JINZHOU

SHENZHEN JINZHOU PRECISION TECHNOLOGY CORP.

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JINZHOU 金洲

COMPANY PROFILE

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Company overview

COMPANY PROFILE

1.1 Company Overview

Establishment

1986，Shenzhen, China

Registered Capital

320M RMB

Total employees

1400

Production Capacity(per month)

Drill+Router=70 Million pcs

1.2 Facilities View

Subsidiary in Kunshan
Plants & Business Center,
East China

Headquarter in Shenzhen
Operation Center
R&D Center
Plants & Business Center,
South China

Nanchang Branch
Plants & Business Center,
Central China

1.3 Development History

1988

- Introduced PCB micro-drill production technique and equipment from Germany, annual production capacity reached 300 thousand pieces, entered PCB tools industry.

2004

- New plant, Jinzhou Park in Longgang was established and put into operation.
- Annual production capacity reached 20million pieces.

2012

- Annual production capacity reached 180 million pieces, sales ranked 3rd in the world

2014

- Annual production capacity reached 220 million pieces, sales ranked 2nd in the world

2019

- Mass production of 0.01mm drills .
- Annual production capacity reached 410 million pieces, word No.1 in market share.

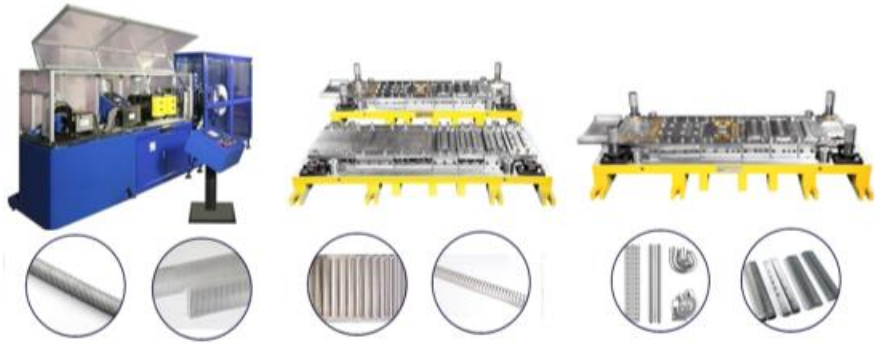
2021

- Mass production of 0.01mm routers.
- Revenue reached 1.16 billion.

1.4 Products

Main product: Tools for PCBs

Precision Cutting Tools



Precision Mould

1.5 Major honors

■ **National Microdrill Champion Enterprises Award**

Those who have focused on some market segments of manufacturing industry, possess international advanced production technology or craft, and more importantly, market share of their single product should be on the top list of global or national enterprise.

■ **JINZHOU was awarded as the first batch of this award.**

证 书

制造业单项冠军示范企业

（2017年 — 2019年）

企业名称：深圳市金洲精工科技股份有限公司

主营产品：印制电路板用精密微型钻头

中华人民共和国工业和信息化部

中国工业经济联合会

2017年1月17日

Second Prize of National Science and Technology Progress Award

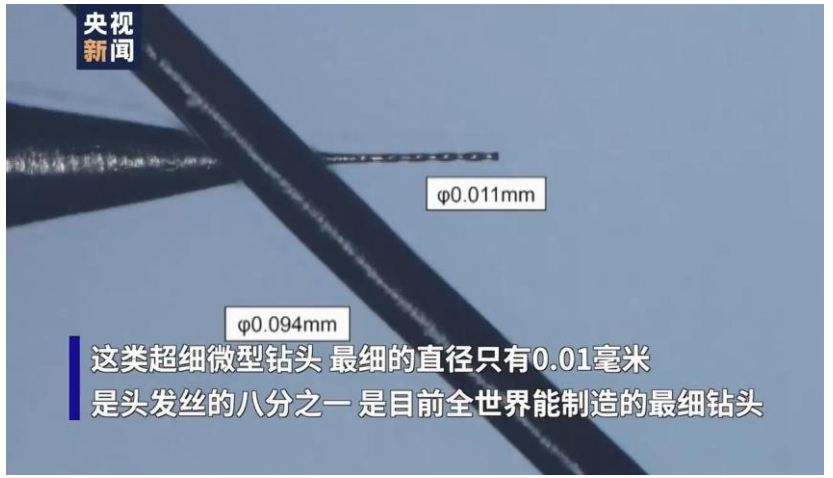
- **National Science and Technology Progress Award**

"High-end printed circuit boards, high efficiency and high reliability, microfabrication technology and applications"

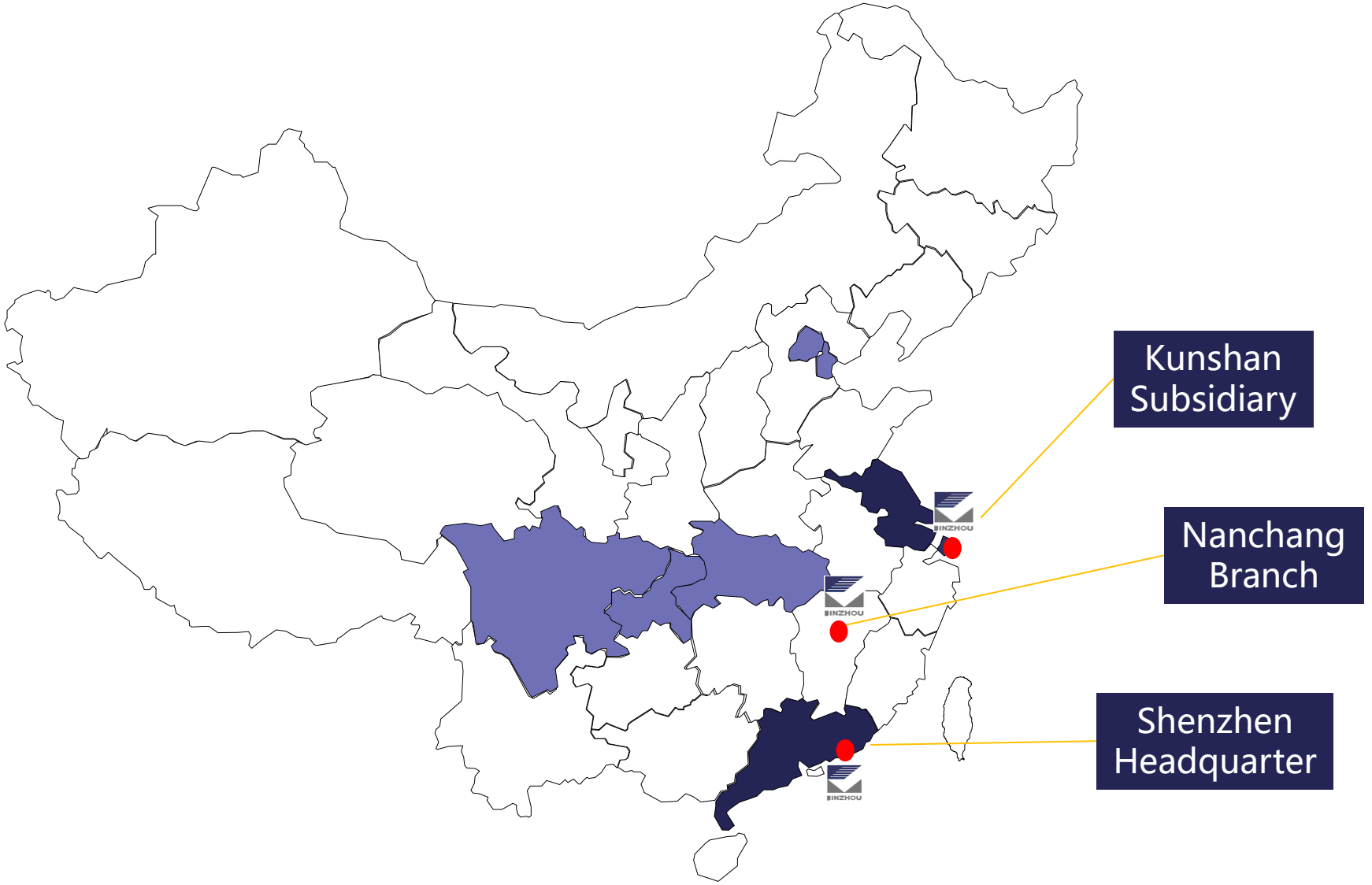
Awarded Second Prize of National Science and Technology Progress Award

in January 2020

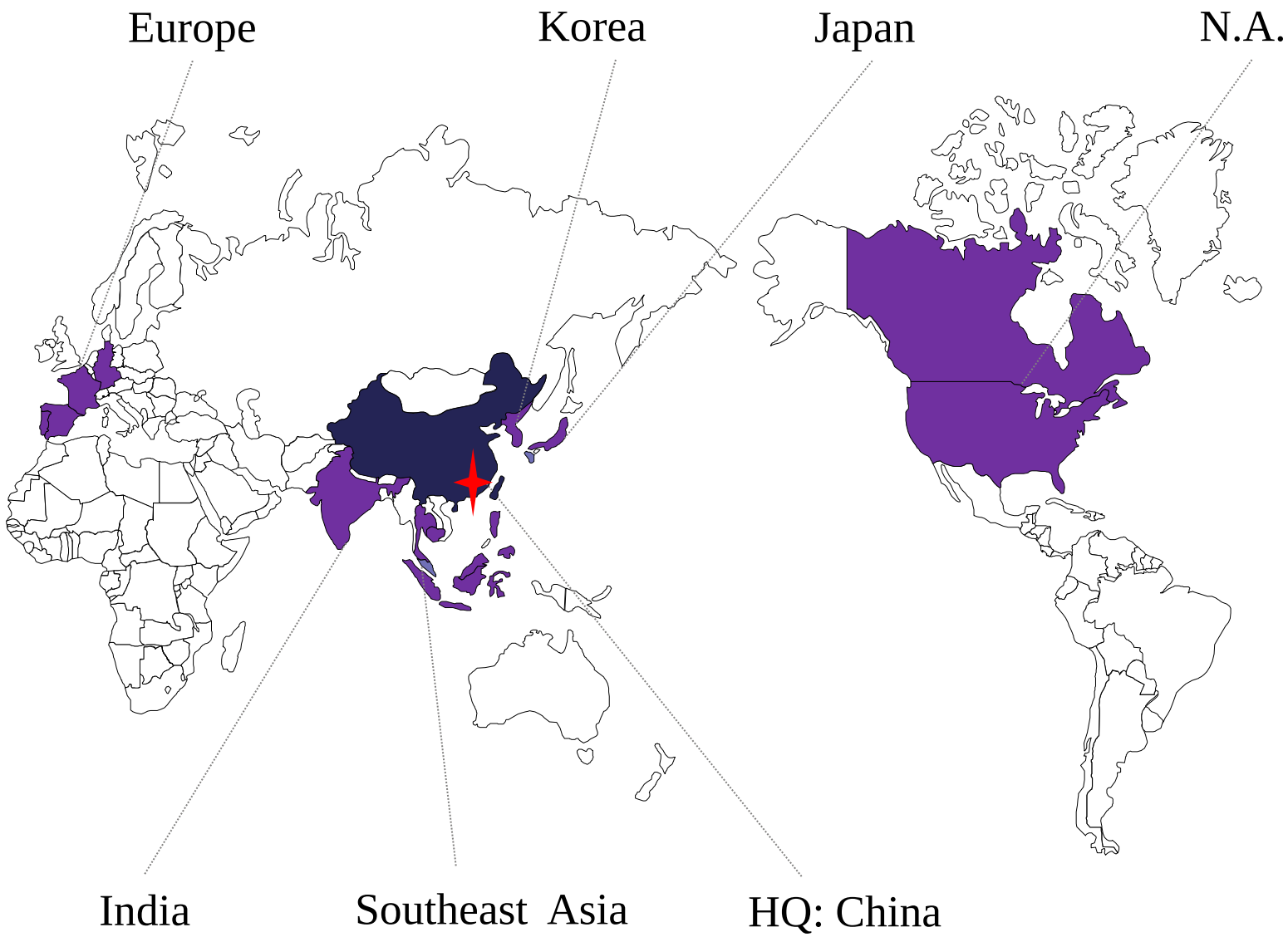
2021-2022, Jinzhou has been reported by CCTV for several times



1.6 Domestic Sales



1.7 Oversea Sales



02

Research & Development

COMPANY PROFILE

2.1 Technical Innovation

T&I Strategy of JINZHOU

Focus on R&D of modern precision manufacturing, such as **precision processing, precision blanking, precision CNC** etc.

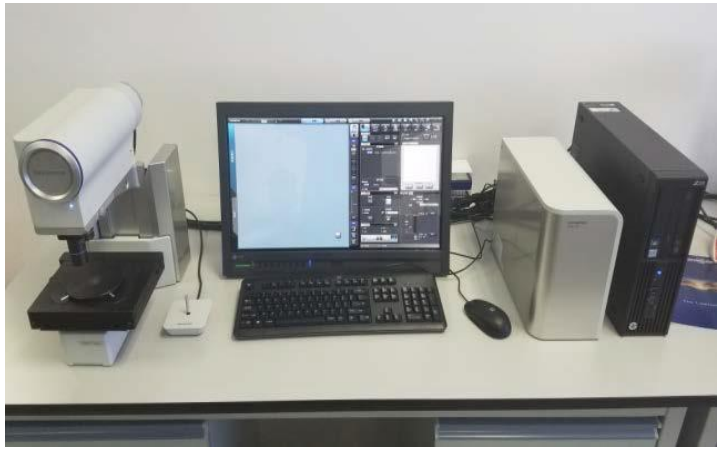
Persist on technical innovation, to win market with high-performance products, competitive costs and good service.

To create international famous brand in precision manufacturing, and keep domestic first and international first-class technical level in the industry.

2.3 world-class R&D equipment

HITACHI 35000krpm drilling machine

Cold field emission scanning microscope（ Attached EDS）



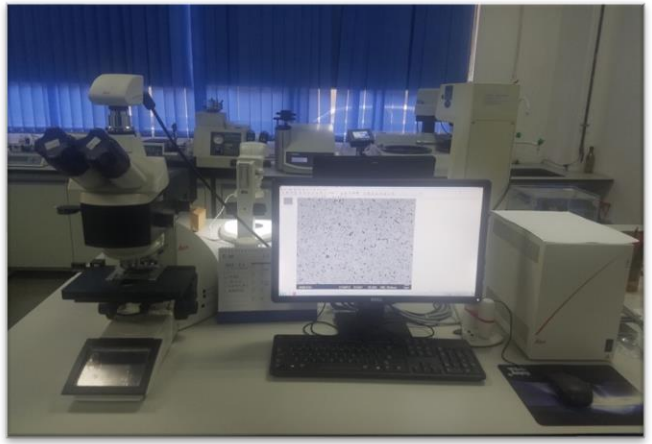
Super-high magnification microscope

HITACHI 8000krpm routing machine

Drilling deflection measuring machine

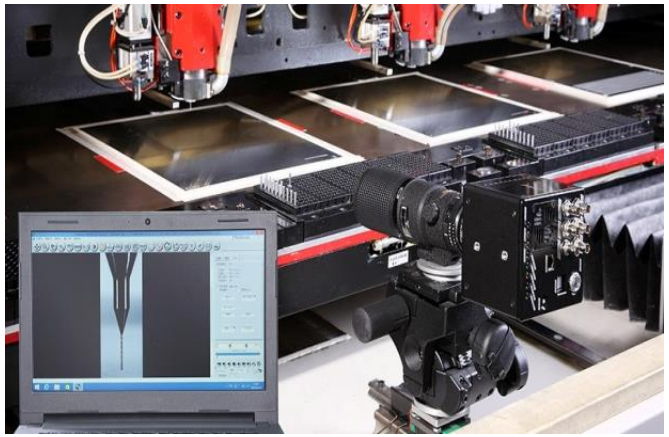
Nanoindentation/Micro Scratch Tester

2.3 world-class R&D equipment



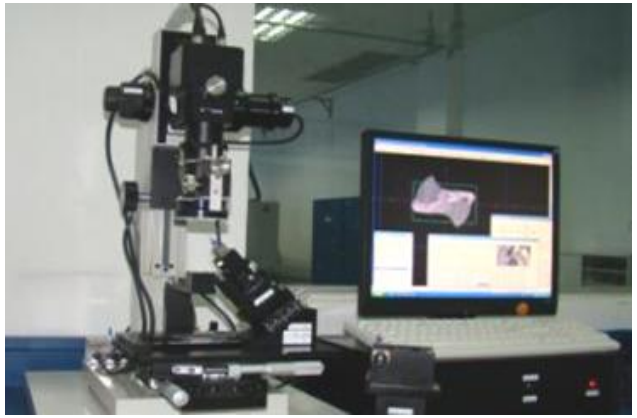
Material R&D platform

ZOLLER tool detector



High-speed camera

CMM
(coordinate measuring machine)



Drill tip wear
measuring instrument

Thermal infrared
imager

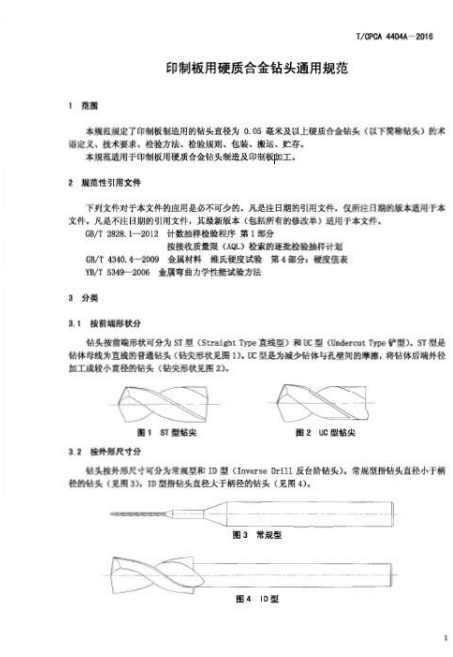
2.4 Patents

493 AUTHORIZED PATENTS

- Authorized Patents 493
  - Invention 156
    - Domestic 144
    - Overseas 12
      - Japan 4
      - Korea 5
      - USA 3
  - Others 337

2.5 National standard-drill

national standard and industry standard



National standard

Cemented carbide drills for printed boards

Industry standard

General specification for cemented carbide drills for printed boards

Jinzhou is the drafter of the national standard *Cemented carbide drills for printed boards,* which is also the industry standard and military standard.

Development of industry standards-router

ICS 25.100.30
J 41

CPCA

团　　体　　标　　准

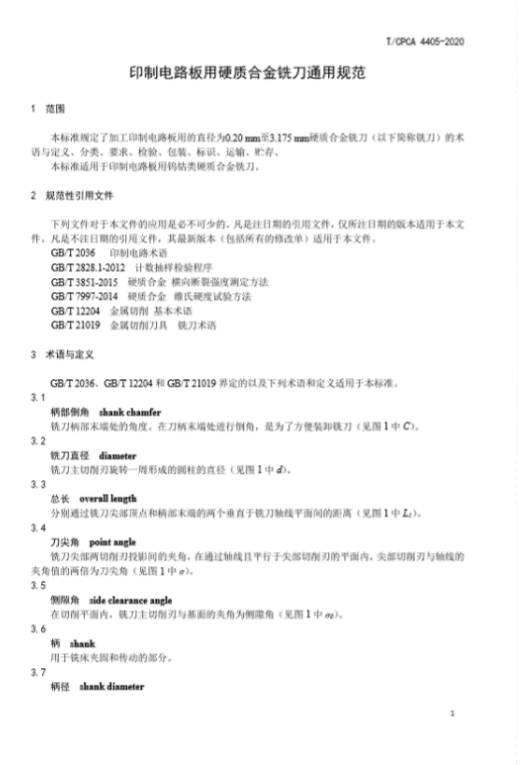
T/CPCA 4405—2020

印制电路板用硬质合金铣刀通用规范

General specification of tungsten carbide routers and endmills for printed circuit boards

2020-01-10 发布　　2020-03-10 实施

中国电子电路行业协会　发布



印制电路板用硬质合金铣刀通用规范

1　范围

本标准规定了加工印制电路板用的直径为0.20 mm至3.175 mm硬质合金铣刀（以下简称铣刀）的术语与定义、分类、要求、检验、包装、标识、运输、贮存。

本标准适用于印制电路板用钨钴类硬质合金铣刀。

2　规范性引用文件

下列文件对于本文件的应用是必不可少的。凡是注日期的引用文件，仅所注日期的版本适用于本文件。凡是不注日期的引用文件，其最新版本（包括所有的修改单）适用于本文件。

GB/T 2036　印制电路术语
GB/T 2828.1-2012　计数抽样检验程序
GB/T 3851-2015　硬质合金　横向断裂强度测定方法
GB/T 7997-2014　硬质合金　维氏硬度试验方法
GB/T 12204　金属切削　基本术语
GB/T 21019　金属切削刀具　铣刀术语

3　术语与定义

GB/T 2036、GB/T 12204 和 GB/T 21019 界定的以及下列术语和定义适用于本标准。

3.1
柄部倒角　shank chamfer
铣刀柄部末端处的角度。在刀柄末端处进行倒角，是为了方便装卸铣刀（见图 1 中 C）。

3.2
铣刀直径　diameter
铣刀主切削刃旋转一周形成的圆柱的直径（见图 1 中 d）。

3.3
总长　overall length
分别通过铣刀尖部顶点和柄部末端的两个垂直于铣刀轴线平面间的距离（见图 1 中 L_1）。

3.4
刀尖角　point angle
铣刀尖部两切削刃投影间的夹角。在通过轴线且平行于尖部切削刃的平面内，尖部切削刃与轴线的夹角值的两倍为刀尖角（见图 1 中 σ）。

3.5
侧隙角　side clearance angle
在切削平面内，铣刀主切削刃与基面的夹角为侧隙角（见图 1 中 α_0）。

3.6
柄　shank
用于铣床夹固和传动的部分。

3.7
柄径　shank diameter

Jinzhou is the drafter of “General specification of tungsten carbide routers and endmills for printed circuit boards”.

2.6 0.01mm Ultra-fine micro tools

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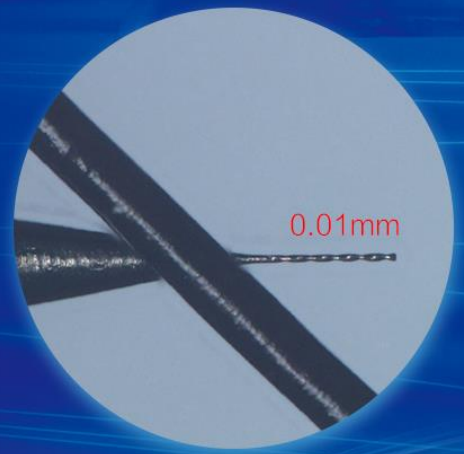
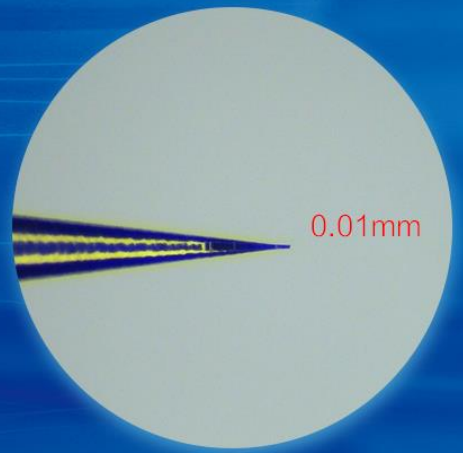
0.01mm Diameter Ultra-fine Micro Tool of Jinzhou (1/8 of adult hair)



0.01mm diameter ultra-fine drill



0.01mm diameter ultra-fine router

Milling out 56 Chinese characters on a grain of rice

Milling out 7 letters on a hair

2.7 Outstanding Coated Technology

Brought in the HiPIMS Technology, to make the coating performance leap!

2.7 Outstanding Coated Technology

1、Wear Resistant Type (Drills Only)

•Oversized coating thickness, super wear-resistant, extremely long life;
•Suitable for normal PCB, mid/high TG PCB, HF PCB
•Stack Up application, more than 2 times life.

2、Wear Resistant Type Series(Routers only)

•Multilayer caoting structure, which performs excellent toughness and wear resistance.
•Suitable for normal PCB, mid/high TG PCB, HF PCB
•Stack up application, 2-3 times higher tool life than normal products

3、Lubrication Type Series(Drills and Routers)

•Ultra-low coefficient of friction, excellent chip removal performance
•Suitable for FPC, high-speed PCB, non-ferrous metal substrates, thick copper boards, etc.,;
•Can imrove the drill breakage rate and chip removal capability significantly.

4、SHD /MDC Series(Drills and Routers)

•Nano-composite multi-layer diamond coating, super wear-resistant and high lubrication;
•Ceramic filler PCB, ceramic aluminum substrate, automotive PCB, communication PCB;
•Ultrl-small diamond micro drilling performance enhancement

2.8 Pursue for technical outstanding

1. Insists on high input (equipment including), R&D Investment Exceeds 5% of Operating Income;

2. Specific technical innovation strategy, "national first and first class around the word" oriented goal, built Technology Center in 2004

3. Pursue for the perfection of process engineering, the manufacturing cost of each drill bit subdivided to cents and the manufacturing time of each drill bits is accurate to seconds.

03

Manufacture & Control

COMPANY PROFILE

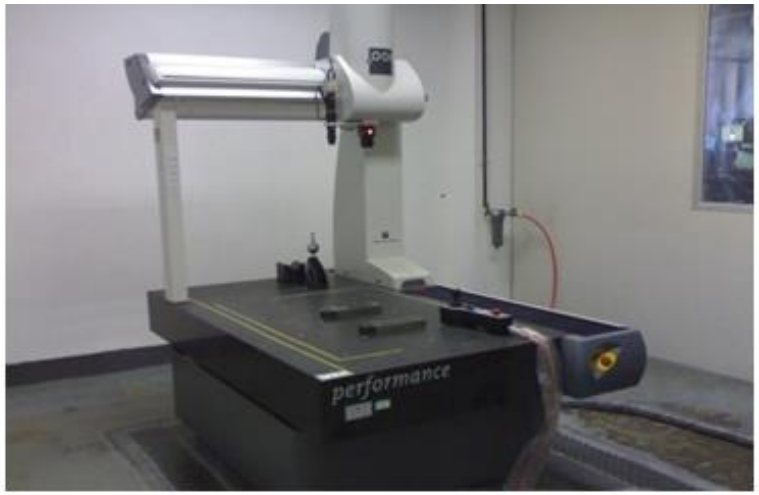
3.1 Manufacturing Equipment

Equipment for Cutting Tools manufacturing:

Can provide various drills and routers from ϕ0.2mm to ϕ30mm. Complex tools include single-flute end mill, step drill, straight fluted drill, DLC and diamond coated tools.

3.2 Quality Insurance —first-class detection equipment

100% full inspection



3.3 Intelligent production

smart plant

2018
Automatic detection and adjustment

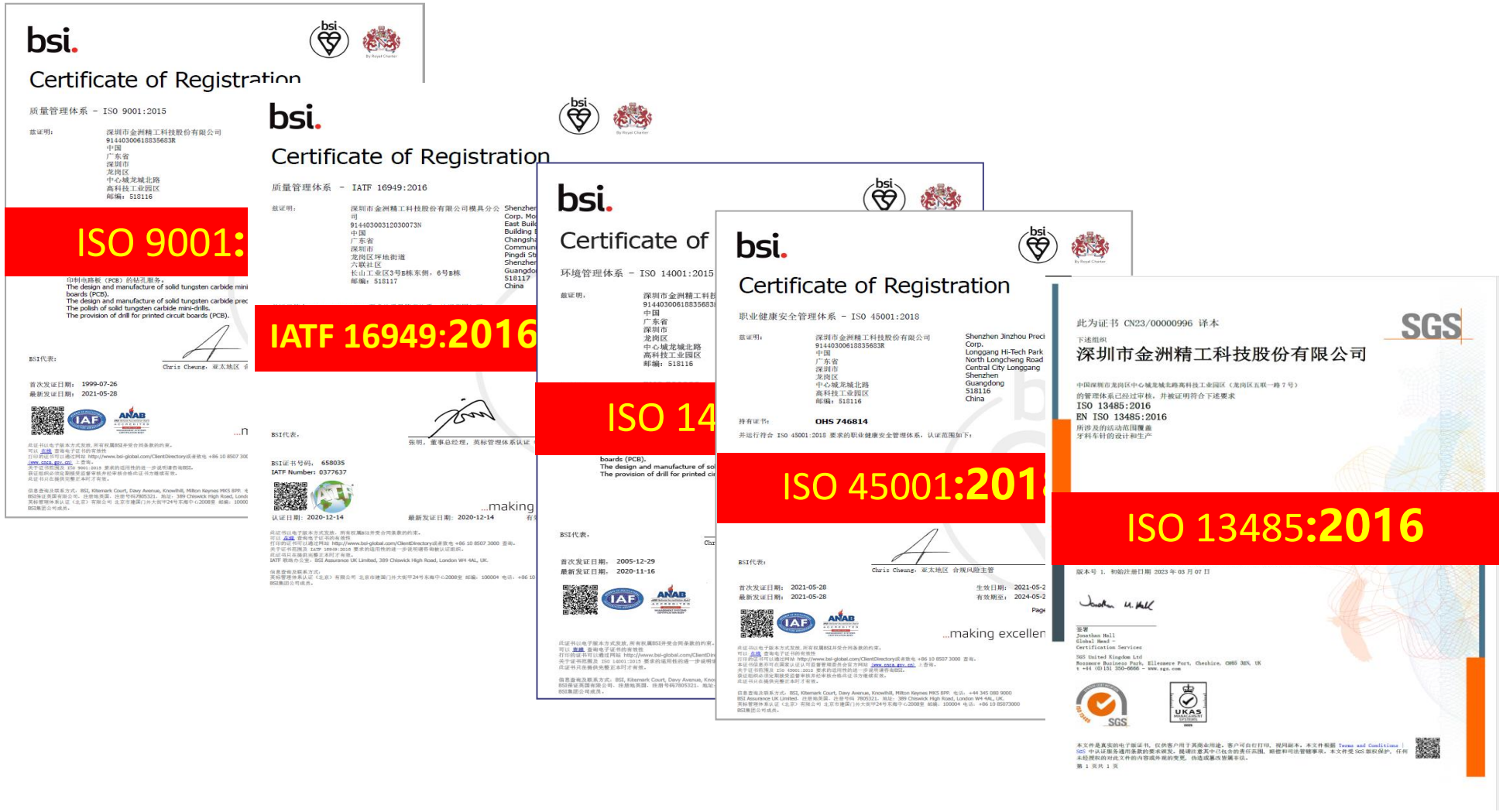
2019
Completed automation Phase I
(The first large-scale, application automation workshop in the micro-drilling industry)

2022
Completed automation Phase II

2023

2024
Automation Phase III completed

3.4 Quality systems



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THANK YOU!

THANKS FOR WATCHING