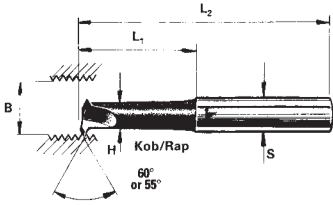


**Internal Thread Cutting Tools GWS 60° and 55° of HSS-CO (Kob), HSS (Rap) and TiN-coated**



G60(55) nos. 000-2A

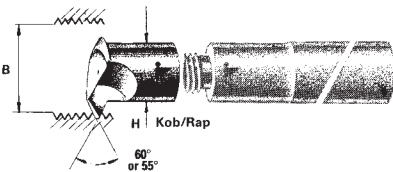


How to order (example): 10 pieces G60-1-A-T-Kob. (Original box of 5 pieces)

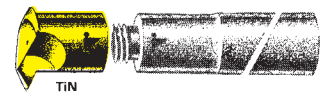
For sets refer to page 21

Size GWS	Code number Cutting form for: righthand thread by forward movement	Availability			Code number Cutting form for: lefthand thread by forward movement	Availability		Recommended minimum bore B/ mm	∅ of neck H mm	∅ S-h7 of shank mm	Length of neck L <sub>1</sub> mm	Total length L <sub>2</sub> mm
		Kob	Rap	TiN		Kob	TiN					
000 60°	G60-000-A-...	●	●	●	G60-000-B-...	●	○	5	2.6	8	15	46
000 55°	G55-000-A-...	●	●	●	G55-000-B-...	●	○	5	2.6	8	15	46
00 60°	G60-00-A-...	●	●	●	G60-00-B-...	●	○	6.5	3.5	8	20	50
00 55°	G55-00-A-...	●	●	●	G55-00-B-...	●	○	6.5	3.5	8	20	50
0 60° normal	G60-0-A-N-...	●	●	●	G60-0-B-N-...	●	○	9	4.8	8	26	52
0 55° normal	G55-0-A-N-...	●	●	●	G55-0-B-N-...	●	○	9	4.8	8	26	52
0 60° long	G60-0-A-T-...	●	●	●	G60-0-B-T-...	●	○	9	4.8	8	31	64
0 55° long	G55-0-A-T-...	●	●	●	G55-0-B-T-...	●	○	9	4.8	8	31	64
1 60° normal	G60-1-A-N-...	●	●	●	G60-1-B-N-...	●	○	11	6	8	28	56
1 55° normal	G55-1-A-N-...	●	●	●	G55-1-B-N-...	●	○	11	6	8	28	56
1 60° long	G60-1-A-T-...	●	●	●	G60-1-B-T-...	●	○	11	6	8	34	70
1 55° long	G55-1-A-T-...	●	●	●	G55-1-B-T-...	●	○	11	6	8	34	70
2 60° normal	G60-2-A-N-...	●	●	●	G60-2-B-N-...	●	○	13	7.5	8	—	64
2 55° normal	G55-2-A-N-...	●	●	●	G55-2-B-N-...	●	○	13	7.5	8	—	64
2 60° long	G60-2-A-T-...	●	●	●	G60-2-B-T-...	●	○	13	7.5	8	—	80
2 55° long	G55-2-A-T-...	●	●	●	G55-2-B-T-...	●	○	13	7.5	8	—	80

▲ Please indicate here the alloy required ▲



Heads: G60(55) nos. 3-11A and  
Shanks see page 12



How to order (example): 10 pieces G60-8-A-Rap. (Original box of 5 pieces)

Size GWS	Code number Cutting form for: righthand thread by forward movement	Availability			Code number Cutting form for: lefthand thread by forward movement	Availability		Recomm. minimum bore B/ mm	∅ of neck H mm	Thread
		Kob	Rap	TiN		Kob	TiN			
3 60°	G60-3-A-...	●	●	●	G60-3-B-...	●	○	17	10	M6
3 55°	G55-3-A-...	●	●	●	G55-3-B-...	●	○	17	10	M6
4 60°	G60-4-A-...	●	●	●	G60-4-B-...	●	○	21	12	M8
4 55°	G55-4-A-...	●	●	●	G55-4-B-...	●	○	21	12	M8
5 60°	G60-5-A-...	●	●	●	G60-5-B-...	●	○	24	14	M10×20TPI
5 55°	G55-5-A-...	●	●	●	G55-5-B-...	●	○	24	14	M10×20TPI
6 60°	G60-6-A-...	●	●	●	G60-6-B-...	●	○	28	16.3	M12×20TPI
6 55°	G55-6-A-...	●	●	●	G55-6-B-...	●	○	28	16.3	M12×20TPI
7 60°	G60-7-A-...	●	●	●	G60-7-B-...	●	○	31	18.3	M14×20TPI
7 55°	G55-7-A-...	●	●	●	G55-7-B-...	●	○	31	18.3	M14×20TPI
8 60°	G60-8-A-...	●	●	●	G60-8-B-...	●	○	34	20	M15×20TPI
8 55°	G55-8-A-...	●	●	●	G55-8-B-...	●	○	34	20	M15×20TPI
9 60°	G60-9-A-...	●	●	●	G60-9-B-...	●	○	37	22	M15×20TPI
9 55°	G55-9-A-...	●	●	●	G55-9-B-...	●	○	37	22	M15×20TPI
10 60°	G60-10-A-...	●	●	●	G60-10-B-...	●	○	42	25	M18×20TPI
10 55°	G55-10-A-...	●	●	●	G55-10-B-...	●	○	42	25	M18×20TPI
11 60°	G60-11-A-...	●	●	○	G60-11-B-...	●	○	50	30	M21×14TPI
11 55°	G55-11-A-...	●	●	○	G55-11-B-...	●	○	50	30	M21×14TPI

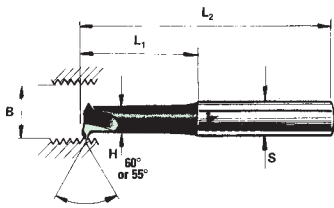
▲ Please indicate here alloy required ▲

The above mentioned tools for internal thread cutting are equipped with righthand-side thread of shank.  
To determine correct size of tool and for different types (C+D) of internal thread cutting tools 60° and 55°, please see page 16.

Availability: ● ex stock / ○ within short notice



Internal Thread Cutting Tools GWS 60° and 55° with Carbide Tips



G60(55) nos. 000

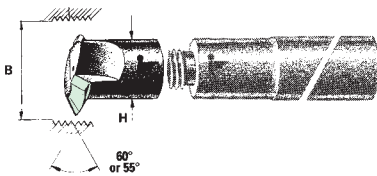


G60(55) nos. 00-2

How to order (example): 5 pieces G60-1-A-K10

Size GWS	Code number cutting form for: righthand thread by forward movement	Availability		Code number cutting form for: lefthand thread by forward movement	Availability		Recommended minimum bore B / mm	Ø of neck H mm	Ø S-h7 of shank mm	Length of neck L <sub>1</sub> mm	Total length L <sub>2</sub> mm
		K10	P30		K10	P30					
000 60°	G60-000-A-HM	●		G60-000-B-HM	●		5	2.6	8	15	46
000 55°	G55-000-A-HM	●		G55-000-B-HM	●		5	2.6	8	15	46
00 60°	G60-00-A-HM	●		G60-00-B-HM	●		6.5	3.5	8	20	50
00 55°	G55-00-A-HM	●		G55-00-B-HM	●		6.5	3.5	8	20	50
0 60°	G60-0-A-HM	●		G60-0-B-HM	●		9	4.8	8	22	64
0 55°	G55-0-A-HM	●		G55-0-B-HM	●		9	4.8	8	22	64
1 60°	G60-1-A-...	●	●	G60-1-B-...	●	●	11	6	8	30	70
1 55°	G55-1-A-...	●	●	G55-1-B-...	●	●	11	6	8	30	70
2 60°	G60-2-A-...	●	●	G60-2-B-...	●	●	13	7.5	8	---	80
2 55°	G55-2-A-...	●	●	G55-2-B-...	●	●	13	7.5	8	---	80

▲ Please indicate here the grade of carbide required ▲



Heads: G60(55) nos. 3-11 A  
Shanks: see page 12

How to order (example): 5 pieces G60-6-A-P30

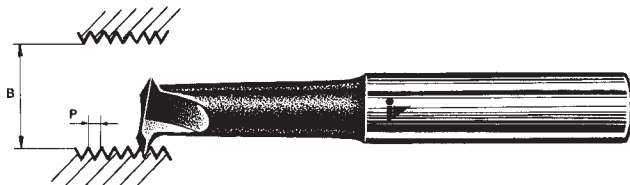
Size GWS	Code number cutting form for: righthand thread by forward movement	Availability		Code number cutting form for: lefthand thread by forward movement	Availability		Recomm. minimum bore B / mm	Ø of neck H mm	Thread
		K10	P30		K10	P30			
3 60°	G60-3-A-...	●	●	G60-3-B-...	●	●	17	10	M6
3 55°	G55-3-A-...	●	●	G55-3-B-...	●	●	17	10	M6
4 60°	G60-4-A-...	●	●	G60-4-B-...	●	●	21	12	M8
4 55°	G55-4-A-...	●	●	G55-4-B-...	●	●	21	12	M8
5 60°	G60-5-A-...	●	●	G60-5-B-...	●	●	24	14	M10×20TPI
5 55°	G55-5-A-...	●	●	G55-5-B-...	●	●	24	14	M10×20TPI
6 60°	G60-6-A-...	●	●	G60-6-B-...	●	●	28	16.3	M12×20TPI
6 55°	G55-6-A-...	●	●	G55-6-B-...	●	●	28	16.3	M12×20TPI
7 60°	G60-7-A-...	●	●	G60-7-B-...	●	●	31	18.3	M14×20TPI
7 55°	G55-7-A-...	●	●	G55-7-B-...	●	●	31	18.3	M14×20TPI
8 60°	G60-8-A-...	●	●	G60-8-B-...	●	●	34	20	M15×20TPI
8 55°	G55-8-A-...	●	●	G55-8-B-...	●	●	34	20	M15×20TPI
9 60°	G60-9-A-...	●	●	G60-9-B-...	●	●	37	22	M15×20TPI
9 55°	G55-9-A-...	●	●	G55-9-B-...	●	●	37	22	M15×20TPI
10 60°	G60-10-A-...	●	●	G60-10-B-...	●	●	42	25	M18×20TPI
10 55°	G55-10-A-...	●	●	G55-10-B-...	●	●	42	25	M18×20TPI
11 60°	G60-11-A-...	●	●	G60-11-B-...	●	●	50	30	M21×14TPI
11 55°	G55-11-A-...	●	●	G55-11-B-...	●	●	50	30	M21×14TPI

▲ Please indicate here the grade of carbide required ▲

The above mentioned tools for internal thread cutting are equipped with righthand-side thread of shank.  
To determine correct size of tool and for different types (C+D) of internal thread cutting tools 60° and 55°, please see page 16.

Availability: ● ex stock

# Table of Pitch and Size of Threads for Internal Thread Cutting Tools

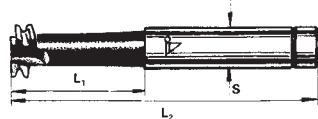
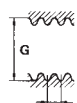


Size		000	00	0	1	2	3	4	5	6	7	8	9	10	11
Maximum pitch possible P	in mm	1.25	1.5	1.75	2	2.5	3.5	4	5	5.5	6.5	7.5	8	10	12
	in threads per inch	20	16	14	12	10	7	6	5	4 1/2	3 1/2	3	2 3/4	2 1/2	2
Minimum bore $\varnothing$ B in mm		5	6.5	9	11	13	17	21	24	28	31	34	37	42	50
Suitable for	metric thread	M6	M8	M10	M12-16	M14-22	M20-27	M24-33	M30-42	M33-48	M39-56	from M42	from M45	from M48	from M60
	English thread		5/16-3/8"	3/8"	1/2-5/8"	5/8-3/4"	3/4-1 1/4"	1-1 1/2"	1 1/4-1 3/4"	1 1/4-2"	1 1/2-2 1/2"	1 5/8-3"	1 3/4-3 1/2"	2-4"	from 2 1/2"

## Table of Internal Thread Cutting Tools, Righthand and Lefthand

 Type A <b>For righthand internal thread</b> cutting from right to left during forward movement (normal tool for righthand threads) (also suitable for external lefthand thread cutting during reverse spindle operation)	 Type B <b>For lefthand internal thread</b> cutting from left to right during forward movement (normal tool for lefthand threads) (also suitable for external righthand thread cutting during reverse spindle operation)	 Type C <b>For lefthand internal thread</b> cutting from right to left during reverse spindle operation (also suitable for external righthand thread cutting during forward movement) requires lefthand-side threaded shank (SCH...L...)	 Type D <b>For righthand internal thread</b> cutting from left to right during reverse spindle operation (also suitable for external lefthand thread cutting during forward movement) requires lefthand-side threaded shank (SCH...L...)
When ordering GWS types B, C or D it is imperative to mark it clearly. (Types B, C and D available in HSS-CO, TiN-coated and with carbide tips grade K10 and P30.)		<b>Code number:</b> replace letter "A" in code for type A by "C".	<b>Code number:</b> replace letter "A" in code for type A by "D".

## RDG Tools RDG of HSS-CO (Kob) for Cutting Round Threads, acc. to DIN 405



RDG nos. 0/1-2 R



Heads: RDG nos. 3-10 R  
Shanks see page 12

How to order (example): 5 pieces RDG-4-28x8G-R-Kob.

$\varnothing$ G of thread	Size RDG	Pitch of thread 10 TPI Code number	Pitch of thread 8 TPI Code number	Pitch of thread 6 TPI Code number	Pitch of thread 4 TPI Code number	$\varnothing$ S-h7, mm	Thread	Lengths	
								L1, mm	L2, mm
12	0/1	RDG-0/1-12x10G-R-Kob	●			8		31	60
14	1	RDG-1-14x10G-R-Kob	●			8		30	64
16	1/2	RDG-1/2-16x10G-R-Kob	●			8		35	69
18	2	RDG-2-18x10G-R-Kob	●			8		—	80
20	2	RDG-2-20x10G-R-Kob	●	RDG-2-20x8G-R-Kob	●	8		—	80
22	2		RDG-2-22x8G-R-Kob	●		8		—	80
22	3	RDG-3-22x10G-R-Kob	●				M6		
25	3	RDG-3-25x10G-R-Kob	●	RDG-3-25x8G-R-Kob	●		M6		
25	4			RDG-4-25x6G-R-Kob	●		M8		
28	4		RDG-4-28x8G-R-Kob	●	RDG-4-28x6G-R-Kob	●	M8		
30	4	RDG-4-30x10G-R-Kob	●	RDG-4-30x8G-R-Kob	●		M8		
30	5			RDG-5-30x6G-R-Kob	●		M10x20TPI		
32	5		RDG-5-32x8G-R-Kob	●			M10x20TPI		
35	4	RDG-4-35x10G-R-Kob	●				M8		
35	5			RDG-5-35x6G-R-Kob	●		M10x20TPI		
35	6		RDG-6-35x8G-R-Kob	●	RDG-6-35x4G-R-Kob	●	M12x20TPI		
38	6		RDG-6-38x8G-R-Kob	●	RDG-6-38x6G-R-Kob	●	RDG-6-38x4G-R-Kob		
40	5	RDG-5-40x10G-R-Kob	●				M10x20TPI		
40	6		RDG-6-40x8G-R-Kob	●	RDG-6-40x6G-R-Kob	●	RDG-6-40x4G-R-Kob		
45	5	RDG-5-45x10G-R-Kob	●				M10x20TPI		
45	6		RDG-6-45x8G-R-Kob	●			M12x20TPI		
45	8			RDG-8-45x6G-R-Kob	●	RDG-8-45x4G-R-Kob	●	M15x20TPI	
50	6	RDG-6-50x10G-R-Kob	●				M12x20TPI		
50	8		RDG-8-50x8G-R-Kob	●	RDG-8-50x6G-R-Kob	●	RDG-8-50x4G-R-Kob		
55	8		RDG-8-55x8G-R-Kob	●	RDG-8-55x6G-R-Kob	●	RDG-8-55x4G-R-Kob		
60	6	RDG-6-60x10G-R-Kob	●				M15x20TPI		
60	8		RDG-8-60x8G-R-Kob	●	RDG-8-60x6G-R-Kob	●	RDG-8-60x4G-R-Kob		
70	8		RDG-8-70x8G-R-Kob	●	RDG-8-70x6G-R-Kob	●		M15x20TPI	
70	10						RDG-10-70x4G-R-Kob		M18x20TPI
80	8	RDG-8-80x10G-R-Kob	●	RDG-8-80x8G-R-Kob	●			M15x20TPI	
80	10			RDG-10-80x6G-R-Kob	●	RDG-10-80x4G-R-Kob	●	M18x20TPI	
100	8		RDG-8-100x8G-R-Kob	●				M15x20TPI	
100	10			RDG-10-100x6G-R-Kob	●	RDG-10-100x4G-R-Kob	●	M18x20TPI	
120	10						RDG-10-120x4G-R-Kob		M18x20TPI
150	10						RDG-10-150x4G-R-Kob		M18x20TPI

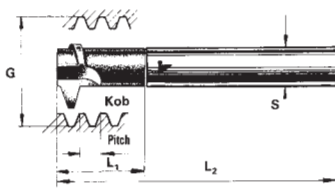
\* Availability: ● ex stock for righthand thread



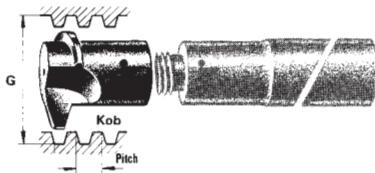


**Tools TRG of HSS-CO (Kob), TiN-coated and Carbide Tipped for Cutting Trapezoidal Threads**  
**Tools FLG of HSS-CO (Kob), TiN-coated and Carbide Tipped for Cutting Square Threads**

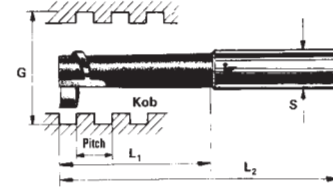
TRG nos. 0-2R



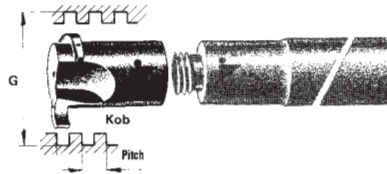
Heads: TRG nos. 3-12R  
Shanks see page 12



FLG nos. 0-2R



Heads: FLG nos. 3-12R  
Shanks see page 12



How to order (example): 5 TRG-4x3-R-Kob.  
5 FLG-0x2-R-Kob.

Pitch	Thread Range of $\varnothing$ G	Size TRG or FLG	Code number for tools for righthand threads during forward movement (for lefthand threads during forward movement replace "R" by "L")	Availability TRG								Code number for tools for righthand threads during forward movement (for lefthand threads during forward movement replace "R" by "L")	Availability FLG								$\varnothing$ S-h7 of shank	Thread	Length	
				"R"				"L"					"R"				"L"						L <sub>1</sub>	L <sub>2</sub>
mm	mm		TRG	Kob	TiN	K10	P30	Kob	TiN	K10	P30	FLG	Kob	TiN	K10	P30	Kob	TiN	K10	P30	mm		mm	
2	14- 10	0	TRG-0x2-R...	●	○	×	×	●	○	×	×	FLG-0x2-R...	●	○	×	×	●	○	×	×	8	—	20	55
2	22- 14	2	TRG-2x2-R...	●	○	×	×	●	○	×	×	FLG-2x2-R...	●	○	×	×	●	○	×	×	8	—	—	80
2	45- 20	3	TRG-3x2-R...	●	○	×	×	●	○	×	×	FLG-3x2-R...	●	○	×	×	●	○	×	×	8	M6	—	—
2	90- 28	5	TRG-5x2-R...	●	○	×	×	●	○	×	×	FLG-5x2-R...	●	○	×	×	●	○	×	×	8	M10x20TPI	20	55
3	13- 10	0	TRG-0x3-R...	●	○	×	×	●	○	×	×	FLG-0x3-R...	●	○	×	×	●	○	×	×	8	—	30	64
3	19- 14	1	TRG-1x3-R...	●	○	×	×	●	○	×	×	FLG-1x3-R...	●	○	×	×	●	○	×	×	8	—	—	—
3	32- 20	3	TRG-3x3-R...	●	○	×	×	●	○	×	×	FLG-3x3-R...	●	○	×	×	●	○	×	×	8	M6	—	—
3	45- 25	4	TRG-4x3-R...	●	○	×	×	●	○	×	×	FLG-4x3-R...	●	○	×	×	●	○	×	×	8	M8	—	—
3	70- 30	6	TRG-6x3-R...	●	○	×	×	●	○	×	×	FLG-6x3-R...	●	○	×	×	●	○	×	×	8	M12x20TPI	—	—
3	120- 40	8	TRG-8x3-R...	●	○	×	×	●	○	×	×	FLG-8x3-R...	●	○	×	×	●	○	×	×	8	M15x20TPI	—	—
4	17- 14	1	TRG-1x4-R...	●	○	×	×	●	○	×	×	FLG-1x4-R...	●	○	×	×	●	○	×	×	8	—	30	64
4	24- 18	2	TRG-2x4-R...	●	○	×	×	●	○	×	×	FLG-2x4-R...	●	○	×	×	●	○	×	×	8	—	—	80
4	30- 20	3	TRG-3x4-R...	●	○	×	×	●	○	×	×	FLG-3x4-R...	●	○	×	×	●	○	×	×	8	M6	—	—
4	40- 26	4	TRG-4x4-R...	●	○	×	×	●	○	×	×	FLG-4x4-R...	●	○	×	×	●	○	×	×	8	M8	—	—
4	70- 35	6	TRG-6x4-R...	●	○	×	×	●	○	×	×	FLG-6x4-R...	●	○	×	×	●	○	×	×	8	M12x20TPI	—	—
4	120- 45	8	TRG-8x4-R...	●	○	×	×	●	○	×	×	FLG-8x4-R...	●	○	×	×	●	○	×	×	8	M15x20TPI	—	—
5	22- 18	2	TRG-2x5-R...	●	○	×	×	●	○	×	×	FLG-2x5-R...	●	○	×	×	●	○	×	×	8	—	—	80
5	30- 22	3	TRG-3x5-R...	●	○	×	×	●	○	×	×	FLG-3x5-R...	●	○	×	×	●	○	×	×	8	M6	—	—
5	40- 28	4	TRG-4x5-R...	●	○	×	×	●	○	×	×	FLG-4x5-R...	●	○	×	×	●	○	×	×	8	M8	—	—
5	60- 35	6	TRG-6x5-R...	●	○	×	×	●	○	×	×	FLG-6x5-R...	●	○	×	×	●	○	×	×	8	M12x20TPI	—	—
5	150- 45	8	TRG-8x5-R...	●	○	×	×	●	○	×	×	FLG-8x5-R...	●	○	×	×	●	○	×	×	8	M15x20TPI	—	—
6	34- 26	4	TRG-4x6-R...	●	○	×	×	●	○	×	×	FLG-4x6-R...	●	○	×	×	●	○	×	×	8	M8	—	—
6	40- 30	5	TRG-5x6-R...	●	○	×	×	●	○	×	×	FLG-5x6-R...	●	○	×	×	●	○	×	×	8	M10x20TPI	—	—
6	50- 34	6	TRG-6x6-R...	●	○	×	×	●	○	×	×	FLG-6x6-R...	●	○	×	×	●	○	×	×	8	M12x20TPI	—	—
6	90- 45	8	TRG-8x6-R...	●	○	×	×	●	○	×	×	FLG-8x6-R...	●	○	×	×	●	○	×	×	8	M15x20TPI	—	—
6	180- 60	10	TRG-10x6-R...	●	○	×	×	●	○	×	×	FLG-10x6-R...	●	○	×	×	●	○	×	×	8	M18x20TPI	—	—
7	48- 35	6	TRG-6x7-R...	●	○	×	×	●	○	×	×	FLG-6x7-R...	●	○	×	×	●	○	×	×	8	M12x20TPI	—	—
7	60- 40	7	TRG-7x7-R...	●	○	×	×	●	○	×	×	FLG-7x7-R...	●	○	×	×	●	○	×	×	8	M14x20TPI	—	—
7	70- 45	8	TRG-8x7-R...	●	○	×	×	●	○	×	×	FLG-8x7-R...	●	○	×	×	●	○	×	×	8	M15x20TPI	—	—
7	180- 60	10	TRG-10x7-R...	●	○	×	×	●	○	×	×	FLG-10x7-R...	●	○	×	×	●	○	×	×	8	M18x20TPI	—	—
8	46- 35	6	TRG-6x8-R...	●	○	×	×	●	○	×	×	FLG-6x8-R...	●	○	×	×	●	○	×	×	8	M12x20TPI	—	—
8	55- 40	7	TRG-7x8-R...	●	○	×	×	●	○	×	×	FLG-7x8-R...	●	○	×	×	●	○	×	×	8	M14x20TPI	—	—
8	65- 45	8	TRG-8x8-R...	●	○	×	×	●	○	×	×	FLG-8x8-R...	●	○	×	×	●	○	×	×	8	M15x20TPI	—	—
8	240- 60	10	TRG-10x8-R...	●	○	×	×	●	○	×	×	FLG-10x8-R...	●	○	×	×	●	○	×	×	8	M18x20TPI	—	—
9	62- 45	8	TRG-8x9-R...	●	○	×	×	●	○	×	×	FLG-8x9-R...	●	○	×	×	●	○	×	×	8	M12x20TPI	—	—
9	240- 60	10	TRG-10x9-R...	●	○	×	×	●	○	×	×	FLG-10x9-R...	●	○	×	×	●	○	×	×	8	M18x20TPI	—	—
10	65- 48	8	TRG-8x10-R...	●	○	×	×	●	○	×	×	FLG-8x10-R...	●	○	×	×	●	○	×	×	8	M15x20TPI	—	—
10	90- 60	10	TRG-10x10-R...	●	○	×	×	●	○	×	×	FLG-10x10-R...	●	○	×	×	●	○	×	×	8	M18x20TPI	—	—
10	240- 80	11	TRG-11x10-R...	●	○	×	×	●	○	×	×	FLG-11x10-R...	●	○	×	×	●	○	×	×	8	M21x14TPI	—	—
12	80- 55	10	TRG-10x12-R...	●	○	×	×	●	○	×	×	FLG-10x12-R...	●	○	×	×	●	○	×	×	8	M18x20TPI	—	—
12	110- 70	11	TRG-11x12-R...	●	○	×	×	●	○	×	×	FLG-11x12-R...	●	○	×	×	●	○	×	×	8	M21x14TPI	—	—
12	400-100	12	TRG-12x12-R...	●	○	×	×	●	○	×	×	FLG-12x12-R...	●	○	×	×	●	○	×	×	8	M25x14TPI	—	—

▲ Please indicate here alloy or grade of carbide required ▲

The above mentioned TRG and FLG are for cutting single-start threads.  
On request these tools are also produced for multi-start threads.

Availability: ● ex stock / ○ within short notice / × on request