



# PRECISION AND COMPLEX TOOLS



HANJIANG TOOL

*GEAR CUTTER | BROACH | SPECIAL TOOLS*

Hanjiang Tool Corporation Limited

SINCE 1968



# 50<sup>+</sup> YEAR

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The key enterprise in the Chinese tool industry.  
The front-runner of precision and complex tools in China.  
Extensive experience on designing,  
manufacturing and application of the metal cutting tools.

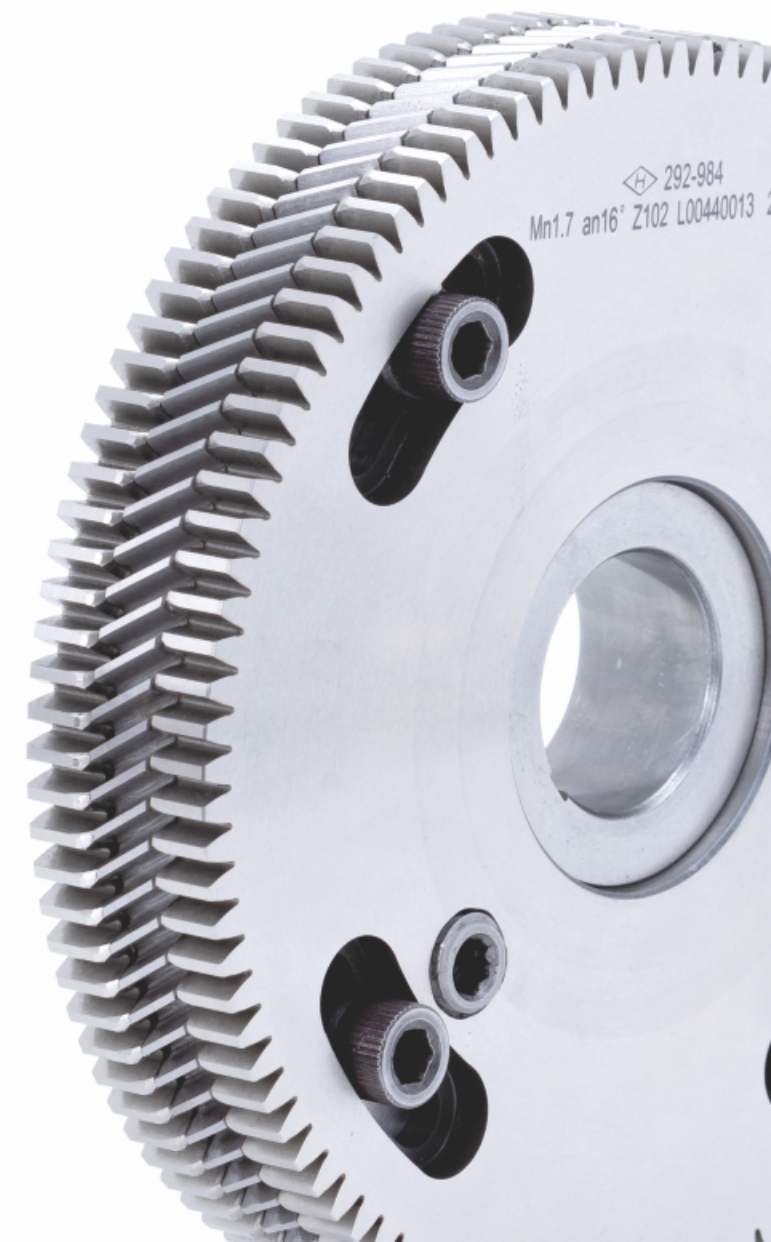
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# ABOUT US

Hanjiang Tool Corporation Limited is a key enterprise in Chinese tool industry, the country's important manufacturing base for sophisticated tools. The company can undertake the developing and manufacturing of all kinds of metal cutting tools.

The main products more than 280 varieties which are Hobs, Shaper cutters, Shaving cutters, Milling cutters, Broaches, Scudding tool, Spiral bevel gear cutters, Special tools, Rolling dies, Drills, Reamers and so on. The company adheres to the tool integration of tool machine development road, and developed and produced a series of tools to manufacture special equipment, including CNC sharpening machine, CNC grinding wheel dresser, CNC forming grinder, Vacuum quenching furnace equipment. These products have attracted vast numbers of users both at home and abroad with its high precision, strong function, good practicality and high performance.

The registered "◇" brand metal cutting tools have been established a good brand advantage in the Chinese tool industry and the vast number of customers by its high precision, high efficiency, high reliability, high wear resistance, specialized characteristics. Regardless of technology innovation, production capacity or manufacturing level, Hanjiang tool is in the leading position in the Chinese tool industry. Hanjiang Tool has become the most powerful national tool brand. "◇" brand metal cutting Tool won the "Shaanxi province famous brand products". The company won the national "May 1st" Labor award and passed the ISO9001 Quality Management System Certificate for the national level measurement units.

The company has various of major production equipment and instruments more than 1,000 units(sets). All key processes are equipped with the world's first class precision equipment and series of precision testing instruments from Germany, Switzerland and Japan.

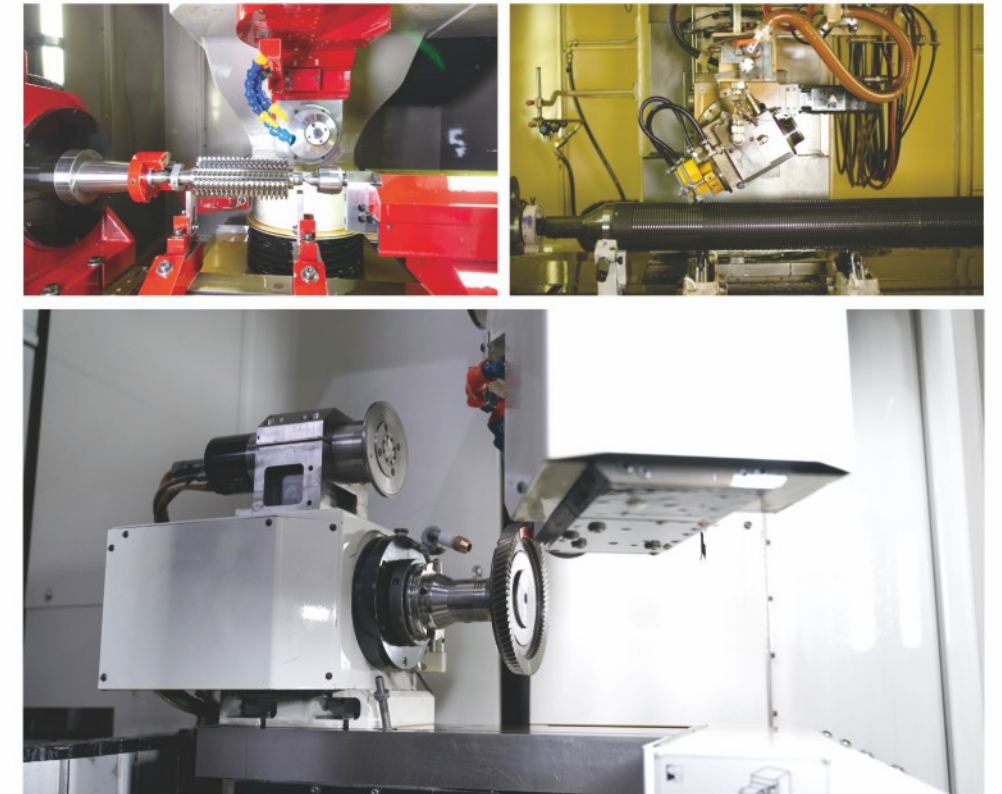
Hanjiang Tool can provide high precision, high efficiency, high reliability, high wear resistance, specialized metal cutting tool for Automobile, Electromobile, Motorbike, Aviation, Aerospace, Ship, Turbine&Steam turbine, Wind power, Energy, Engineering machinery, Construction machinery, Metallurgy machinery, Mining machinery, Petroleum machinery, Machine tool, Locomotive and vehicle and other industries.

The company has a strong high-quality professional and technical services team, as well as sales and service outlets distributed in 12 large and medium-sized cities across the country, can provide users with timely high quality pre-sales, in-sale and after-sales services. Warmly welcome friends at home and abroad to visit us.





# PRODUCTION SCENE





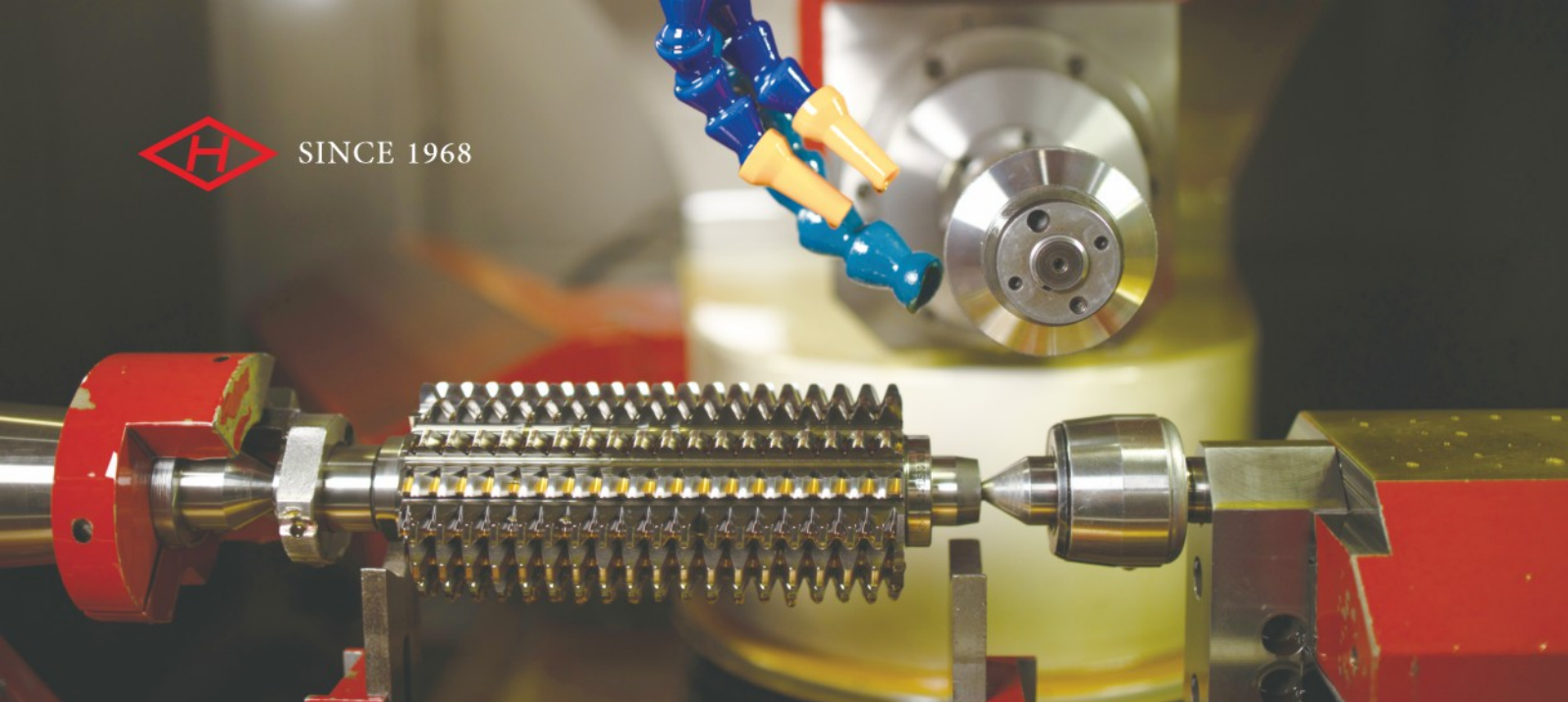


## PRODUCT SHOW

- > High Precision
- > High Efficiency
- > High Reliability
- > High Wear Resistance
- > Specialized







# HOBS

**Cutting tooth materials:** HSS; Powder HSS; Carbide

**Dimensions:**  $\Phi 10 \sim \Phi 500$ ; max.length 650

**Standard:** DIN3968; GB/T6084 and so on

**Accuracy grade:** AAA, AA, A

**Keyway:** Axial keyway; Single clutch keyway; Both clutch keyway

**Application:** Wet cutting; Dry cutting; Soft cutting; Hard cutting; High efficient; High speed

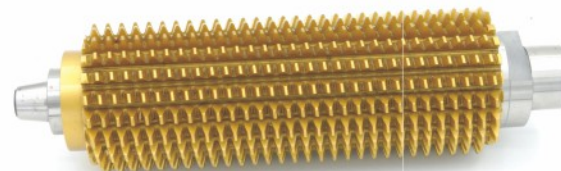
**Module range:** m0.1~m45, Modular system (m), Diametral pitch system (DP), Circumferential pitch system (CP)  
 m0.1~m6, Solid Carbide hobs;  
 m0.1~m32, Solid HSS&Powder HSS hobs;  
 m7~m45, Inserted blade hobs;  
 m2~m45, Brazed carbide skiving gear hobs  
 m6~m32, Solid HSS or Powder HSS, 2-system heavy duty hobs;  
 m0.2~m30, HSS&Powder HSS worm gear hobs

## ■ Involute gear hobs

Tooth profiles of hobs: Protuberance; Semi-topping; Modified tooth crest (tip relief);  
 Topping; Full radius of top and above tooth profile combination

## ■ Non-involute gear hobs

Sprocket wheel hobs; Straight side spline hobs; Serration spline hobs; Belt wheel hobs;  
 Single-arc gear hobs; Double-arc gear hobs; Harmonic wave gear hobs; Cycloidal gear hobs;  
 Female-rotor hob; Male-rotor hob; Rack milling cutters; 2-system heavy duty hobs and so on.



## ■ Interrupted hobs Single position hobs

## ■ Worm gear hobs

**Profile of worm:** ZA, ZN, ZI, ZK, ZC<sub>1</sub>, ZC<sub>2</sub>, ZC<sub>3</sub>

**Structure:** Bore type; Morse taper shank type (right or left); Straight shank type

**Keyway:** Axial keyway; Single clutch keyway; Both clutch keyway

**Infeed method:** Radial direction; Tangential direction

**Module range:** m0.2~m30

**Helix angle:**  $\leq 40^\circ$

**Starts of hob:**  $\leq 12$







# SHAPER CUTTERS



Cutting tooth materials: HSS; Powder HSS; Carbide

Tooth type: Spur tooth; Helical tooth

Cutter type: Disk; Deep counterbore; Morse shank; Straight shank; Pot; Hub

Keyway: Without keyway; Axial keyway; Clutch keyway; Keyway not aligned;  
Keyway aligned on tooth vane axis; Keyway aligned on tooth axis

Standard: DIN1829; GB/T6082 and so on

Accuracy grade: AA, A

Module range: m0.1~m20, Modular system (m), Diametral pitch system (DP),  
Circumferential pitch system (CP)

m0.1~m6, Solid Carbide hobs;

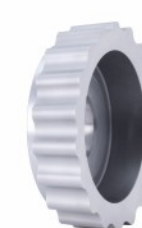
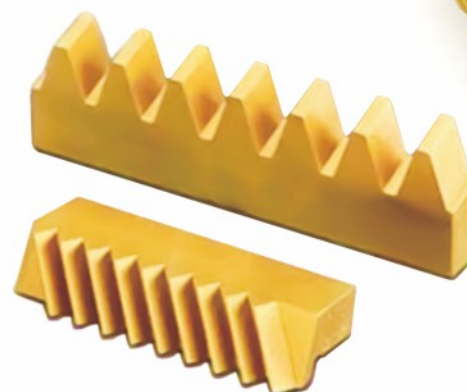
m0.1~m20, Solid HSS or Powder HSS hobs;

m2~m20, Brazed carbide skiving gear hobs

Helix angle:  $\pm 45^\circ$

Used for: Spur gear; Helical gear

Application: Wet cutting;  
Dry cutting;  
Soft cutting;  
Hard cutting;  
High efficient;  
High speed



## ■ Involute gear shaper cutters

Tooth profiles of shaper cutters: Protuberance; Semi-topping;  
Modified tooth Crest (tip relief); Topping; Full radius of top above tooth profile combination



## ■ FELLOWS type used for helical gear SYKES type used for herringbone gear

## ■ Non-involute gear shaper cutter

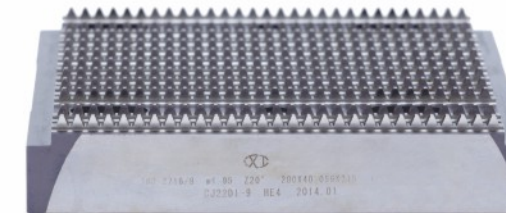
Sprocket wheel shaper cutter; Straight side spline shaper cutter;  
Serration spline shaper cutter; Belt wheel shaper cutter; Single-arc gear shaper cutter;  
Harmonic wave gear shaper cutter; Cycloidal gear shaper cutter and so on

## ■ Joined (uniting) teeth shaper cutter Missing teeth shaper cutter

## ■ Rack-type gear cutter







# BROACHES

Cutting tooth materials: HSS; Powder HSS; Carbide

Operating method: Pushing broach; Pulling broach

Worked part: Internal broach; External broach / Surface broach

Structure: Solid type; Built-up type; Brazed carbide type; Indexable insert type

## ■ Involute spline broaches

Module range: m0.15~m6

## ■ Other broaches

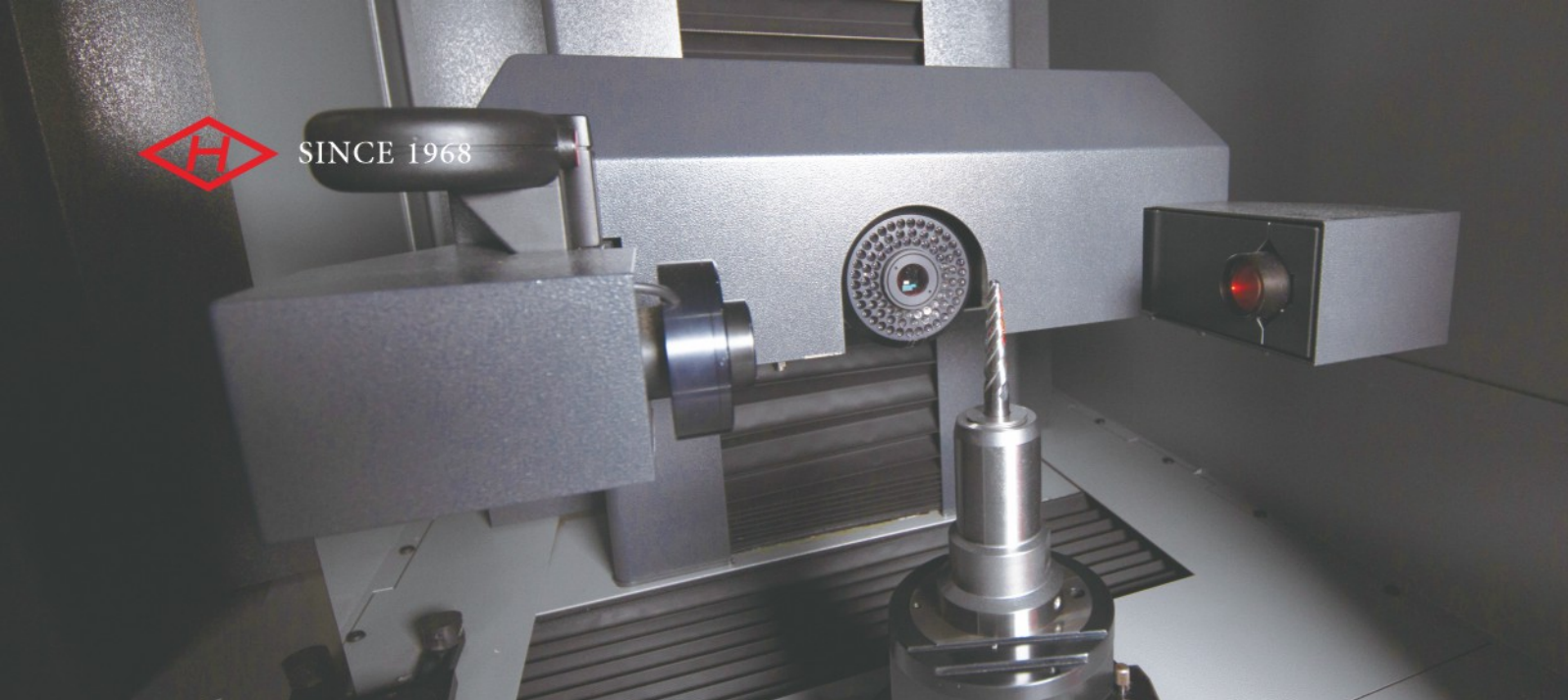
Straight side spline broaches;  
Serration spline broaches;  
Keyway broaches;  
Round broaches;  
Flatted round broaches;  
Square broaches;  
Hexagonal broaches;  
Connecting rod broaches;  
Compressor vane slot broaches;  
Christmas tree form type broaches;  
Mounting for vernier caliper broaches;  
Complicated formed spline broaches;  
Disc brake broaches;  
Steering rack broaches;  
Internal helical gear broaches;  
Special broaches;  
Helical broaches;  
and so on

## ■ Other broaches

Helical broach;  
Finishing broach;  
Burnishing broach;  
Combination broach;  
Set broach







# SPECIAL TOOLS

**Cutting tooth materials:** HSS; Powder HSS; Carbide

**Clamping method:** Straight shank; Taper shank; Bore type

**Straight Shank:** Plain Parallel; Parallel with flat; Parallel with two flats; Parallel with inclined flat

**Flute:** Straight; Tilt(Inclined)straight; Spiral

**Solid milling cutter:** Christmas tree milling cutter; End milling cutter;  
End milling cutter with corner radius; Ball-nosed end milling cutter;  
Roughing end milling cutter; Slot drill; Gear milling cutter;  
Worm milling cutter; Sprocket milling cutter;  
Involute spline milling cutter; Parallel side spline milling cutter;  
Serration spline milling cutter; Single angle milling cutter;  
Double angle milling cutter; Profile milling cutter;  
Convex milling cutter; Concave milling cutter;  
Plain milling cutter; Thread milling cutter;  
Side&face milling cutter with staggered teeth;  
Side&face milling cutter with normal teeth;  
Combination milling cutter; Gang milling cutter;  
Profile-type combination milling cutter; and so on

**Structure:** Equal rake angle; Un-equal rake angle; Form relieved teeth; Flat relieved teeth



## ■ Combination cutter

Combination drill and reamer and so on

## ■ Gang milling cutter

Roughing cutter; Semi-finishing milling cutter; Finishing milling cutter

## ■ Drill; Step(Subland)Drill; Reamer; Countersink





## SCUDDING(SKIVING) CUTTERS

Cutting tooth materials: Powder HSS; Carbide

Module range: m0.1~m6

Cutter type: Deep counterbore; Morse taper shank; Straight shank

Standard: DIN1829; GB/T6082 and so on

Accuracy grade: AA, A



## SHAVING CUTTERS

Cutting tooth materials: HSS; Powder HSS

Cutter type: Conventional; Plunge

Module range: m0.8~m14

Outer diameter:  $\Phi 100 \sim \Phi 360$

Max. Width: 66

Standard: GB/T14333;  
GB/T21950;  
JIS B4357;  
and so on

Accuracy grade: A, B

Serration structure: Non serration lead; Having serration lead; Ring slot



## CHAMFERING & DEBURRING TOOLS

This tool is used to create chamfer on the hobbled or shaped gear.

There are two types of tool.

One type chamfers two corners of the tooth.

The other chamfers all four corners.

### ■ Special type of Deburring Cutter includes the follows

- ① Chamfer includes the root corner.
  - ② Chamfer parallel to the taper face.
  - ③ Chamfer taper from the tooth tip to root.
- This tool is made up of two gears type cutters, and can be adjusted.

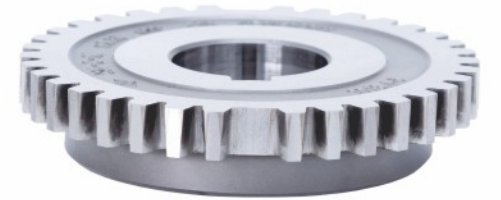
### ■ Reverse lead taper tooth forming tool

This tool efficiently forms a reverse lead taper synchronizer sleeve of transmission.  
This process is done after broaching or shaping the part.

### ■ Rolling tool

This tool forms a reverse lead taper by pushing into the radial direction of work while rolling.

- ① The accuracy of the taper angle is within  $\pm 15'$
- ② The burrs after rolled are so big as to be removed by broaches or other tools.



## BEVEL GEAR CUTTERS

Cutting tooth materials: HSS; Powder HSS; Carbide

### ■ Gleason system spiral bevel gear cutters

**Old structure:** Average diameter:  $3\frac{1}{2}" \sim 60"$   
Alternate roughing cutters (Two sides)  
Triplex roughing cutters (Three sides)  
Alternate finishing cutters  
Outside finishing cutters  
Inside finishing cutters

**New structure:** Average diameter:  $5" \sim 21"$   
Alternate roughing cutters (Two sides) (RIDG-AC type)  
Triplex roughing cutters (Three sides)  
Alternate finishing cutters (Hard-AC type)  
Outside finishing cutters (Hard-AC type)  
Inside finishing cutters (Hard-AC type)  
Helixform finishing cutters

**Solid structure (small diameter):**  
Average diameter:  $1\frac{1}{2}" \sim 3\frac{1}{2}"$   
Alternate cutters

### ■ Straight bevel gear cutters

Straight bevel gear cutters is made up of right cutter and left cutter.

Cutting tooth materials: HSS; Powder HSS; Carbide





## ROLLING DIES & FORMING RACKS

### ■ Gear or spline rolling dies

Module range: m0.4~m2

Pressure angle:  $\leq 20^\circ$

### ■ Gear or spline forming racks

Module range: m0.4~m2

Pressure angle:  $20^\circ$ ,  $30^\circ$ ,  $37.5^\circ$ ,  $45^\circ$  and so on

Whole length: 13", 24", 36", 48" and so on

### ■ Thread forming racks

Thread pitch range: P0.5~P3

### ■ Thread rolling cylindrical dies

Thread outer diameter: M4~M45

Min. thread pitch: P0.7

Bore diameter:  $\Phi 45$ ,  $\Phi 54$ ,  $\Phi 75$ ,  $\Phi 80$ ,  $\Phi 85$ ,  $\Phi 100$ ,  $\Phi 114.31$ ,  $\Phi 120$

Max. outer diameter:  $\Phi 280$

Max. Width: 200



## MASTER & GAUGE

### ■ Master

Module range: m0.4~m10

Gear Standard: DIN3962; GB/T10095 and so on

Accuracy grade: 4, 5, 6

### ■ Plug gauge

Involute spline plug gauge;  
Straight side spline plug gauge;  
Serration spline plug gauge;  
and so on.

### ■ Ring gauge

Involute spline ring gauge;  
Straight side spline ring gauge;  
Serration spline ring gauge;  
and so on.



## INDEXABLE INSERT TOOLS

### ■ Indexable insert hobs

Module range: m4~m50

### ■ Indexable insert scudding (skiving) cutters

Module range: m2~m8

### ■ Indexable insert broaches

### ■ Indexable insert shaper cutters

Module range: m2~m14

### ■ Indexable insert gear milling cutters

Module range: m2~m45



## MACHINE TOOL & FIXTURE

### ■ Machine tool

Vacuum quenching furnace equipment; CNC hob sharpening machine; CNC shaper cutter sharpening machine;  
CNC grinding wheel dresser; CNC forming grinding machine; CNC spline grinding machine;

### ■ Jigs and fixtures & related products for Lathes, Milling machine, Hobbing machine, Shaping machine and other machine.





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