 330	-	120 - 300	120 - 280	-	-	40 - 80	
	ET315C	170 - 410	130 - 360	80 - 310	-	-	-	-	-	-	
	ET32C	180 - 380	110 - 350	60 - 300	-	-	-	-	-	-	
	ET33C	150 - 350	90 - 300	70 - 250	120 - 220	50 - 180	-	-	-	-	
	ET801	120 - 200	70 - 230	70 - 180	70 - 180	-	60 - 160	60 - 120	-	-	40 - 80
	ET21P	-	-	-	130 - 230	100 - 200	-	-	-	30 - 90	-
	ET23P	-	-	-	110 - 180	40 - 130	-	-	-	20 - 40	-
	ET24P	-	-	-	80 - 150	30 - 120	-	-	-	20 - 40	-
	ET41P	-	-	-	-	-	-	-	-	35 - 90	-
	ET10D	-	-	-	-	-	-	-	350 - 1200	-	-
ET10U	-	-	-	-	-	-	-	250 - 800	-	-	

WNGG 80° TRIGON TYPE

▶ EDP Code TI..... Example: WNGG 080408-SF ET41P = TI01054

WNGG		ISO DESIGNATION	RE (mm)	f <sub>n</sub> (mm/rev)	a <sub>p</sub> (mm)	ET1001	ET31C	ET315C	ET32C	ET33C	ET801	ET21P	ET23P	ET24P	ET41P	ET10D	ET10U
SF		WNGG 080408-SF	0.8	0.10 - 0.30	0.5 - 1.5										01054		

WNMA 80° TRIGON TYPE

▶ EDP Code TI..... Example: WNMA 080408 ET31C = TI01021

WNMA		ISO DESIGNATION	RE (mm)	f <sub>n</sub> (mm/rev)	a <sub>p</sub> (mm)	ET1001	ET31C	ET315C	ET32C	ET33C	ET801	ET21P	ET23P	ET24P	ET41P	ET10D	ET10U
		WNMA 080404	0.4	0.15 - 0.50	0.5 - 2.5	00064	01021										
		WNMA 080408	0.8	0.15 - 0.50	1.0 - 3.5	00065	00338										
		WNMA 080412	1.2	0.15 - 0.50	1.5 - 5.0	00066	00339										

ISO	P			M		K		N	S	H	
MATERIAL	Non-alloy steel <25 HRC	Low alloy steel 25-35 HRC	High alloy steel, Tool steel 35-45 HRC	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel <55 HRC	
VDI GROUP	1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38-41	
V <sub>c</sub> (m/min)	ET1001	220 - 480	220 - 420	-	-	170 - 420	120 - 410	-	-	-	
	ET31C	170 - 450	180 - 380	100 - 330	-	120 - 300	120 - 280	-	-	40 - 80	
	ET315C	170 - 410	130 - 360	80 - 310	-	-	-	-	-	-	
	ET32C	180 - 380	110 - 350	60 - 300	-	-	-	-	-	-	
	ET33C	150 - 350	90 - 300	70 - 250	120 - 220	50 - 180	-	-	-	-	
	ET801	120 - 200	70 - 230	70 - 180	70 - 180	-	60 - 160	60 - 120	-	-	40 - 80
	ET21P	-	-	-	130 - 230	100 - 200	-	-	-	30 - 90	-
	ET23P	-	-	-	110 - 180	40 - 130	-	-	-	20 - 40	-
	ET24P	-	-	-	80 - 150	30 - 120	-	-	-	20 - 40	-
	ET41P	-	-	-	-	-	-	-	-	35 - 90	-
	ET10D	-	-	-	-	-	-	-	350 - 1200	-	-
ET10U	-	-	-	-	-	-	-	250 - 800	-	-	

ISO	P			M		K		N	S	H	
MATERIAL	Non-alloy steel <25 HRC	Low alloy steel 25-35 HRC	High alloy steel, Tool steel 35-45 HRC	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel <55 HRC	
VDI GROUP	1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38-41	
V <sub>c</sub> (m/min)	ET1001	220 - 480	220 - 420	-	-	170 - 420	120 - 410	-	-	-	
	ET31C	170 - 450	180 - 380	100 - 330	-	120 - 300	120 - 280	-	-	40 - 80	
	ET315C	170 - 410	130 - 360	80 - 310	-	-	-	-	-	-	
	ET32C	180 - 380	110 - 350	60 - 300	-	-	-	-	-	-	
	ET33C	150 - 350	90 - 300	70 - 250	120 - 220	50 - 180	-	-	-	-	
	ET801	120 - 200	70 - 230	70 - 180	70 - 180	-	60 - 160	60 - 120	-	-	40 - 80
	ET21P	-	-	-	130 - 230	100 - 200	-	-	-	30 - 90	-
	ET23P	-	-	-	110 - 180	40 - 130	-	-	-	20 - 40	-
	ET24P	-	-	-	80 - 150	30 - 120	-	-	-	20 - 40	-
	ET41P	-	-	-	-	-	-	-	-	35 - 90	-
	ET10D	-	-	-	-	-	-	-	350 - 1200	-	-
ET10U	-	-	-	-	-	-	-	250 - 800	-	-	





WNMG 80° TRIGON TYPE

▶ EDP Code TI..... Example: WNMG 060404-BF ET31C = T100441

		INSERT	LE	IC	S	Material Matrix																
		WNMG 0604	5.7	12.7	4.76	P	M	K	N	S	H	O	O	O	O	O	O	O	O	O	O	
		WNMG 0804	7.8	12.7	4.76	P	M	K	N	S	H	O	O	O	O	O	O	O	O	O	O	
WNMG	ISO DESIGNATION	RE (mm)	f <sub>n</sub> (mm/rev)	a <sub>p</sub> (mm)	CVD			PVD			TaC											
	BR WNMG 060412-BR	1.2	0.30 - 0.50	1.5 - 3.0	●	●		●	●													
	WNMG 080408-BR	0.8	0.30 - 0.50	1.0 - 5.0	●	●		●	●													
	WNMG 080412-BR	1.2	0.30 - 0.50	1.5 - 5.0	●	●		●	●		●											
	WNMG 080416-BR	1.6	0.30 - 0.50	2.0 - 5.0	●	●		●	●		●											
	KR WNMG 080408-KR	0.8	0.30 - 0.60	1.0 - 5.0	●	●		●														
	WNMG 080412-KR	1.2	0.30 - 0.60	1.5 - 5.0	●	●		●														
	MR WNMG 060412-MR	1.2	0.20 - 0.50	1.5 - 4.0				●		●	●	●										
	WNMG 080408-MR	0.8	0.30 - 0.55	1.2 - 5.5				●		●	●	●										
	WNMG 080412-MR	1.2	0.30 - 0.55	1.5 - 5.5				●		●	●	●										
	SR WNMG 060412-SR	1.2	0.15 - 0.30	1.0 - 3.5															●			
	WNMG 080408-SR	0.8	0.30 - 0.55	1.0 - 4.5															●			
	WNMG 080412-SR	1.2	0.30 - 0.55	1.0 - 4.5															●			

CCGT/CCMT 80° RHOMBIC TYPE

▶ EDP Code TI..... Example: CCGT 060202-AL ET10U = T101163

		INSERT	LE	IC	S	Material Matrix																
		CC-- 0602	6.2	6.35	2.38	P	M	K	N	S	H	O	O	O	O	O	O	O	O	O	O	
		CC-- 09T3	9.2	9.53	3.97	P	M	K	N	S	H	O	O	O	O	O	O	O	O	O	O	
		CC-- 1204	12.4	12.7	4.76	P	M	K	N	S	H	O	O	O	O	O	O	O	O	O	O	
CCGT/CCMT	ISO DESIGNATION	RE (mm)	f <sub>n</sub> (mm/rev)	a <sub>p</sub> (mm)	CVD			PVD			TaC											
	AL CCGT 060202-AL	0.2	0.02 - 0.08	0.5 - 1.0																●		
	CCGT 060204-AL	0.4	0.05 - 0.25	0.5 - 2.0																	●	
	AL CCGT 09T302-AL	0.2	0.02 - 0.08	0.5 - 1.0																●	●	
	CCGT 09T304-AL	0.4	0.05 - 0.25	0.5 - 2.0																●	●	
	CCGT 09T308-AL	0.8	0.10 - 0.35	1.0 - 3.0																●	●	
	AL CCGT 120402-AL	0.2	0.04 - 0.15	0.1 - 1.0																●	●	
	CCGT 120404-AL	0.4	0.04 - 0.20	0.3 - 1.5																●	●	
	CCGT 120408-AL	0.8	0.04 - 0.20	0.6 - 2.5																●	●	
	BF CCMT 060204-BF	0.4	0.05 - 0.20	0.5 - 1.5				●	●	●	●	●										
	CCMT 09T304-BF	0.4	0.05 - 0.20	0.5 - 2.0				●	●	●	●	●										
	BF CCMT 09T308-BF	0.8	0.05 - 0.20	1.0 - 2.0				●	●	●												

Continued ▶

ISO	P			M		K		N	S	H	
MATERIAL	Non-alloy steel <25 HRC	Low alloy steel 25-35 HRC	High alloy steel, Tool steel 35-45 HRC	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel <55 HRC	
VDI GROUP	1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38-41	
V <sub>c</sub> (m/min)	ET1001	220 - 480	220 - 420	-	-	170 - 420	120 - 410	-	-	-	
	ET31C	170 - 450	180 - 380	100 - 330	-	120 - 300	120 - 280	-	-	40 - 80	
	ET315C	170 - 410	130 - 360	80 - 310	-	-	-	-	-	-	
	ET32C	180 - 380	110 - 350	60 - 300	-	-	-	-	-	-	
	ET33C	150 - 350	90 - 300	70 - 250	120 - 220	50 - 180	-	-	-	-	
	ET801	120 - 200	70 - 230	70 - 180	70 - 180	-	60 - 160	60 - 120	-	-	40 - 80
	ET21P	-	-	-	130 - 230	100 - 200	-	-	-	30 - 90	-
	ET23P	-	-	-	110 - 180	40 - 130	-	-	-	20 - 40	-
	ET24P	-	-	-	80 - 150	30 - 120	-	-	-	20 - 40	-
	ET41P	-	-	-	-	-	-	-	-	35 - 90	-
	ET10D	-	-	-	-	-	-	-	350 - 1200	-	-
ET10U	-	-	-	-	-	-	-	250 - 800	-	-	

ISO	P			M		K		N	S	H	
MATERIAL	Non-alloy steel <25 HRC	Low alloy steel 25-35 HRC	High alloy steel, Tool steel 35-45 HRC	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel <55 HRC	
VDI GROUP	1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38-41	
V <sub>c</sub> (m/min)	ET1001	220 - 480	220 - 420	-	-	170 - 420	120 - 410	-	-	-	
	ET31C	170 - 450	180 - 380	100 - 330	-	120 - 300	120 - 280	-	-	40 - 80	
	ET315C	170 - 410	130 - 360	80 - 310	-	-	-	-	-	-	
	ET32C	180 - 380	110 - 350	60 - 300	-	-	-	-	-	-	
	ET33C	150 - 350	90 - 300	70 - 250	120 - 220	50 - 180	-	-	-	-	
	ET801	120 - 200	70 - 230	70 - 180	70 - 180	-	60 - 160	60 - 120	-	-	40 - 80
	ET21P	-	-	-	130 - 230	100 - 200	-	-	-	30 - 90	-
	ET23P	-	-	-	110 - 180	40 - 130	-	-	-	20 - 40	-
	ET24P	-	-	-	80 - 150	30 - 120	-	-	-	20 - 40	-
	ET41P	-	-	-	-	-	-	-	-	35 - 90	-
	ET10D	-	-	-	-	-	-	-	350 - 1200	-	-
ET10U	-	-	-	-	-	-	-	250 - 800	-	-	

CCGT/CCMT 80° RHOMBIC TYPE

EDP Code TI..... Example: CCMT 060204-BF ET31C = TI00398

		INSERT	LE	IC	S	Material Matrix											
		CC-- 0602	6.2	6.35	2.38	P	M	K	N	S	H						
		CC-- 09T3	9.2	9.53	3.97	M	K	N	S	H							
		CC-- 1204	12.4	12.7	4.76	K	N	S	H								
						N	S	H									
						S	H										
						H											
CCGT CCMT	ISO DESIGNATION	RE (mm)	f <sub>n</sub> (mm/rev)	a <sub>p</sub> (mm)	ET1001	ET31C	ET315C	ET32C	ET33C	ET801	ET21P	ET23P	ET24P	ET41P	ET10D	ET10U	
					CVD			PVD				TaC		-			
	<b>MF</b>	CCMT 09T302-MF	0.2	0.05 - 0.20	0.5 - 1.5						01302	01303	01304	01379			
		CCMT 09T304-MF	0.4	0.05 - 0.20	0.5 - 1.5						01177	01178	01305	01380			
		CCMT 09T308-MF	0.8	0.05 - 0.20	1.0 - 2.0						01309	01310	01311	01312			
	<b>BG</b>	CCMT 060204-BG	0.4	0.10 - 0.25	0.5 - 2.0	00447		01074	00838	01167				01168			
		CCMT 060208-BG	0.8	0.10 - 0.25	0.8 - 2.0	01169	00448	01075	00839	00002				01170			
	<b>BG</b>	CCMT 09T304-BG	0.4	0.15 - 0.30	0.5 - 2.0	00449		00450	00840	01171				01172			
		CCMT 09T308-BG	0.8	0.15 - 0.30	0.8 - 2.5	00451	00452	00453	00454	00004	01173			01174			
	<b>BG</b>	CCMT 120404-BG	0.4	0.15 - 0.35	0.5 - 2.5	00455		00456	01078								
		CCMT 120408-BG	0.8	0.15 - 0.35	0.8 - 3.5	01175	00457	00927	00458	00459	00005			01176			
		CCMT 120412-BG	1.2	0.15 - 0.35	1.2 - 3.5	00460		01079	01099								
	<b>MM</b>	CCMT 09T304-MM	0.4	0.15 - 0.30	1.0 - 2.0						01306	01307	01308	01410			
		CCMT 09T308-MM	0.8	0.15 - 0.30	1.0 - 2.5						01313	01314	01315	01316			

DCGT/DCMT 55° DIAMOND TYPE

EDP Code TI..... Example: DCGT 070202-AL ET10U = TI01165

		INSERT	LE	IC	S	Material Matrix											
		DC-- 0702	7.5	6.35	2.38	P	M	K	N	S	H						
		DC-- 11T3	11.2	9.53	3.97	M	K	N	S	H							
						K	N	S	H								
						N	S	H									
						S	H										
						H											
DCGT DCMT	ISO DESIGNATION	RE (mm)	f <sub>n</sub> (mm/rev)	a <sub>p</sub> (mm)	ET1001	ET31C	ET315C	ET32C	ET33C	ET801	ET21P	ET23P	ET24P	ET41P	ET10D	ET10U	
					CVD			PVD				TaC		-			
	<b>AL</b>	DCGT 070202-AL	0.2	0.02 - 0.08	0.5 - 1.0											01165	
		DCGT 070204-AL	0.4	0.05 - 0.25	0.5 - 2.0											01166	
	<b>AL</b>	DCGT 11T302-AL	0.2	0.02 - 0.08	0.5 - 1.0										00241	00242	
		DCGT 11T304-AL	0.4	0.05 - 0.25	0.5 - 2.0										00243	00244	
		DCGT 11T308-AL	0.8	0.10 - 0.35	1.0 - 3.0										00245	00246	
	<b>MSF</b>	DCGT 11T302-MSF	0.2	0.05 - 0.15	0.5 - 1.0						01152	01159	01153	01154			
		DCGT 11T304-MSF	0.4	0.05 - 0.15	0.5 - 1.5						01160	01161	01155	01162			
	<b>BF</b>	DCMT 070204-BF	0.4	0.05 - 0.20	0.5 - 1.5		00406		00407	00879	00006	01187		01188			
		DCMT 11T304-BF	0.4	0.05 - 0.25	0.5 - 2.0	01189	00408		00409	00880	00007	01190		01191			
		DCMT 11T308-BF	0.8	0.05 - 0.25	1.0 - 2.5		00410		00411	00882							

Continued ▶

ISO	P			M		K		N	S	H
MATERIAL	Non-alloy steel <25 HRC	Low alloy steel 25-35 HRC	High alloy steel, Tool steel 35-45 HRC	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel <55 HRC
VDI GROUP	1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38-41
ET1001	220 - 480	220 - 420	-	-	-	170 - 420	120 - 410	-	-	-
ET31C	170 - 450	180 - 380	100 - 330	-	-	120 - 300	120 - 280	-	-	40 - 80
ET315C	170 - 410	130 - 360	80 - 310	-	-	-	-	-	-	-
ET32C	180 - 380	110 - 350	60 - 300	-	-	-	-	-	-	-
ET33C	150 - 350	90 - 300	70 - 250	120 - 220	50 - 180	-	-	-	-	-
ET801	120 - 200	70 - 230	70 - 180	70 - 180	-	60 - 160	60 - 120	-	-	40 - 80
ET21P	-	-	-	130 - 230	100 - 200	-	-	-	30 - 90	-
ET23P	-	-	-	110 - 180	40 - 130	-	-	-	20 - 40	-
ET24P	-	-	-	80 - 150	30 - 120	-	-	-	20 - 40	-
ET41P	-	-	-	-	-	-	-	-	35 - 90	-
ET10D	-	-	-	-	-	-	-	350 - 1200	-	-
ET10U	-	-	-	-	-	-	-	250 - 800	-	-

ISO	P			M		K		N	S	H
MATERIAL	Non-alloy steel <25 HRC	Low alloy steel 25-35 HRC	High alloy steel, Tool steel 35-45 HRC	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel <55 HRC
VDI GROUP	1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38-41
ET1001	220 - 480	220 - 420	-	-	-	170 - 420	120 - 410	-	-	-
ET31C	170 - 450	180 - 380	100 - 330	-	-	120 - 300	120 - 280	-	-	40 - 80
ET315C	170 - 410	130 - 360	80 - 310	-	-	-	-	-	-	-
ET32C	180 - 380	110 - 350	60 - 300	-	-	-	-	-	-	-
ET33C	150 - 350	90 - 300	70 - 250	120 - 220	50 - 180	-	-	-	-	-
ET801	120 - 200	70 - 230	70 - 180	70 - 180	-	60 - 160	60 - 120	-	-	40 - 80
ET21P	-	-	-	130 - 230	100 - 200	-	-	-	30 - 90	-
ET23P	-	-	-	110 - 180	40 - 130	-	-	-	20 - 40	-
ET24P	-	-	-	80 - 150	30 - 120	-	-	-	20 - 40	-
ET41P	-	-	-	-	-	-	-	-	35 - 90	-
ET10D	-	-	-	-	-	-	-	350 - 1200	-	-
ET10U	-	-	-	-	-	-	-	250 - 800	-	-







TCGT/TCMT 60° TRIANGULAR TYPE

EDP Code TI..... Example: TCMT 110204-BF ET31C = TI00420

TCGT TCMT	ISO DESIGNATION	RE (mm)	f <sub>n</sub> (mm/rev)	a <sub>p</sub> (mm)	Material Compatibility															
					ET1001	ET31C	ET315C	ET32C	ET33C	ET801	ET21P	ET23P	ET24P	ET41P	ET10D	ET10U				
BG	TCMT 110204-BG	0.4	0.10 - 0.25	0.5 - 2.0	●	●														
	TCMT 110208-BG	0.8	0.10 - 0.25	0.8 - 2.0	●	●														
BG	TCMT 16T304-BG	0.4	0.15 - 0.30	0.5 - 2.0	●	●							●							
	TCMT 16T308-BG	0.8	0.15 - 0.30	0.8 - 3.0	●	●							●							
MM	TCMT 16T304-MM	0.4	0.15 - 0.30	1.0 - 2.5									●	●	●	●				
	TCMT 16T308-MM	0.8	0.15 - 0.30	1.0 - 2.5									●	●	●	●				

VBMT 35° DIAMOND TYPE

EDP Code TI..... Example: VBMT 160404-BF ET31C = TI00430

VBMT	ISO DESIGNATION	RE (mm)	f <sub>n</sub> (mm/rev)	a <sub>p</sub> (mm)	Material Compatibility															
					ET1001	ET31C	ET315C	ET32C	ET33C	ET801	ET21P	ET23P	ET24P	ET41P	ET10D	ET10U				
BF	VBMT 160404-BF	0.4	0.05 - 0.25	0.5 - 2.0		●														
	VBMT 160408-BF	0.8	0.05 - 0.25	1.0 - 2.5		●														
MF	VBMT 160402-MF	0.2	0.05 - 0.20	0.5 - 1.5											●	●	●	●		
	VBMT 160404-MF	0.4	0.05 - 0.20	0.5 - 2.0											●	●	●	●		
	VBMT 160408-MF	0.8	0.05 - 0.20	0.5 - 2.0											●	●	●	●		
BG	VBMT 160404-BG	0.4	0.15 - 0.30	0.5 - 2.5	●	●														
	VBMT 160408-BG	0.8	0.15 - 0.30	1.0 - 3.0	●	●														
MM	VBMT 160404-MM	0.4	0.15 - 0.30	1.0 - 2.5											●	●	●	●		
	VBMT 160408-MM	0.8	0.15 - 0.30	1.0 - 2.5											●	●	●	●		

ISO	P			M		K		N	S	H	
MATERIAL	Non-alloy steel <25 HRC	Low alloy steel 25-35 HRC	High alloy steel, Tool steel 35-45 HRC	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel <55 HRC	
VDI GROUP	1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38-41	
Vc (m/min)	ET1001	220 - 480	220 - 420	-	-	170 - 420	120 - 410	-	-	-	
	ET31C	170 - 450	180 - 380	100 - 330	-	120 - 300	120 - 280	-	-	40 - 80	
	ET315C	170 - 410	130 - 360	80 - 310	-	-	-	-	-	-	
	ET32C	180 - 380	110 - 350	60 - 300	-	-	-	-	-	-	
	ET33C	150 - 350	90 - 300	70 - 250	120 - 220	50 - 180	-	-	-	-	
	ET801	120 - 200	70 - 230	70 - 180	70 - 180	-	60 - 160	60 - 120	-	-	40 - 80
	ET21P	-	-	-	130 - 230	100 - 200	-	-	-	30 - 90	-
	ET23P	-	-	-	110 - 180	40 - 130	-	-	-	20 - 40	-
	ET24P	-	-	-	80 - 150	30 - 120	-	-	-	20 - 40	-
	ET41P	-	-	-	-	-	-	-	-	35 - 90	-
	ET10D	-	-	-	-	-	-	-	350 - 1200	-	-
ET10U	-	-	-	-	-	-	-	250 - 800	-	-	

ISO	P			M		K		N	S	H	
MATERIAL	Non-alloy steel <25 HRC	Low alloy steel 25-35 HRC	High alloy steel, Tool steel 35-45 HRC	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel <55 HRC	
VDI GROUP	1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38-41	
Vc (m/min)	ET1001	220 - 480	220 - 420	-	-	170 - 420	120 - 410	-	-	-	
	ET31C	170 - 450	180 - 380	100 - 330	-	120 - 300	120 - 280	-	-	40 - 80	
	ET315C	170 - 410	130 - 360	80 - 310	-	-	-	-	-	-	
	ET32C	180 - 380	110 - 350	60 - 300	-	-	-	-	-	-	
	ET33C	150 - 350	90 - 300	70 - 250	120 - 220	50 - 180	-	-	-	-	
	ET801	120 - 200	70 - 230	70 - 180	70 - 180	-	60 - 160	60 - 120	-	-	40 - 80
	ET21P	-	-	-	130 - 230	100 - 200	-	-	-	30 - 90	-
	ET23P	-	-	-	110 - 180	40 - 130	-	-	-	20 - 40	-
	ET24P	-	-	-	80 - 150	30 - 120	-	-	-	20 - 40	-
	ET41P	-	-	-	-	-	-	-	-	35 - 90	-
	ET10D	-	-	-	-	-	-	-	350 - 1200	-	-
ET10U	-	-	-	-	-	-	-	250 - 800	-	-	

## VCGT/VCMT 35° DIAMOND TYPE

▶ EDP Code TI..... Example: VCGT 160402-AL ET10D = TI00301

VCMT	ISO DESIGNATION	RE (mm)	f <sub>n</sub> (mm/rev)	a <sub>p</sub> (mm)	ET1001	ET31C	ET315C	ET32C	ET33C	ET801	ET21P	ET23P	ET24P	ET41P	ET10D	ET10U	
					CVD					PVD					TaC	-	
	<b>AL</b> VCGT 110302-AL	0.2	0.02 - 0.08	0.5 - 1.0													● 01246
	VCGT 110304-AL	0.4	0.02 - 0.08	0.5 - 1.0													● 01247
	VCGT 160402-AL	0.2	0.02 - 0.08	0.5 - 1.0												● 00301	● 00302
	VCGT 160404-AL	0.4	0.05 - 0.25	0.5 - 2.0												● 00303	● 00304
	VCGT 160408-AL	0.8	0.10 - 0.35	1.0 - 3.0												● 00305	● 00306
	<b>MSF</b> VCGT 110302-MSF	0.2	0.05 - 0.25	0.5 - 1.0													● 01248
	<b>BF</b> VCMT 160404-BF	0.4	0.05 - 0.25	0.5 - 2.5		● 01249		● 00434	● 01124	● 00023							
	VCMT 160408-BF	0.8	0.05 - 0.25	1.0 - 3.0		● 01015		● 01016									
	<b>BG</b> VCMT 160408-BG	0.8	0.15 - 0.30	1.0 - 3.0		● 01125		● 00531	● 01126	● 00024							

ISO	P			M		K		N	S	H	
MATERIAL	Non-alloy steel <25 HRC	Low alloy steel 25-35 HRC	High alloy steel, Tool steel 35-45 HRC	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super-Alloys	Hardened steel <55 HRC	
VDI GROUP	1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38-41	
Vc (m/min)	ET1001	220 - 480	220 - 420	-	-	170 - 420	120 - 410	-	-	-	
	ET31C	170 - 450	180 - 380	100 - 330	-	120 - 300	120 - 280	-	-	40 - 80	
	ET315C	170 - 410	130 - 360	80 - 310	-	-	-	-	-	-	
	ET32C	180 - 380	110 - 350	60 - 300	-	-	-	-	-	-	
	ET33C	150 - 350	90 - 300	70 - 250	120 - 220	50 - 180	-	-	-	-	
	ET801	120 - 200	70 - 230	70 - 180	70 - 180	-	60 - 160	60 - 120	-	-	40 - 80
	ET21P	-	-	-	130 - 230	100 - 200	-	-	-	30 - 90	-
	ET23P	-	-	-	110 - 180	40 - 130	-	-	-	20 - 40	-
	ET24P	-	-	-	80 - 150	30 - 120	-	-	-	20 - 40	-
	ET41P	-	-	-	-	-	-	-	-	35 - 90	-
ET10D	-	-	-	-	-	-	-	350 - 1200	-	-	
ET10U	-	-	-	-	-	-	-	250 - 800	-	-	