Features

Characteristics

- Increased productivity: Special HSS and multi layer coating increases cutting ability by more than 2 times, compared to a conventional Hob
- Cost savings: Increased tool life and reduced cycle time lead to cost savings
- Environmentally friendly: Cutting oil is not used

Successful Results Require

- a quality Hobbing M/C for Turbo cutting.

Application

- Mass production of gears(high volume)

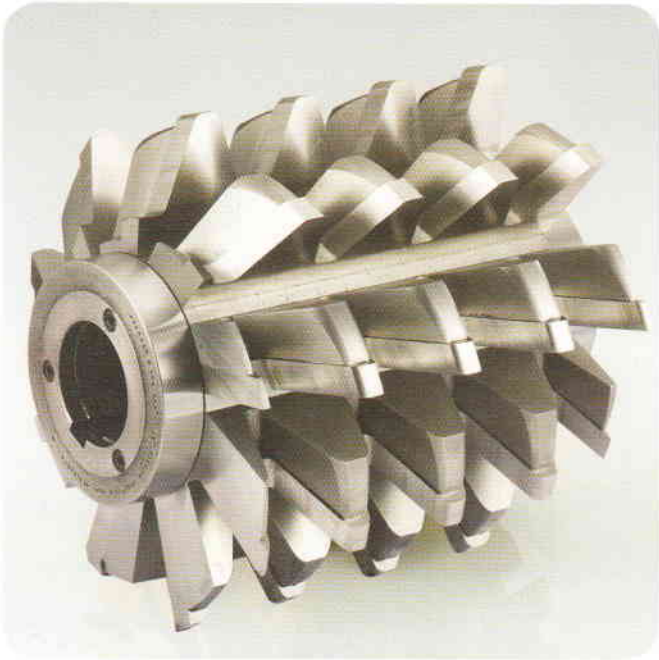
Comparison of Results in a Hobbing Test between PFAUTER and MITSUBISHI

1. Machine Used : PFAUTER & MITSUBISHI
2. Work Data
   ① Material : CM818H
   ② Gear Specification : M2.95 X PA20° NT62 HA33° width 28mm

Specification		Conventional Hob	Dry Hob
Hob (PGS)	No of Start	4RH	4RH
	No of Teeth	NT16	NT16
	GL	∞	∞
	RA	8°	8°
	Material	PM	DHS2
	Coating	TiN	T.V.C
	OD	90	90
	OAL	150L	150L
	Bore	31.75	31.75
Cutting Condition	Rev	353	530
	Speed(M/Min)	Max. 100	150
	Feed	2	3.2
	Cutting Method	Climb Cutting	Climb Cutting
	Shift	1.5	1.5
	Cutting Oil	Yes	No
	Cycle Time	90.78sec	37.79sec
Cutting Amount		350ea	1,000ea
Wear Amount		Wear : 0.15	Wear : VB 0.29
		Crater : 0.20	Crater : 0.18

▶Climb cutting method should be used if possible.

Built-up Hob



The teeth and body are assembled separately and with different materials.

Advantages

1) The cutting condition is efficient controlled relief angle.
2) Cost effective with lower material price for body.
3) Useful for high speed cutting with controlled arbor.

Disadvantages

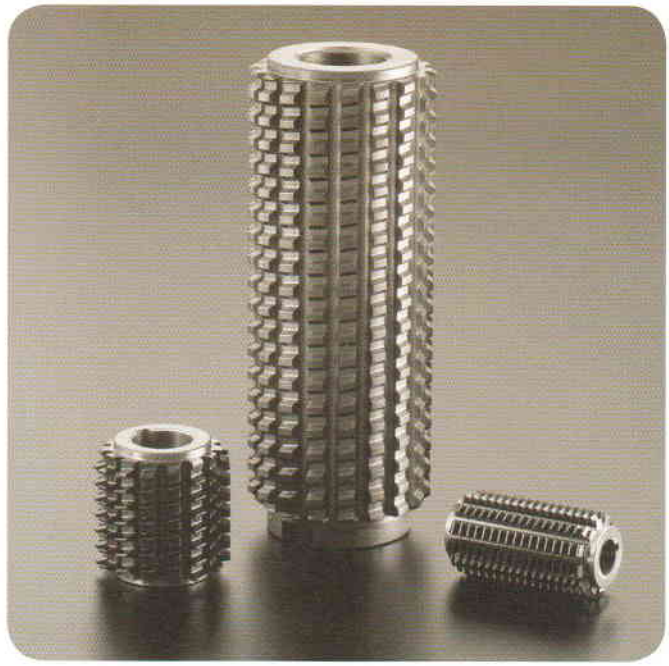
1) The manufacturing process is complex.
2) The out-diameter of built-up hob increases more than that of a standard gear hob.
3) It requires more flexible delivery terms than a standard gear hob.

Unit: mm

Module	Out Dia	Total Length	Bore Dia
10	205	220	60
11	215	235	60
12	220	240	60
14	235	260	60
16	250	280	60
18	265	300	60
20	280	320	60
22	315	335	80
25	330	350	80
28	345	365	80
30	360	385	80
32	375	405	80

▶The above indicated specification for hob might be changed with customer's request.

Carbide Hob



DTR newly developed carbide hobs can cut gears down powerfully at high speed which brings higher efficiency of production than conventional HSS hobbing.

Specification

module : m0.5~m3.0
accuracy class : DIN3968 , class A / AA / AAA

Characteristics

- high cutting speeds
- short machining times
- a longer tool life than conventional HSS cutter
- time saving per piece for gear manufacture
- high productivity
- machining precision
- improved working environment by employing dry cutting
- high suitability for dry machining
- lower gear generation costs