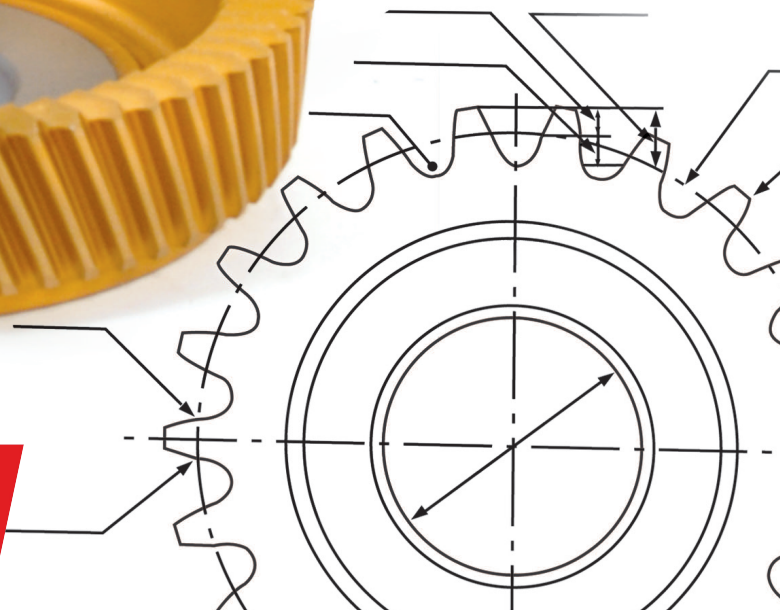
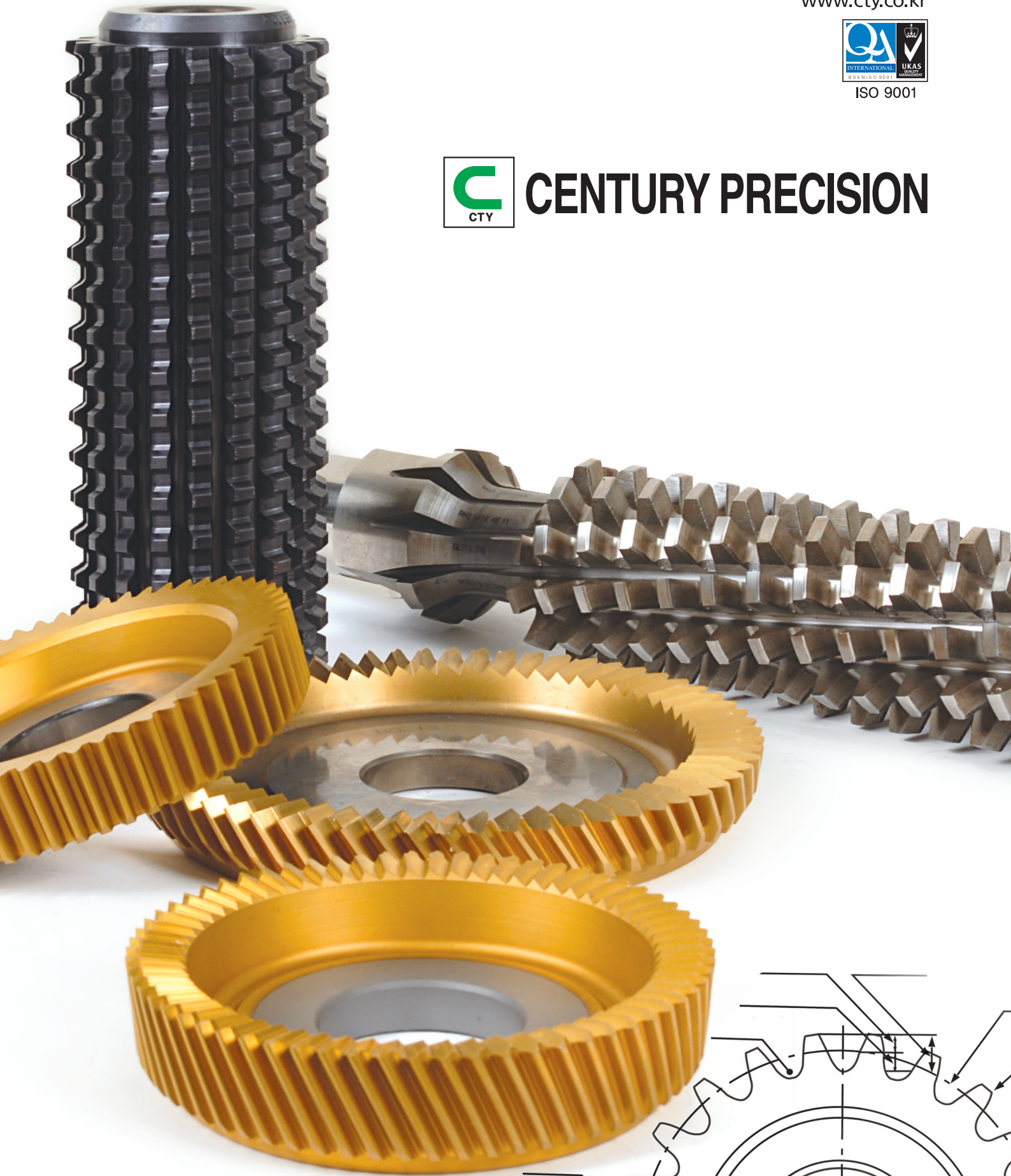




CENTURY PRECISION



Company Profile

Company Name	Century Precision Co., Ltd.
CEO	Shin Tae-Gi
Established	in 1996
Main Products	Gear cutting tools
Location	254, Seunggicheon-ro, Namdong-gu, Incheon, 21634, Korea

Company History

- 1996** Established and started to produce Hobs and Shaper cutters
- 2002** Started out global sales (Taiwan, Japan)
- 2003** Installed new CNC Shaper grinding machines
- 2004** Developed the South Korea's first Helical Shaper cutter
- 2006** Started business with GM in the U.S, and HONDA, HYUNDAI in Beijing, Installed CNC Sharpening Machines
- 2007** 250% increase of sales revenue to overseas customers such as AISIN AI China
- 2008** Installed PVD Coating Machine
Joint R&D with Hyundai motors on hobs for the new 8 step transmission
- 2011** Constructed moisture and temperature controlled CNC GRINDING MACHINE ROOM
- 2013** Developed Hob grinding machine
- 2014** R&D Laboratory is established
- 2016** Installed new 5-Axis CNC Shaper grinding machine



Main Product

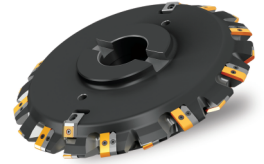
Indexable Lay Down Type Hob



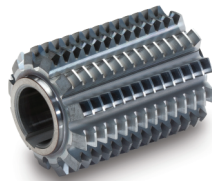
Indexable Tangential Type Hob



Indexable Single Gasher



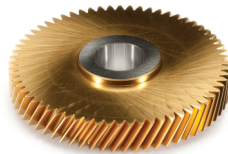
Tungsten Carbide Hobs



Power Skiving Cutter



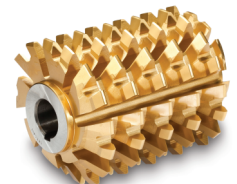
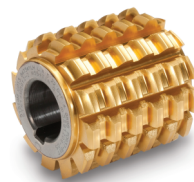
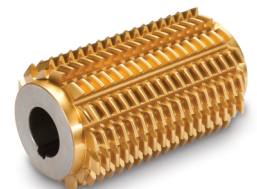
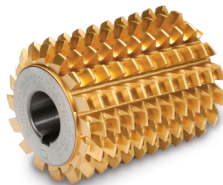
Master Gear



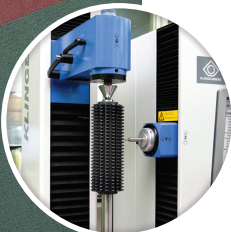
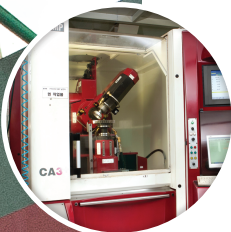
GCC Cutter



Hobs

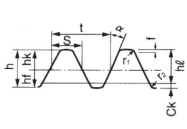
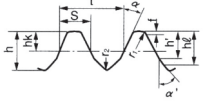
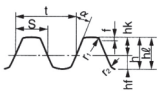
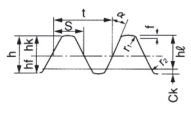
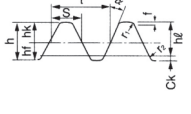
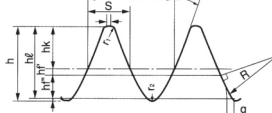


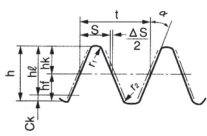
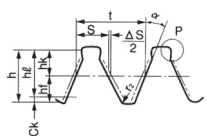
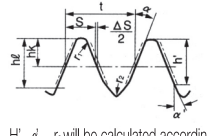
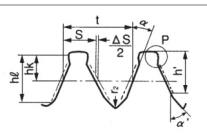
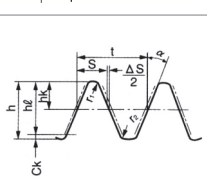
Shaper cutters

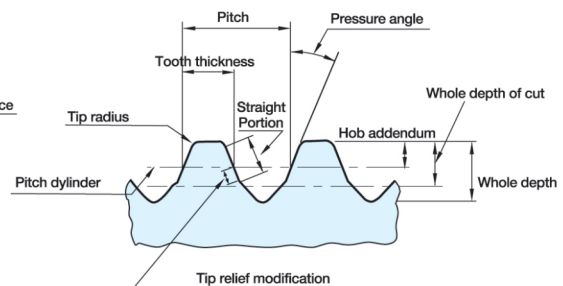
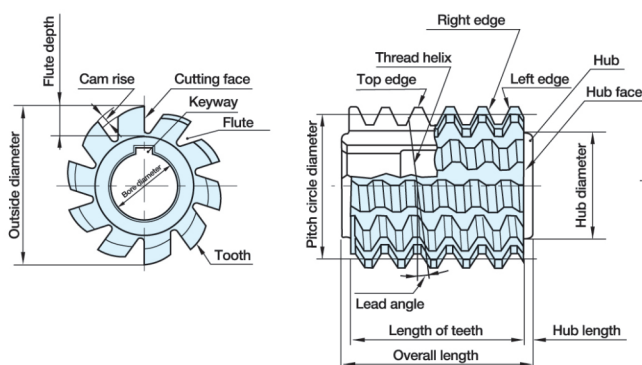


Types of Tooth Profile

Shape of Tooth Profile according to Use of Cutting Tooth

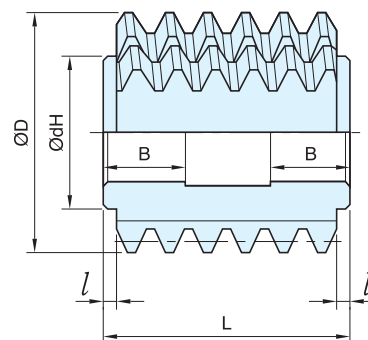
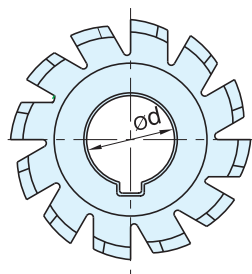
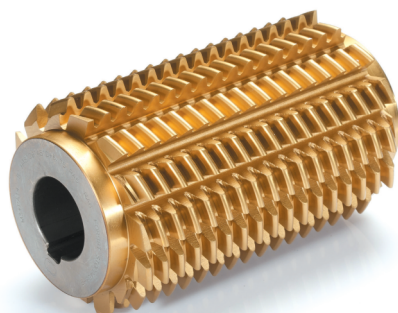
	Symbol	Standard Tooth Profile
Tooth Profile for finishing cutting	N (Standard)	 <p> $\alpha = 20^\circ$ or $14,5^\circ$ $hk = 1,25m$ $hf = 1,25m$ $h = 2,5m$ $h_l = 2,25$ $r_1 = r_2 = 0,375m (\alpha = 20^\circ)$ $= 0,333m (\alpha = 14,5^\circ)$ </p>
	S-TOP (Semi Topping)	 <p> H', d', r_2 will be calculated according to specifications of the work piece, Except these, it will be in accordance with such tooth profiles as standard, topping, standard stub, and fellow stub. </p>
	TOP (Topping)	 <p> $\alpha = 20^\circ$ or $14,5^\circ$ $hk = 1,25m$ $hf = 1,0m$ $h = 2,5m$ $h_l = 2,25$ $r_1 = 0,037m (\alpha = 20^\circ)$ $= 0,333m (\alpha = 14,5^\circ)$ $r_2 = 0,2m$ </p>
	STB-N (Low tooth)	 <p> $\alpha = 20^\circ$ $hk = 1,0m$ $hf = 1,0m$ $h = 2,0m$ $h_l = 1,8m$ $r_1 = 0,3m$ </p>
	STB-F (Fellow Stub)	 <p> Module = m/m $\alpha = 20^\circ$ $hk = 1,25m$ $hf = 1,25m$ $h = 2,5m$ $h_l = 2,25m$ $r_1 = 0,375m$ </p>
	HF-B1 (S Type)	 <p> $\alpha = 20^\circ$ $h = 2,5m$ $hk = 1,25m$ $hf = 0,507m$ $hf' = 0,507m$ $h_l = 2,25m$ $r_1 = r_2 = 0,375m$ $R = 15,75m$ </p>

	Symbol	Standard Tooth Profile
Tooth Profile for shaving or grinding	PRE-S PRE-G (Higher Tooth)	 <p> $\alpha = 20^\circ$ or $14,5^\circ$ $h \geq 2,6m$ $hk = 1,35m$ $hf \leq 1,25m$ $h_l = 2,35$ $r_1 = r_2 = 0,3m$ Completion Value = ΔS </p>
	PP PGP (Protuberance)	 <p> $\alpha = 20^\circ$ or $14,5^\circ$ $h \geq 2,6m$ $hk = 1,35m$ $hf \leq 1,25m$ $h_l = 2,35$ $r_1 = r_2 = 0,3m$ Completion Value = ΔS </p>
	PS PGS (Semi Topping)	 <p> $\alpha = 20^\circ$ or $14,5^\circ$ $hk = 1,35m$ $h_l = 2,35$ $r_1 = 0,3m$ Completion Value = ΔS H', d', r_2 will be calculated according to each and every factors of the work piece. </p>
	PSP PGSP (Protuberance with Semi Topping)	 <p> $\alpha = 20^\circ$ or $14,5^\circ$ $hk = 1,35m$ $h_l = 2,35$ Completion Value = ΔS H', d', r_2 will be calculated according to each and every factors of the work piece. </p>
	RGH (Rough Cutting)	 <p> $\alpha = 20^\circ$ or $14,5^\circ$ $hk = 1,25m$ $h \geq 2,4m$ $h_l = 2,25m$ $r_1 = 0,3m$ or Total radius $r_2 = 0,2m$ Completion Value = ΔS </p>



Normal section of hob tooth profile

Standard Hob

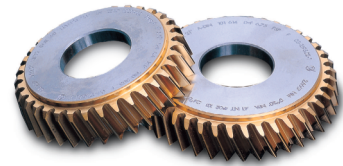
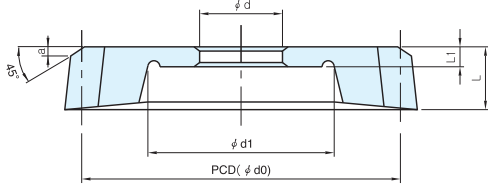


(Unit : mm)

Module (M)	Diametral Pitch(DP)	Standard Hob						
		Out Diameter(D)	Full Length(L)	Inside Diameter(d)	HOB Diameter	HOB Width	Width of Inner Diameter	Number of Flute(N)
1	24-22	50	50	22 (22,225)	34	4	12	12
1.25	20	50	50		34		12	
1.5	18-16	55	55		36		14	
1.75		14	55		55		36	
2	12	60	60		38		15	
2.25	11	60	60		38		15	
2.5	10	65	65		38		16	
2.75	9	65	65		38		16	
3	8	70	70	42	18			
3.25		70	70	42	18			
3.5		75	75	45	20			
3.75		7	80	75	50	20		
4		6	85	80	52	20		
4.5		5.5	90	85	52	22		
5	5	95	90	52	22			
5.5	4.5	100	95	58	24			
6		105	100	60	25			
6.5		4	110	110	60	28		
7		3.5	115	115	60	28		
8	3	120	130	60	32			
9	2.65	125	145	60	36			
10	2.5	130	160	60	40			
11	2.25	150	175	60	44			
12		160	190	60	48			
13	2	170	200	70	50			
14	1.75	180	210	70	52			
15		190	220	74	54			
16	1.5	200	230	84	58			
18		220	250	94	62			
20	1.25	240	270	94	65			
22		250	300	94	68			
24		260	320	100	75			
25		1	270	320	100	80		
26	1	280	340	100	85			
28		300	360	110	90			
30		310	380	110	95			

Shaper Cutter

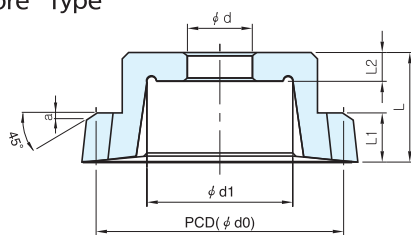
Helical & Disk Type



(mm)

Nominal diameter	Module (m)		PCD (d)	d	L	L1	d1	a
75	0,75	- 1	75	31,742	16	8	50	3
	1,25	- 2	75	31,742	18	8	50	3
	2,25	- 3,5	75	31,742	20	8	50	3
	3,75	- 5	75	31,742	22	10	50	3
100	1	-	100	31,742	18	10	65	4,5
	1,25	- 2	100		20	10	65	4,5
	2,25	- 3,5	100	44,450	22	10	65	4,5
	3,25	- 6	100		24	10	65	4,5
	6,5	- 7	100		28	12	65	4,5
125	1,5	- 2	125	44,450	22	10	85	4,5
	2,25	- 3,5	125	44,450	24	10	85	4,5
	3,75	- 6	125	44,450	26	12	85	4,5
	6,5	- 8	125	44,450	30	12	85	4,5
150	1,75	- 2	150	44,450	24	12	95	4,5
	2,25	- 3,5	150	44,450	26	12	95	4,5
	3,75	- 6	150	44,450	28	14	95	4,5
	6,5	- 10	150	44,450	32	14	95	4,5
175	2	-	175	44,450	26	14	110	4,5
	2,25	- 3,5	175	44,450	28	14	110	4,5
	3,75	- 6	175	44,450	30	14	110	4,5
	6,5	- 10	175	44,450	34	14	110	4,5
	11	- 12	175	44,450	36	16	110	4,5

Deep Counterbore Type

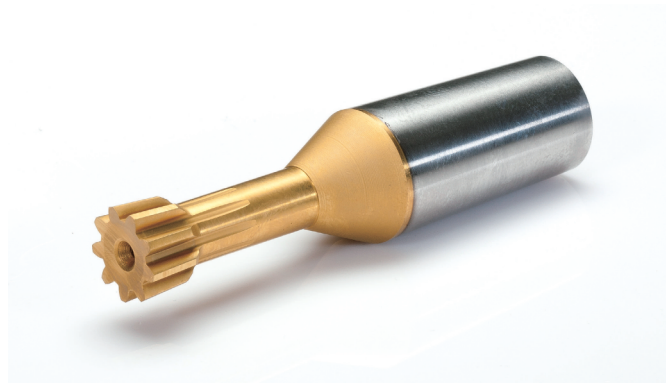
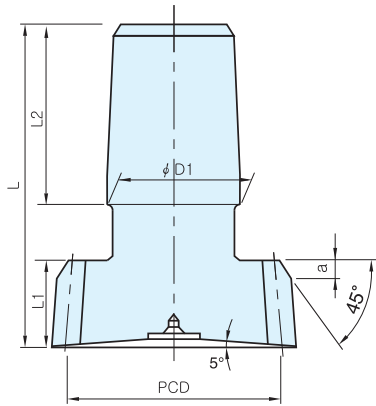


(mm)

Nominal diameter	Module (m)		PCD (d)	ϕd	L	L1	d1	a
50	0,75	- 1	50	19,050	30	12	28	3
	1,25	- 2	50	19,050	32	14	28	3
	2,25	- 3,5	50	19,050	34	16	28	3
	3,75	- 4	60	19,050	38	18	28	3
75	0,75	- 1	75	31,742	34	16	50	3
	1,25	- 2	75	31,742	36	18	50	3
	2,25	- 3,5	75	31,742	38	20	50	3
	3,75	- 5	80	31,742	42	22	50	3
	1	-	100	31,742	38	18	65	4,5
100	1,25	- 2	100	44,450	40	20	65	4,5
	2,25	- 3,5	100		42	22	65	4,5
	3,75	- 6	105		44	24	65	4,5
	5,5	- 7	110		50	28	65	4,5

Shaper Cutter

Shank Type

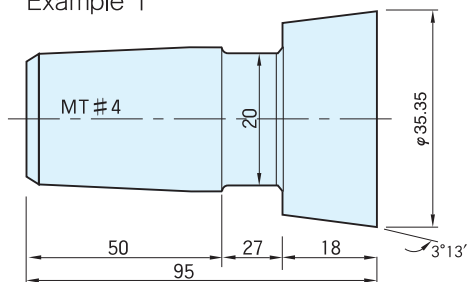


(mm)

Nominal diameter	Module (m)	PCD (d)	L	L1	L2	D1	Shank taper		a	Type of shank taper
25	0,75 ~ 0,9	25	80	10	40	18,0	1/20,020	0,049951	2	Morse Taper No.2
	1 ~ 1,5	25	80	12	40	18,0	1/20,020	0,049951	2	
	1,75 ~ 2,5	25	80	15	40	18,0	1/20,020	0,049951	2	
38	0,75 ~ 0,9	38	100	12	50	24,1	1/19,922	0,050196	2	Morse taper No.3
	0,75 ~ 0,9	38	100	12	50	27,0	1/19,185	0,052125	2	Fellows taper
	1 ~ 1,75	38	100	15	50	24,1	1/19,922	0,050196	2	Morse taper No.3
	1 ~ 1,75	38	100	15	50	27,0	1/19,185	0,052125	2	Fellows taper
	2 ~ 3	38	100	18	50	24,1	1/19,922	0,050196	3	Morse taper No.3
	2 ~ 3	38	100	18	50	27,0	1/19,185	0,052125	3	Fellows taper3
	3,25 ~ 4	38	125	18	50	24,1	1/19,922	0,050196	3	Morse taper No.4
	3,25 ~ 4	45	125	18	50	27,0	1/19,185	0,052125	3	Fellows taper

Shaper Data

Example 1



Example 2

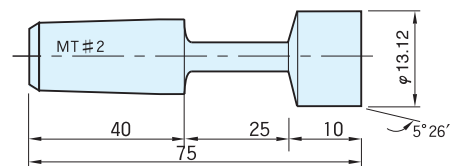


		Figure			
Specification	Module or DP	DP 20/40		M 1,5 Spur	
	Pressure angle	30°		20°	
	No. of teeth	26		6	
	Helix angle	Spur		Spur	
	PCD	33,020		9	
	Side angle	2°		2°	
	Material hardness	AISI-M2 HRC64,5		AISI-M2 HRC65	
	Accuracy standard & grade	JIS B4356-1964 Class O		JIS B4356-1964 Class O	
Accuracy		Value of permissible errors	Value of actual reading	Value of permissible errors	Value of actual reading
	Adjacent pitch error	Within 0,003	0,002	Within 0,003	0,002
	Accumulated pitch error	0,012	0,005	0,012	0,008
	Tooth space runout	0,010	0,006	0,010	0,006
	Tooth profile error	0,006	0,004	0,006	0,005

Global Network



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E-mail: sales@cty.co.kr

<http://www.cty.co.kr>