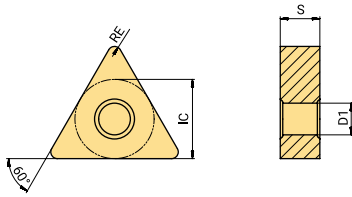


Negative 60° (T)

(mm)



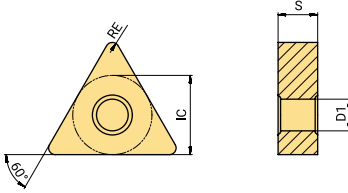
Product code	IC	S	D1
TN_1604_	9.525	4.76	3.81

Inserts	Product code	RE (mm)	Recommended parameters		Machining conditions													
					● Good Conditions ● General Conditions ✖ Bad Conditions													
					P						M			K			N	
f (mm/rev)	ap (mm)	AT202	AT210A	AC052P	AC152P	AC252P	AC350P	AC100M	AC200M	AP200U	AP301M	AC100K	AC102K	AC202K	AW100K	AP010S	AP100S	
Finishing	TNGG 160401FP-UF	0.10	0.03-0.11	0.30-2.50														
	160402FP-UF	0.20	0.03-0.11	0.30-2.50														
	160404FP-UF	0.40	0.03-0.11	0.30-2.50														
	TNMG 160404-F1T	0.40	0.05-0.15	0.50-2.50	●	●												
	160408-F1T	0.80	0.05-0.15	0.50-2.50	●	●												
	TNMG 160404-F1Y	0.40	0.08-0.20	0.30-1.50	●	●												
	TNMG 160408-F1Y	0.80	0.08-0.20	0.30-1.50	●	●												
	TNMG 160402E-PA1	0.20	0.04-0.25	0.20-1.50	●	●	○	○										
	160404E-PA1	0.40	0.04-0.28	0.20-1.50	●	●	●	●										
	160408E-PA1	0.80	0.05-0.35	0.20-1.50	●	●	●	○										
	160412E-PA1	1.20	0.05-0.42	0.20-1.50	●	●		○										
	TNMG 160404E-PB1	0.40	0.05-0.15	0.26-3.10	●	●	○	●	○				●					
	160408E-PB1	0.80	0.10-0.30	0.52-3.10	●	●	○	●	○									
	160412E-PB1	1.20	0.15-0.45	0.78-3.10	●	●	○	○	○									
	TNMG 160404E-SC1	0.40	0.07-0.18	0.20-0.80								●						●
	160408E-SC1	0.80	0.10-0.25	0.20-0.80								●						●
	TNMG 160404E-MB2	0.40	0.05-0.15	0.26-3.10						●	●	●	●					●
	160408E-MB2	0.80	0.10-0.30	0.52-3.10						●	●	●	●					●
Semi-finishing	TNMG 160404E-SL3	0.40	0.12-0.25	0.60-3.00							●						●	
	160408E-SL3	0.80	0.15-0.30	0.80-3.00							●						●	
	160412E-SL3	1.20	0.18-0.30	1.00-3.00							●						●	
	TNMG 160404-F2K	0.40	0.08-0.20	0.50-2.00	●	●												
	160408-F2K	0.80	0.10-0.25	0.50-2.00	●	●												
	TNMG 160404R-M1T	0.40	0.10-0.30	0.10-0.30	●	●												
	160404L-M1T	0.40	0.10-0.30	0.10-0.30	●	●												






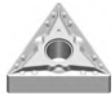



● : Standard stock ○ : Made-to-Order

Negative 60° (T)

(mm)



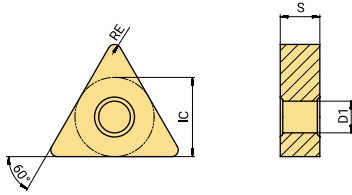
Product code	IC	S	D1
TN_1604_	9.525	4.76	3.81
TN_2204_	12.70	4.76	5.16

Inserts	Product code	RE (mm)	Recommended parameters		Machining conditions														
					● Good Conditions ◐ General Conditions ◐ Bad Conditions														
					P						M				K		N		S
f (mm/rev)	ap (mm)	AT202	AT210A	AC052P	AC152P	AC252P	AC350P	AC100M	AC200M	AP200U	AP301M	AC100K	AC102K	AC202K	AW100K	AP010S	AP100S		
Semi-finishing	 TNMG 160404E-PB3 160408E-PB3 160412E-PB3	0.40	0.06-0.18	0.30-3.30	●	●		●	●										
		0.80	0.12-0.36	0.60-3.30	●	●	○	○	○										
		1.20	0.18-0.54	0.90-3.30	●	●	○	○	○										
	 TNMG 160404E-PC3 160408E-PC3 160412E-PC3	0.40	0.07-0.20	0.34-3.70	●	●		●	○										
		0.80	0.14-0.40	0.68-3.70	●	●		○	○										
		1.20	0.20-0.60	1.02-3.70	●	●		●											
	 TNMG 160404E-SC3 160408E-SC3 160412E-SC3	0.40	0.08-0.22	0.40-4.10						●	●	●						●	●
		0.80	0.15-0.44	0.80-4.10						●	●	●						●	●
		1.20	0.23-0.66	1.20-4.10						●	●	●						●	●
	 TNMG 160404E-MC3 160408E-MC3 160412E-MC3 220408E-MC3 220412E-MC3	0.40	0.08-0.22	0.32-4.10						●	●	●	●						
		0.80	0.15-0.44	0.64-4.10						●	●	●	●						
		1.20	0.23-0.66	0.96-4.10						●	●	●	●						
0.80		0.15-0.44	0.64-4.90						●	●	●	●						●	
Medium	 TNMG 160404E-PD3 160408E-PD3 160412E-PD3	0.40	0.08-0.22	0.40-4.10	●	●	○	●	●										
		0.80	0.15-0.44	0.80-4.10	●	●	●	●	○	●									
		1.20	0.23-0.66	1.20-4.10	●	●	●	●	●	●									
	 TNMG 160404-M3T 160408-M3T	0.40	0.20-0.40	1.00-4.00	●	●													
		0.80	0.20-0.40	1.00-4.00	●	●													
	 TNMG 160408E-UC4 160412E-UC4	0.80	0.15-0.48	0.80-4.50			●	●	●	●									
		1.20	0.23-0.72	1.20-4.50			●	●	●										
	 TNMG 160404E-PC4 160408E-PC4 160412E-PC4 220412E-PC4	0.40	0.08-0.22	0.40-4.10	●	●		○											
		0.80	0.15-0.44	0.80-4.10	●	●		○	●										
		1.20	0.23-0.66	1.20-4.10			●	●											
		1.20	0.23-0.66	1.20-4.90				○	●										
	 TNMG 160404R-M2T 160404L-M2T	0.40	0.10-0.30	0.70-3.50	●	●													
0.40		0.10-0.30	0.70-3.50	●	●														

● : Standard stock ○ : Made-to-Order

Negative 60° (T)

(mm)



Product code	IC	S	D1
TN_1103_	6.35	3.18	2.26
TN_1604_	9.525	4.76	3.81
TN_2204_	12.70	4.76	5.16

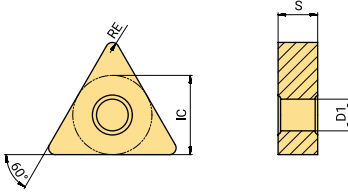
ISO Turning Inserts

Inserts	Product code	RE (mm)	Recommended parameters		Machining conditions													
					● Good Conditions ◐ General Conditions ◐ Bad Conditions													
					P						M				K		N	
f (mm/rev)	ap (mm)	AT202	AT210A	AC052P	AC152P	AC252P	AC350P	AC100M	AC200M	AP200U	AP301M	AC100K	AC102K	AC202K	AW100K	AP010S	AP100S	
Medium	TNMG 160404R-PL5	0.40	0.08-0.22	0.40-4.10	●	●		●	●									
	160404L-PL5	0.80	0.15-0.44	0.80-4.10	●	●	○	○	●									
	160408R-PL5	0.40	0.08-0.22	0.40-4.10	●	●	○	●	○									
	160408L-PL5	0.80	0.15-0.44	0.80-4.10	●	●	●	○	●									
Roughing	TNMG 160408E-MC4	0.80	0.20-0.60	1.20-5.80						●	●	●	●					●
	160412E-MC4	1.20	0.30-0.90	1.80-5.80						●	●	●	●					●
	220408E-MC4	0.80	0.20-0.60	1.20-6.60						●	●	●	●					
	220412E-MC4	1.20	0.30-0.90	1.80-6.60						●	●	●	●					
	TNMG 110304E-KC4	0.40	0.09-0.24	0.48-3.30										●	●			
	160404E-KC4	0.40	0.09-0.24	0.48-4.90										●	●			
	160408E-KC4	0.80	0.18-0.48	0.96-4.90										●	●	●		
	160412E-KC4	1.20	0.26-0.72	1.44-4.90										●	●	●		
	160416E-KC4	1.60	0.35-0.96	1.92-4.90										●	●	●		
	220412E-KC4	1.20	0.26-0.72	1.44-6.00										●	●			
	220416E-KC4	1.60	0.35-0.96	1.92-6.00										●	●			
	TNMG 160408E-PD5	0.80	0.20-0.60	1.20-5.80			○	○	○									
	160412E-PD5	1.20	0.30-0.90	1.80-5.80			○	○	○	●								
	220408E-PD5	0.80	0.20-0.60	1.20-7.70			○	●	○									
	220412E-PD5	1.20	0.30-0.90	1.80-7.70			○	○	●									
	220416E-PD5	1.60	0.40-1.20	2.40-7.70			○	●	●									
	TNMA 160404E-KD5	0.40	0.10-0.30	0.60-5.80										●	●			
	160408E-KD5	0.80	0.20-0.60	1.20-5.80										●	●	●		
	160412E-KD5	1.20	0.30-0.90	1.80-5.80										●	●	●		
	160416E-KD5	1.60	0.40-1.20	2.40-5.80										●	●	●		
220408E-KD5	0.80	0.20-0.60	1.20-7.70										●	●				
220412E-KD5	1.20	0.30-0.90	1.80-7.70										●	●				
220416E-KD5	1.60	0.40-1.20	2.40-7.70										●	●				

● : Standard stock ○ : Made-to-Order

Negative 60° (T)

(mm)

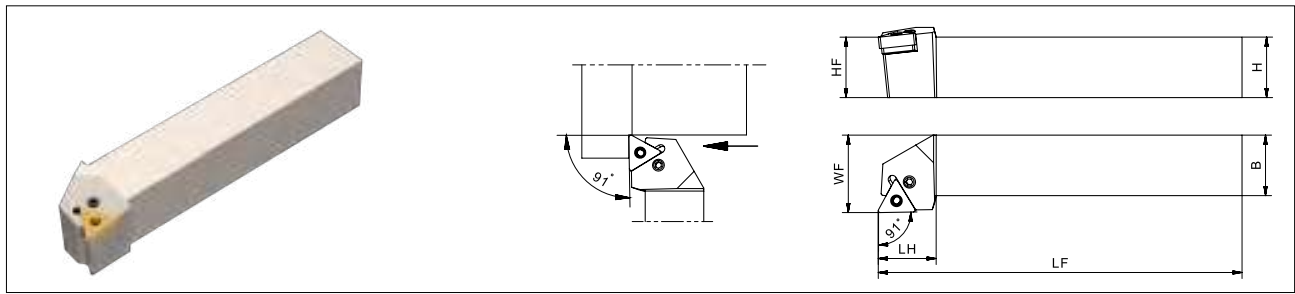


Product code	IC	S	D1
TN_1604_	9.525	4.76	3.81
TN_2204_	12.70	4.76	5.16

Inserts	Product code	RE (mm)	Recommended parameters		Machining conditions													
					● Good Conditions ● General Conditions ✖ Bad Conditions													
					P					M			K		N		S	
f (mm/rev)	ap (mm)	AT202	AT210A	AC052P	AC152P	AC252P	AC350P	AC100M	AC200M	AP200U	AP301M	AC100K	AC102K	AC202K	AW100K	AP010S	AP100S	
Heavy roughing	TNMM 160408E-PD8	0.80	0.16-0.32	1.44-4.90			○	○	○									
	160412E-PD8	1.20	0.24-0.48	2.16-4.90			○	○	○									
	220408E-PD8	0.80	0.16-0.32	1.44-6.00			○	○	○									
	220412E-PD8	1.20	0.24-0.48	2.16-6.00			○	○	○									
	220416E-PD8	1.60	0.32-0.64	2.88-6.00			○	○	○									
Finishing	TNGG 160402FR-F	0.20	0.08-0.20	0.50-2.30								●						
	160402FL-F	0.20	0.08-0.20	0.50-2.30								●						
	160404FR-F	0.40	0.08-0.20	0.50-2.30								●						
	160404FL-F	0.40	0.08-0.20	0.50-2.30								●						
Semi-finishing--Roughing	TNGG 160404R-H	0.40	0.22-0.38	1.20-3.80								●						
	160404L-H	0.40	0.22-0.38	1.20-3.80								●						
	160408R-H	0.80	0.22-0.38	1.20-3.80								●						
	160408L-H	0.80	0.22-0.38	1.20-3.80								●						

● : Standard stock ○ : Made-to-Order

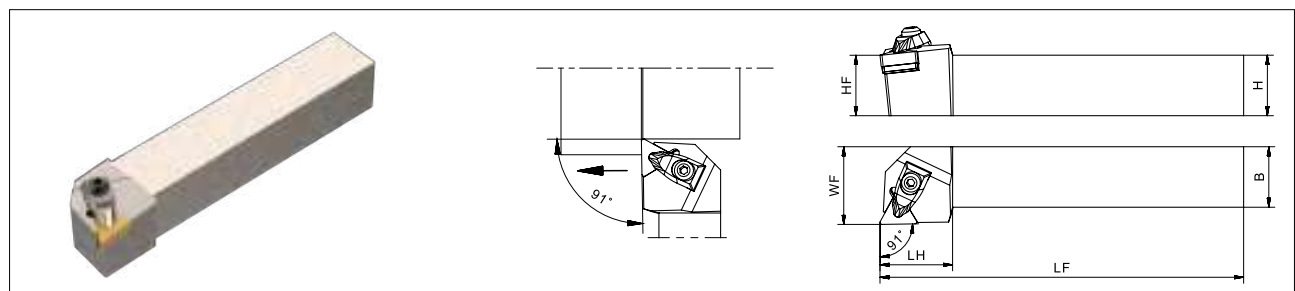
PTGN (External Turning)



Product code	Stock		Dimension						Insert corner radius (RE)	Spare parts					Insert
	R	L	H	HF	B	LF	LH	WF		Wrench	Lever screw	Lever	Shim	Shim pin	
PTGN ^{R/L} 1616H-16	○	○	16	16	16	100		20	0.8						TN*A 1604... TN*G 1604... TN*M 1604...
	●	●	20	20	20	125	24	25							
	●	●													
PTGN ^{R/L} 2525M-16	●	●													
PTGN ^{R/L} 2525M-22	●	●	25	25	25	150		28	32						TN*A 2204... TN*G 2204... TN*M 2204...
	●	●													

● : Standard stock ○ : Made-to-Order

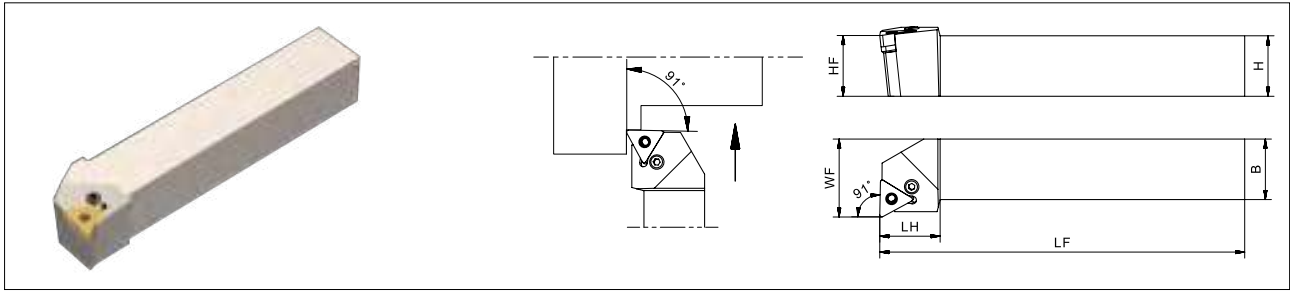
DTGN (External Turning)



Product code	Stock		Dimension						Insert corner radius (RE)	Spare parts						Insert
	R	L	H	HF	B	LF	LH	WF		Wrench	Clamp screw	Clamp	Spring	Shim screw	Shim	
DTGN ^{R/L} 2020K-16	○	○	20	20	20	125		25	0.8							TN*A 1604... TN*G 1604... TN*M 1604...
	○	○	25	25	25	150		32								
DTGN ^{R/L} 2525M-16	○	○														

● : Standard stock ○ : Made-to-Order

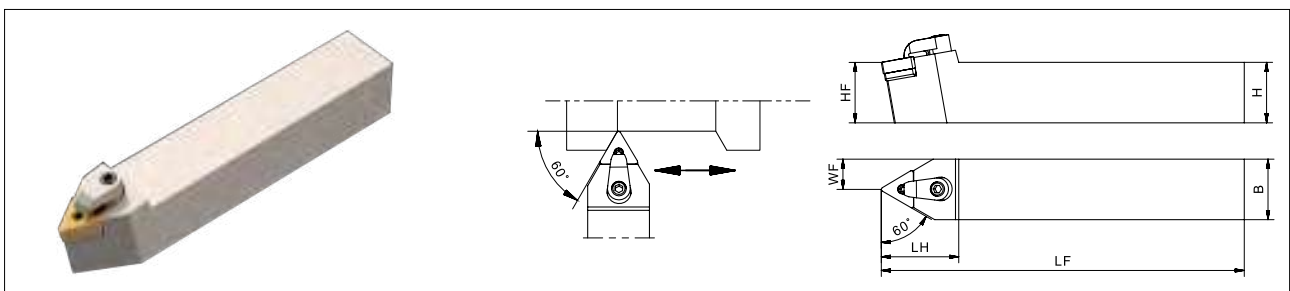
PTFN (Face Turning)



Product code	Stock		Dimension							Insert corner radius (RE)	Spare parts					Insert
	R	L	H	HF	B	LF	LH	WF	Wrench		Lever screw	Lever	Shim	Shim pin		
PTFN ^{R/L}	2020K-16	● ●	20	20	20	125	22	25	0.8						TN*A 1604... TN*G 1604... TN*M 1604...	
	2525M-16	● ●	25	25	25	150	25	32		LT-H2.5	LH060170	LV3	S-PTN16027	SP3		

● : Standard stock ○ : Made-to-Order

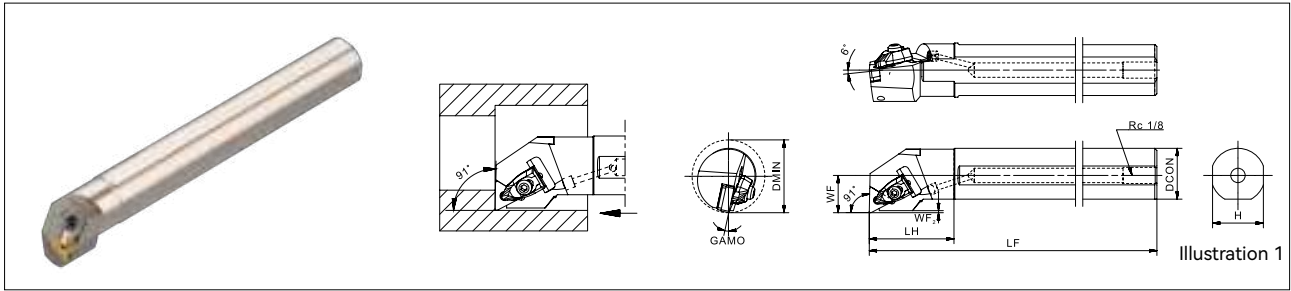
MTEN (External/Chamfer Turning)



Product code	Stock		Dimension							Insert corner radius (RE)	Spare parts					Insert
	N	H	HF	B	LF	LH	WF	Wrench	Clamp screw		Clamp	Lock pin	Shim			
MTENN	2020K-16	○	20	20	20	125	32	10	0.8						TN*A 1604... TN*G 1604... TN*M 1604...	
	2525M-16	○	25	25	25	150		12.5		LT-H2/LT-H3	CD060255X	CLM198138	CS050140	S-MTN16032		

● : Standard stock ○ : Made-to-Order

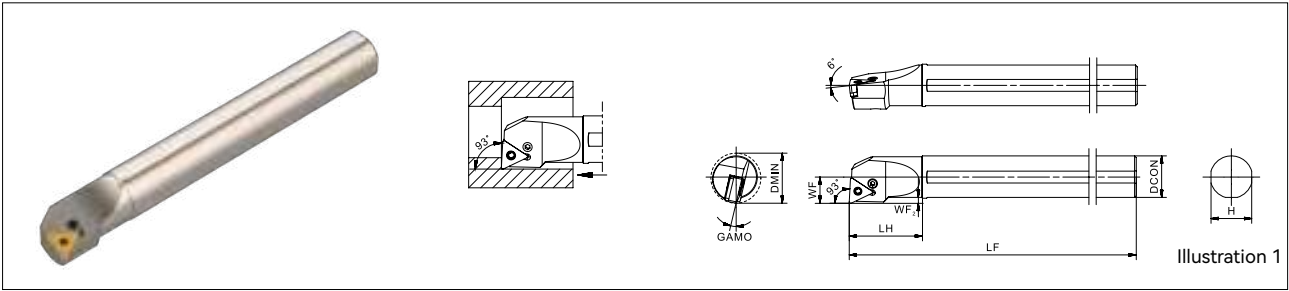
A-DTFN Steel Boring Bar (Internal Boring)



Product code	Stock		Minimum boring hole diameter (mm)	Dimension							Insert corner radius (RE)	Internal coolant	Illustration	Spare parts						Insert	
	R	L		DMIN	DCON	H	LF	LH	WF	WF2				GAMO	Wrench	Lever screw	Clamp	Spring	Shim		Shim screw
A25R-DTFNR/L16-32	○	○	32	25	23	200	42	17	0.8	12°	0.8	With	1	LT-H3	CH 050215	CLD 222075	YB0.20-2.50-12-5.5	S-DTN 16027	SH 050090X	NZ 060020	TN*A 1604...
A32S-DTFNR/L16-40	○	○	40	32	30	250	50	22	1.2							TN*G 1604...					
A40T-DTFNR/L22-50	○	○	50	40	37	300	60	27	1.5							CLD 255090	S-DTN 22048	SH 060100X	NZ 100040	TN*A 2204...	

● : Standard stock ○ : Made-to-Order

S-PTUN Steel Boring Bar(Internal Boring)



Product code	Stock		Minimum boring hole diameter (mm)	Dimension							Insert corner radius (RE)	Insert coolant	Illustration	Spare parts					Insert
	R	L		DMIN	DCON	H	LF	LH	WF	WF2				GAMO	Wrench	Lever screw	Lever	Shim	
S32S-PTUNR/L16-40	○	○	40	32	30	250	50	22	0.7	13°	0.8	Without	1						TN*A 1604... TN*G 1604... TN*M 1604...
S40T-PTUNR/L16-50	○	○	50	40	37	300	60	27	0.6	11°									

● : Standard stock ○ : Made-to-Order