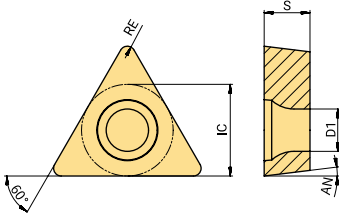




## Turning Inserts Positive 60° (T)

(mm)



Product code	IC	S	D1	AN
TC_0902_	5.56	2.38	2.50	7°
TC_1102_	6.35	2.38	2.80	7°
TC_16T3_	9.525	3.97	4.40	7°

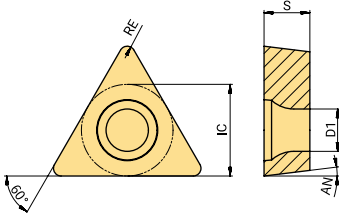
ISO Turning Inserts

Inserts	Product code	RE (mm)	Recommended parameters		Machining conditions													
			f (mm/rev)	ap (mm)	● Good Conditions    ● General Conditions ✖ Bad Conditions													
					P				M				K		N		S	
		AT202	AT210A	AC052P	AC152P	AC252P	AC350P	AC100M	AC200M	AP200U	AP301M	AC100K	AC102K	AC202K	AW100K	AP100S		
Finishing	TCGT 110201F-UF	0.10	0.02-0.15	0.10-2.40	○													
	110202F-UF	0.20	0.02-0.15	0.20-2.40	○													
	110204F-UF	0.40	0.03-0.20	0.20-2.40	○													
	16T304F-UF	0.40	0.03-0.20	0.20-2.40	○													
Finishing	TCGT 110201E-UF	0.10	0.02-0.15	0.10-2.40	○					●	●						●	
	110202E-UF	0.20	0.02-0.15	0.20-2.40	●					●	●						●	
	110204E-UF	0.40	0.03-0.20	0.20-2.40	●					●	●						●	
	16T304E-UF	0.40	0.03-0.20	0.20-2.40	○					●	●						●	
Semi-finishing	TCGT 110204F-NC2	0.40	0.05-0.20	0.32-4.90													●	
	16T304F-NC2	0.40	0.05-0.20	0.32-7.40													●	
	16T308F-NC2	0.80	0.10-0.40	0.64-7.40													●	
Finishing	TCMT 110204-F1T	0.40	0.07-0.20	0.40-1.50	●	●												
	16T304-F1T	0.40	0.10-0.25	0.60-1.50	●	●												
	TCMT 090204E-PB1	0.40	0.04-0.14	0.30-1.90	●	●		○	●		●	●	●	●				
		0.20	0.02-0.07	0.15-2.20	●	●		○	○		●	●	●					
		0.40	0.04-0.14	0.30-2.20	●	●		●	●		●	●	●					
		0.80	0.09-0.28	0.60-2.20	●	●		○	○		●	●	●					
		0.40	0.04-0.14	0.30-3.30	●	●		●	●		●	●	●	●				
	16T308E-PB1	0.80	0.09-0.28	0.60-3.30	●	●		●	○		●	●	●					
	TCMT 110204-F2K	0.40	0.08-0.20	0.50-2.00	●	●												
		0.80	0.10-0.25	0.50-2.00	●	●												
Semi-finishing	TCMT 090204E-PC2	0.40	0.05-0.16	0.35-2.60	●	●		●	●		●	●	●	●				●
		0.80	0.10-0.32	0.70-2.60	●	●		●	○		●	●	●	●				●
		0.40	0.05-0.16	0.35-3.00	●	●		●	●		●	●	●	●				●
		0.80	0.10-0.32	0.70-3.00	●	●		●	○		●	●	●	●				●
		0.40	0.05-0.16	0.35-4.50	●	●	○	○	●		●	●	●	●				●
		0.80	0.10-0.32	0.70-4.50	●	●	●	●	●		●	●	●	●				●
	16T308E-PC2	0.80	0.10-0.32	0.70-4.50	●	●	●	●	●		●	●	●	●				●
	16T312E-PC2	1.20	0.16-0.48	1.05-4.50	●	●		○	○		●	●	●					●
	TCMT 110204-M2T	0.40	0.10-0.25	0.60-2.00	●	●												
		0.80	0.10-0.25	0.60-2.00	●	●												
0.20		0.06-0.18	0.60-2.00	●	●													
TCMT 16T304-M2T	0.40	0.06-0.18	0.40-2.90	●	●													
	0.80	0.12-0.36	0.80-2.90	●	●													

● : Standard stock    ○ : Made-to-Order

Turning Inserts Positive 60° (T)

(mm)



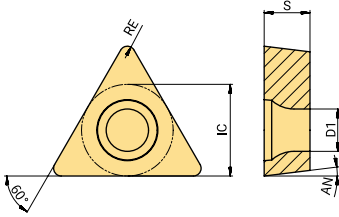
Product code	IC	S	D1	AN
TC_0802_	4.76	2.38	2.30	7°
TC-0902_	5.56	2.38	2.50	7°
TC_1102_	6.35	2.38	2.80	7°
TC_16T3_	9.525	3.97	4.40	7°

Inserts	Product code	RE (mm)	Recommended parameters		Machining conditions													
			f (mm/rev)	ap (mm)	● Good Conditions    ● General Conditions ✖ Bad Conditions													
					P				M				K		N	S		
				AT202	AT210A	AC052P	AC152P	AC252P	AC350P	AC100M	AC200M	AP200U	AP301M	AC100K	AC102K	AC202K	AW100K	AP100S
Medium	TCMT 090204E-KC2	0.40	0.06-0.18	0.40-2.90	●	●		○	●		●	●	●					
	090208E-KC2	0.80	0.12-0.36	0.80-2.90	●	●		○	○		●	●	●					
	110204E-KC2	0.40	0.06-0.18	0.40-3.30	●	●		●	○		●	●	●					
	110208E-KC2	0.80	0.12-0.36	0.80-3.30	●	●		○	○		●	●	●					
	16T304E-KC2	0.40	0.06-0.18	0.40-4.90	●	●	○	○	●		●	●	●					
	16T308E-KC2	0.80	0.12-0.36	0.80-4.90	●	●	○	○	●		●	●	●					
16T312E-KC2	1.20	0.18-0.54	1.20-4.90	●	●		●	●		●	●	●		●	●	●		
Roughing	TCMW 110204E-KD5	0.40	0.06-0.18	0.40-5.50											●	●		
	110208E-KD5	0.80	0.12-0.36	0.80-5.50											●	●		
	16T304E-KD5	0.40	0.06-0.18	0.40-8.20											●	●		
	16T308E-KD5	0.80	0.12-0.36	0.80-8.20											●	●		
Finishing	TCET 110201FR-F	<0.10	0.03-0.13	0.10-0.80		○							○	●				
	110201FL-F	<0.10	0.03-0.13	0.10-0.80		○							○	●				
	110202FR-F	<0.20	0.03-0.13	0.10-0.80		○							○	●				
	110202FL-F	<0.20	0.03-0.13	0.10-0.80		○							○	●				
	110204FR-F	<0.40	0.03-0.13	0.10-0.80		○							○	●				
	110204FL-F	<0.40	0.03-0.13	0.10-0.80		●							○	●				
	110208FR-F	<0.80	0.03-0.13	0.10-0.80		○							○	●				
	110208FL-F	<0.80	0.03-0.13	0.10-0.80		○							○	●				
Low feed	TCET 0802003FR-M	<0.03	0.01-0.08	0.50-2.50									○	●				
	0802003FL-M	<0.03	0.01-0.08	0.50-2.50									○	●				
	080201FR-M	<0.10	0.01-0.08	0.50-2.50		○							○	●				
	080201FL-M	<0.10	0.01-0.08	0.50-2.50		○							○	●				
	080202FR-M	<0.20	0.01-0.08	0.50-2.50		○							○	●				
	080202FL-M	<0.20	0.01-0.08	0.50-2.50		●							○	●				
	TCET 1103003FR-M	<0.03	0.02-0.10	0.50-4.00									○	●				
	1103003FL-M	<0.03	0.02-0.10	0.50-4.00									○	●				
	110301FR-M	<0.10	0.02-0.10	0.50-4.00		○							○	●				
	110301FL-M	<0.10	0.02-0.10	0.50-4.00		○							○	●				
	110302FR-M	<0.20	0.02-0.10	0.50-4.00		○							○	●				
	110302FL-M	<0.20	0.02-0.10	0.50-4.00		○							○	●				
	110304FR-M	<0.40	0.02-0.10	0.50-4.00		●							○	●				
	110304FL-M	<0.40	0.02-0.10	0.50-4.00		○							○	●				

● : Standard stock    ○ : Made-to-Order






## Turning Inserts Positive 60° (T)

(mm)



Product code	IC	S	D1	AN
TP_0902_	5.56	2.38	2.50	11°
TP_1103_	6.35	3.18	3.40	11°
TP_1603_	9.525	3.18	4.40	11°

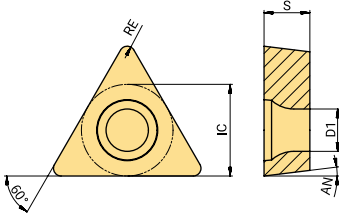
ISO Turning Inserts

Inserts	Product code	RE (mm)	Recommended parameters		Machining conditions																
			f (mm/rev)	ap (mm)	● Good Conditions    ● General Conditions ✖ Bad Conditions																
					P				M				K				N		S		
					AT202	AT210A	AC052P	AC152P	AC252P	AC350P	AC100M	AC200M	AP200U	AP301M	AC100K	AC102K	AC202K	AW100K	AP100S		
Finishing	 <b>TPMT 110304-F1T</b>	0.40	0.07-0.20	0.40-1.50	●	●															
	 <b>TPMT 110308E-PA1</b>	0.80	0.05-0.30	0.10-1.00	●	●	●	●													
		<b>TPMT 090202E-PB1</b>	0.20	0.02-0.07	0.15-1.90	●	●	●													
		<b>090204E-PB1</b>	0.40	0.04-0.14	0.30-1.90	●	●	○						●							
		<b>090208E-PB1</b>	0.80	0.09-0.28	0.60-1.90	●	●	○													
		<b>110302E-PB1</b>	0.20	0.02-0.07	0.15-2.20	●	●	●													
		<b>110304E-PB1</b>	0.40	0.04-0.14	0.30-2.20	●	●	●							●						
		<b>110308E-PB1</b>	0.80	0.09-0.28	0.60-2.20	●	●	○													
<b>160304E-PB1</b>		0.40	0.04-0.14	0.30-3.30	●	●	○														
<b>160308E-PB1</b>	0.80	0.09-0.28	0.60-3.30	●	●	○															
 <b>TPMT 110304-F2K</b>	0.40	0.08-0.20	0.50-2.00	●	●																
Semi-finishing		<b>TPMT 090204E-PC2</b>	0.40	0.05-0.16	0.35-2.60	●	●	○				●	●	●							
		<b>090208E-PC2</b>	0.80	0.10-0.32	0.70-2.60	●	●	○				●	●	●	●						
		<b>110304E-PC2</b>	0.40	0.05-0.16	0.35-3.00	●	●	○				●	●	●						●	
		<b>110308E-PC2</b>	0.80	0.10-0.32	0.70-3.00	●	●	○				●	●	●	●						
		<b>160304E-PC2</b>	0.40	0.10-0.25	0.60-2.00	●	●	○				●	●	●							
		<b>160308E-PC2</b>	0.80	0.10-0.25	0.60-2.00	●	●	○				●	●	●							



















● : Standard stock    ○ : Made-to-Order

Turning Inserts Positive 60° (T)

(mm)



Product code	IC	S	D1	AN
TP_0802_	4.76	2.38	2.30	11°
TP_0902_	5.56	2.38	2.50	11°
TP_1103_	6.35	3.18	3.40	11°

Inserts	Product code	RE (mm)	Recommended parameters		Machining conditions															
			f (mm/rev)	ap (mm)	● Good Conditions   ● General Conditions ✖ Bad Conditions															
					P						M				K			N		S
					AT202	AT210A	AC052P	AC152P	AC252P	AC350P	AC100M	AC200M	AP200U	AP301M	AC100K	AC102K	AC202K	AW100K	AP100S	
Finishing	 <b>TPEH 080201FR-F</b>	<0.10	0.01-0.10	0.10-0.80	○	○							○	●						
	 <b>080201FL-F</b>	<0.10	0.01-0.10	0.10-0.80	○								○	●						
	 <b>080202FR-F</b>	<0.20	0.01-0.10	0.10-0.80	○								○	●						
	 <b>080202FL-F</b>	<0.20	0.01-0.10	0.10-0.80	●								○	●						
	 <b>080204FR-F</b>	<0.40	0.01-0.10	0.10-0.80	○								○	●						
	 <b>080204FL-F</b>	<0.40	0.01-0.10	0.10-0.80	●								○	●						
	 <b>TPEH 090201FR-F</b>	<0.10	0.01-0.10	0.10-0.80	○								○	●						
	 <b>090201FL-F</b>	<0.10	0.01-0.10	0.10-0.80	○								○	●						
	 <b>090202FR-F</b>	<0.20	0.01-0.10	0.10-0.80	○								○	●						
	 <b>090202FL-F</b>	<0.20	0.01-0.10	0.10-0.80	●								○	●						
	 <b>090204FR-F</b>	<0.40	0.01-0.10	0.10-0.80	○								○	●						
	 <b>090204FL-F</b>	<0.40	0.01-0.10	0.10-0.80	○								○	●						
	 <b>TPEH 110302FR-F</b>	<0.20	0.01-0.12	0.20-0.80	○								○	●						
	 <b>110302FL-F</b>	<0.20	0.01-0.12	0.20-0.80	●								○	●						
	 <b>110304FR-F</b>	<0.40	0.01-0.12	0.20-0.80	○								○	●						
	 <b>110304FL-F</b>	<0.40	0.01-0.12	0.20-0.80	●								○	●						
	 <b>110308FR-F</b>	<0.80	0.01-0.12	0.20-0.80	○								○	●						
	 <b>110308FL-F</b>	<0.80	0.01-0.12	0.20-0.80	○								○	●						

● : Standard stock   ○ : Made-to-Order

**A-STLC Steel Boring Bar (Internal/Internal Face Boring)**

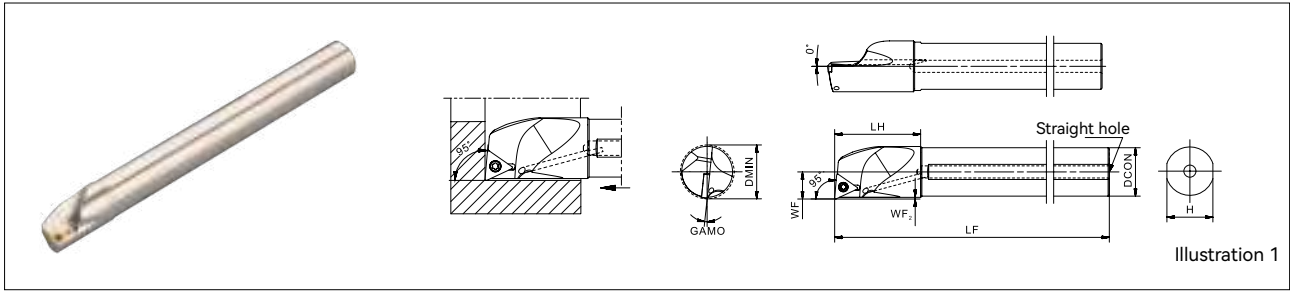


Illustration 1

Product code	Stock		Minimum boring hole diameter (mm)	Dimension							Insert corner radius (RE)	Internal coolant	Illustration	Spare parts		Insert
	R	L		DCON	H	LF	LH	WF	WF2	GAMO				Screw	Wrench	
			DMIN													
A08H-STLCR/L09-10	○	○	10	8	7	100	16	5	0.5	14°	0.4	With	1	SP022052	FT-TP07	TC*T 0902...
A10K-STLCR/L09-12	○	○	12	10	9	125	20	6.2	0.9	12°						
A10K-STLCR/L11-12	●	●					18.6									
A12M-STLCR/L11-14	●	○	14	12	11	150	24	7.2	0.7	10°						
A16Q-STLCR/L11-18	○	○	18	16	15	180	30	9.2		8°						
A20R-STLCR/L11-22	●	●	22	20	19	200	36	11.2		6°						
A16Q-STLCR/L16-18	○	○	18	16	15	180	32	9.2	8°	SP040065				FT-TP15	TC*T 1102... TC*W 1102...	
A20Q-STLCR/L16-22	○	○	22	20	18		11.2	6°								
A25R-STLCR/L16-27	○	○	27	25	23	200	46	13.7	4°							SP040093X

● : Standard stock ○ : Made-to-Order

Turning Tools

## A-STLP Steel Boring Bar (Internal/Internal Face Boring)

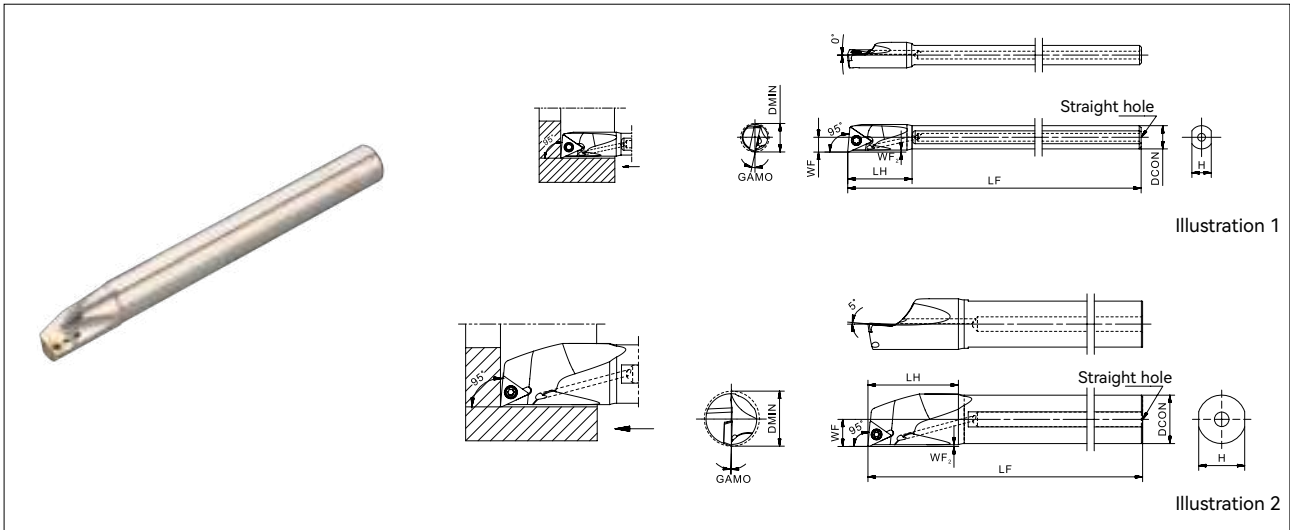


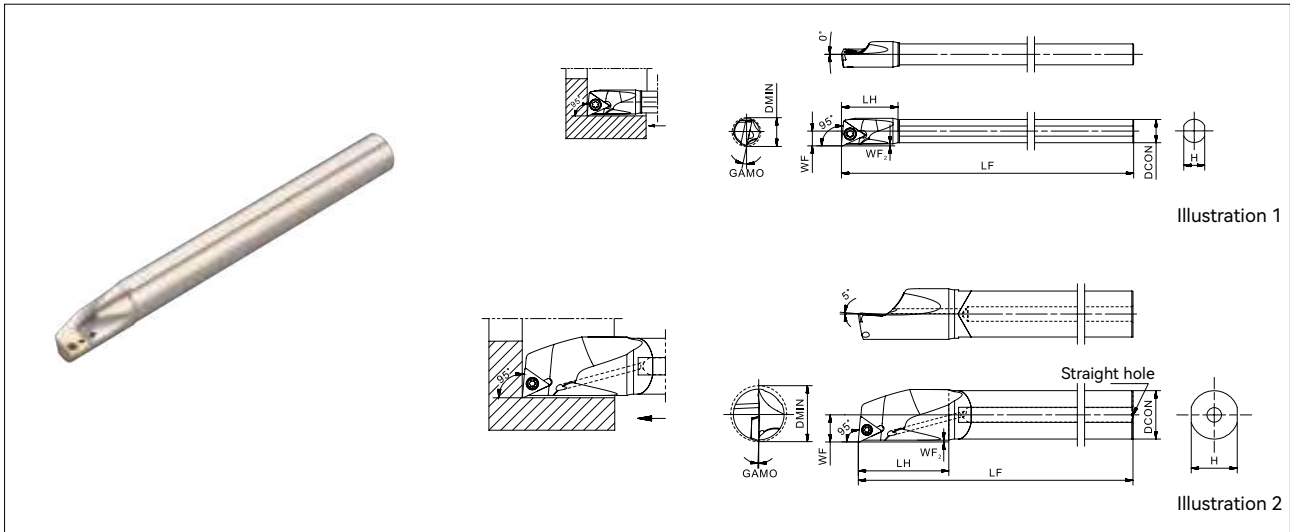
Illustration 1

Illustration 2

Product code	Stock		Minimum boring hole diameter (mm)	Dimension							Insert corner radius (RE)	Internal coolant	Illustration	Spare parts		Insert			
	R	L		DCON	H	LF	LH	WF	WF2	GAMO				Screw	Wrench				
																	DMIN		
A06F-STLBR/L06-08	●	●	8	6	5	80	15.3	3.8		12°	0.2	With	1	SP020035	FT-TP06	TB*T 0601...			
A08H-STLPR/L08-10	○	○	10	8	7	100	16	5	0.5	10°	0.4		2	SP022052	FT-TP07	TP*H 0802...			
A08H-STLPR/L09-10	○	○																	
A08H-STLPR/L09-10 (M2.2)	○	○																	
A10K-STLPR/L09-12	●	●	12	10	9	125	25.7	6.2	0.9	8°	0.2			2	SP025045	FT-TP08	TP*T 0902... TP*H 0902...		
A10K-STLPR/L09-12 (M2.2)	●	○																	
A10K-STLPR/L11-12	○	○																	
A12M-STLPR/L11-14	○	○	14	12	11	150	24	7.2	0.8	7°	0.4				2	SP030065	FT-TP08	TP*T 1103... TP*H 1103...	
A12M-STLPR/L09-16	○	○																	
A12M-STLPR/L09-16 (M2.2)	○	○																	
A16Q-STLPR/L11-18	●	●	18	16	15	180	30	9.2		3.5°	0.7					2	SP030065	FT-TP08	TP*T 1103... TP*H 1103...
A20R-STLPR/L11-22	●	○	22	20	19	200	37.4	11.2	0.7	2°									
A25S-STLPR/L16-27	○	○																	
											27						25	24	250

● : Standard stock ○ : Made-to-Order

**E-STLP Carbide Boring Bar (Internal/Internal Face Boring)**



Product code	Stock		Minimum boring hole diameter (mm)	Dimension							Insert corner radius (RE)	Internal coolant	Illustration	Spare parts		Insert						
	R	L		DCON	H	LF	LH	WF	WF2	GAMO				Screw	Wrench							
			DMIN																			
<b>C06F-STLBR/L06-08</b>	○	○	8	6	5.4	80	10	3.8	0.5	12°	0.2	Without	1	SP020035	FT-TP06	TB*T 0601...						
<b>E08K-STLPR/L08-10</b>	○	○	10	8	7	125	14	5	0.5	10°	0.4	With	2	SP022052	FT-TP07	TP*H 0802...						
<b>E08K-STLPR/L09-10</b>	○	○												SP025045	FT-TP08	TP*T 0902... TP*H 0902...						
<b>E08H-STLPR/L09-10 (M2.2)</b>	○	○												100			SP022052	FT-TP07				
<b>E10M-STLPR/L09-12</b>	○	○	150		SP025045	FT-TP08																
<b>E10K-STLPR/L09-12 (M2.2)</b>	○	○	12	10	9	125	18		6.2	0.9				8°	SP022052	FT-TP07						
<b>E10M-STLPR/L11-12</b>	○	○	14	12	11	150	23	8	0.6	5°				0.4	With	2	SP030065	FT-TP08	TP*T 1103... TP*H 1103...			
<b>E12M-STLPR/L11-14</b>	○	○															7.2		0.8	7°	SP025045	
<b>E12M-STLPR/L09-16</b>	○	○															16	8	0.6	5°	SP022052	FT-TP07
<b>E12M-STLPR/L09-16 (M2.2)</b>	○	○																				
<b>E16Q-STLPR/L11-18</b>	●	●	18	16	15	180	30	9.2		3.5°							0.4	With	2	SP030065	FT-TP08	TP*T 1103... TP*H 1103...
<b>E20R-STLPR/L11-22</b>	●	○	22	20	19	200	37.5	11.2	0.7	2°												
<b>E20R-STLPR/L16-25</b>	○	○	25							32	13	0°										
<b>E25S-STLPR/L16-27</b>	○	○	27							25	24	250	38							13.7		SP040065

● : Standard stock ○ : Made-to-Order

Turning Tools