



THOUSANDS OF HAMMERS TO GOLD 100  
MILLION PRACTICE TO SINCERITY

NINGBO JINYI PRECISION MACHINERY CO.,LTD

📍 No. 158, Qiancheng Road, Jiaochuan Industrial Zone, Zhenhai District, Ningbo City, China  
☎ +86-574-5500 2386  
☎ +86-574-8636 5887  
✉ info@jinyiscrew.com  
🌐 www.jinyi-precision.com



# COMPANY INTRODUCTION

After more than 20 years' of development and accumulation, Ningbo Jinyi Precision Machinery Co., Ltd. has developed into one of the largest manufacturers specializing in the production of screws, barrels and tie bars in China. JINYI has two bases in Ningbo (professional production line for injection molding machine screw barrels and tie bars) and Zhoushan (professional twin conical and parallel screw and barrel production line for extrusion machine). Committed to the research and development, design and processing of optical screws, auto parts screws, medical screws, civil screws, etc.

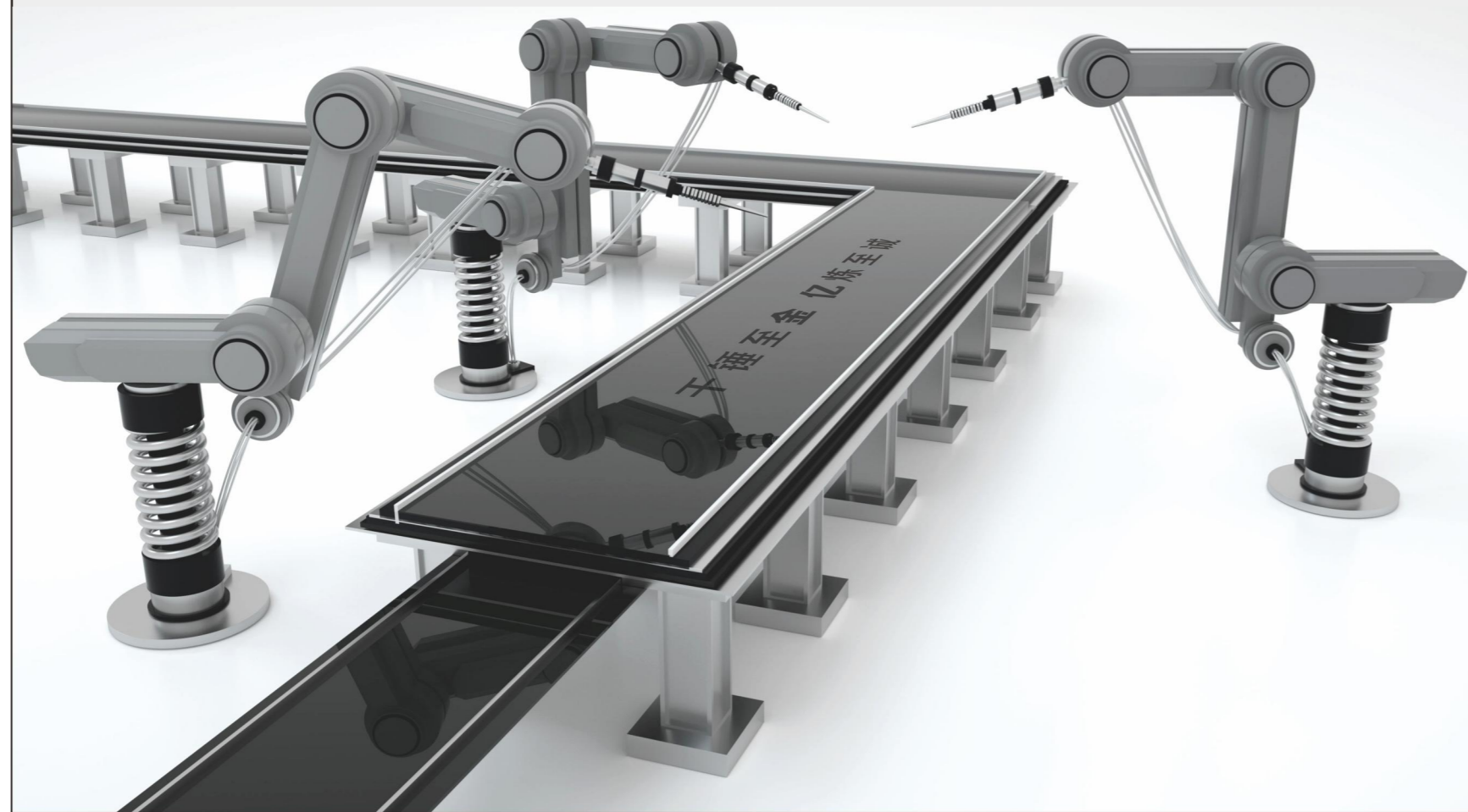
Jinyi started from precision machining, while attracting and cultivating excellent employees, it actively introduced a number of sets of advanced production equipment, and successively put into use CNC machining centers. Centrifugal casting furnace, PTA (Plasma Transferred Arc) automatic alloy spraying equipment, CNC milling machine, CNC grinding machine, coordinate measuring machine, A series of finishing and inspection equipment such as direct burker spectrometer.

At the same time, Jinyi continues to improve the quality system, and first to obtain the ISO9001 quality system certification, SGS certification, and intellectual property management system certification. Each step of the product process is centrally inspected to ensure that the products received by customers can be put into use conveniently and quickly. With excellent quality, we have maintained long-term cooperation with many well-known equipment manufacturers at home and abroad. With brand as the core, quality as life, and service as the guide, we are committed to providing customers with better products. In response to market changes, our company has set up an engineering technology center to specialize in the research and development of new products.

The country's largest CPVC special screw has been successfully developed, which made great contribution to urban construction. The Engineering Technology Center has been recognized as Zhenhai District Engineering Technology Center, Ningbo Engineering Center, and Zhejiang High-tech Enterprise R&D Center. Our company was awarded as a "high-tech enterprise" and a specialized and special new enterprise in Ningbo.

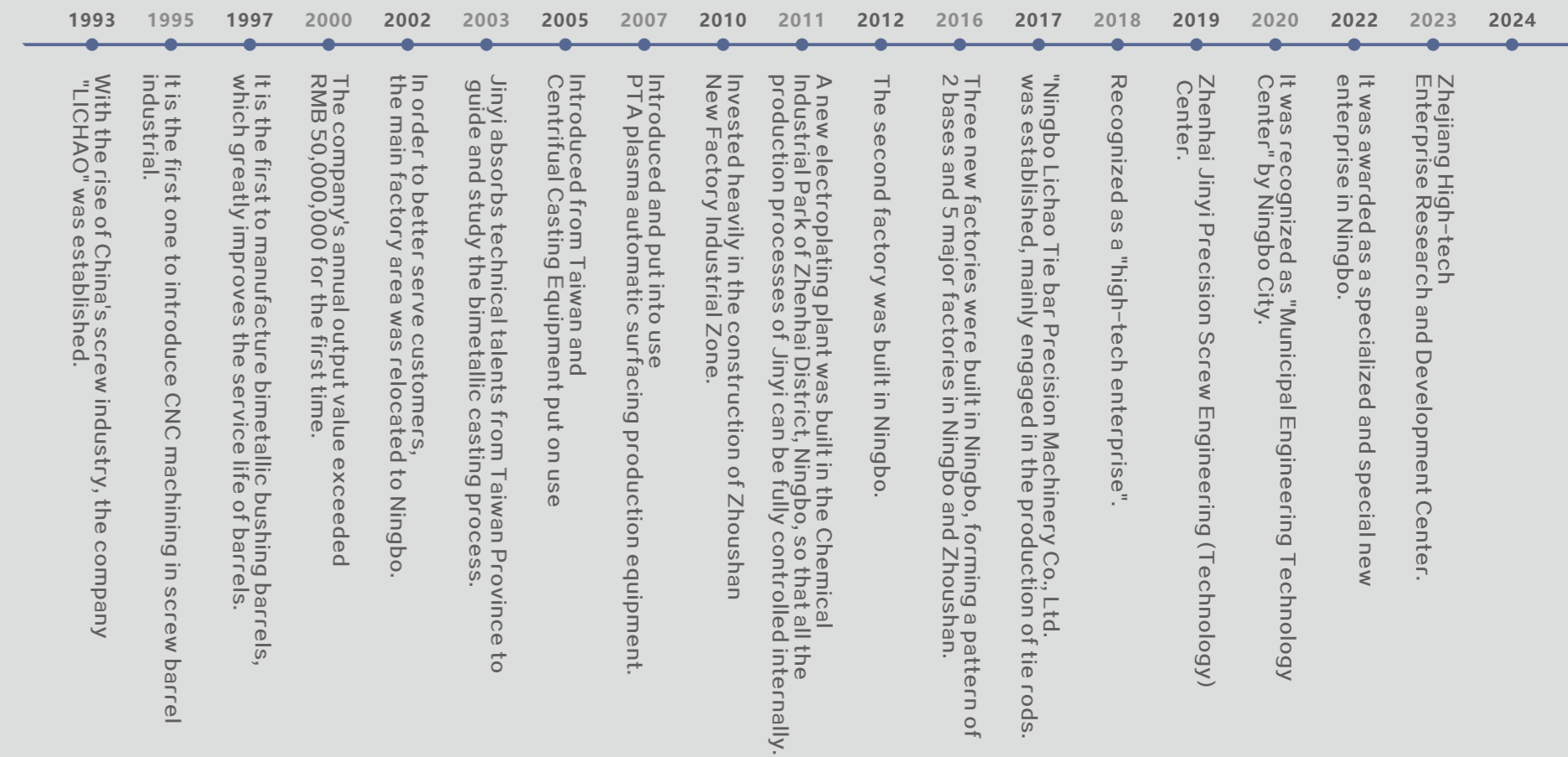
**ENTERPRISE MISSION:** In order to pursue the material and spiritual happiness of all employees, at the same time, to provide customers with the perfect design concept, to create a product that meets customers' satisfied products, and strive for the development of the plastic machinery industry!  
**CORPORATE VISION:** to be the leader of the screw industry and become a charming century-old enterprise!  
**CORPORATE VALUES:** learning, enterprising, trustworthy, responsible, altruistic, gratitude





## DEVELOPMENT MILESTONES

We take every achievement in mind

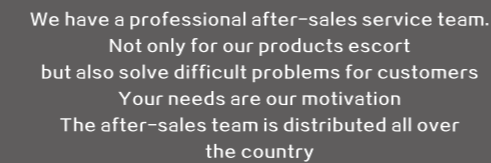
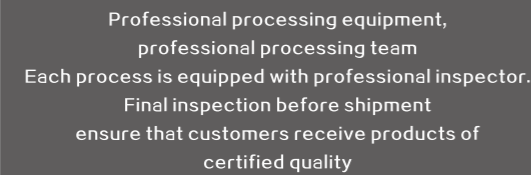


# HONORABLE PATENTS

Every achievement is the result of the hard work by JINYI people



All in order to make customers satisfied



Our strategic partner



# INDUSTRY APPLICATIONS

Provide quality products for different fields



## MAIN PRODUCTS

The core components of various plastic processing equipment, screw barrels, etc.

## DRY-FREE PROCESSING

Plastics do not need to be dried and can be produced directly.

## SILICONE PROCESSING

The special screw for liquid silicone fully mixes AB glue to produce products.

## RUBBER PROCESSING

Design and processing of various types of rubber screws, including all kinds of silicone rubber.

## LIGHT GUIDE, OPTICAL PRODUCTS

Special screws and barrels for the processing of various light guide strips, lenses, light guide sheets and other products.

## UPVC\CPVC

Design and processing of construction and environmental engineering products.

## PET

Design and processing of various preform and packaging materials.

## TIE BARS (TIE RODS)

We specialize in manufacturing nitriding rods and chrome-plated rods for injection molding machines, die-casting machines, as well as matching nuts, guide rods, piston rods and other plastic machinery accessories.

## CONICALLY AND PARALLELY MACHINING

Conical twin-screw and parallel twin-screw for extrusion machine.

# COOPERATIVE CUSTOMERS

Our products go all over the world



JINYI dedicated to provide products and service in a fast-moving environment. With our excellent quality, we already established long term cooperation with many well-known customers in various industry sectors; On the local market, Jinyi Precision serves Haitian, Yizumi, Borch, HMD, Tederic and many other brands directly. Meanwhile, we have developed sales branches all around, including Guangzhou, Zhengzhou, Hangzhou, etc; Outside of China, we have over 100 clients and business partners in more than 30 countries (such as USA, Germany, Japan, Spain, Italy, UK, Korea, Canada, etc.).

### Existing active overseas users mainly involve the following countries or regions:

Europe	France, Italy, Denmark, Russia, Spain, Hungary, Serbia, Poland, etc.
Africa	Egypt, Morocco, Nigeria, Algeria, Kenya, South Africa, etc.
Asia	Turkiye, Iran, Israel, Saudi Arabia, Pakistan, India, Thailand, Vietnam, Malaysia, Singapore, Indonesia, Philippinest, South Korea, Taiwan China.
Oceania	Australia, New Zealand.
America	Canada. United States, Mexico, Colombia, Chile, Brazil, Argentina.

# TECHNICAL EQUIPMENT

Increase production capacity and ensure quality

Jinyi starts from precision machining, while attracting and cultivating excellent employees, actively introduces a number of sets of advanced production equipment. It has successively put into use on CNC machining center, centrifugal casting furnace, PTA (plasma Transferred Arc)automatic bimetallic spraying equipment, CNC milling machine, CNC grinding machine, etc A range of finishing equipment.



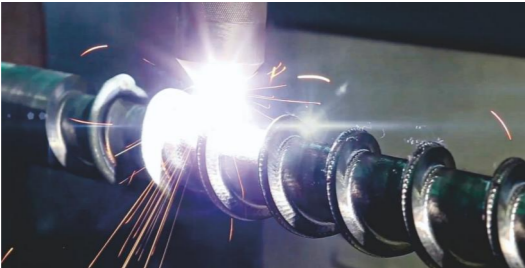
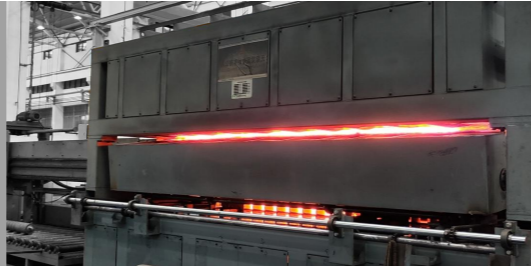
## Nitriding furnace

Heat treatment nitritons the surface of the product to achieve the required hardness on the surface of the workpiece.



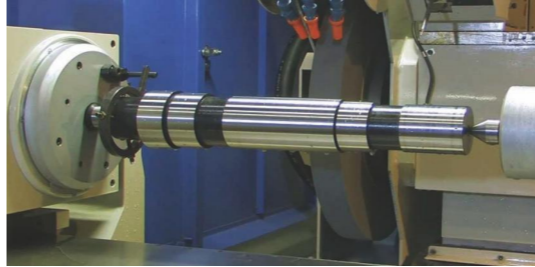
## Centrifugal casting furnace

Imported centrifugal casting equipment, produce all kinds of iron-based, nickel-based and cobalt-based bimetallic barrels according to requirements.



## PTA bimetallic spraying, laser dissolution spraying

Replace the traditional manual surfacing welding, improve the production efficiency and bimetallic processing accuracy.



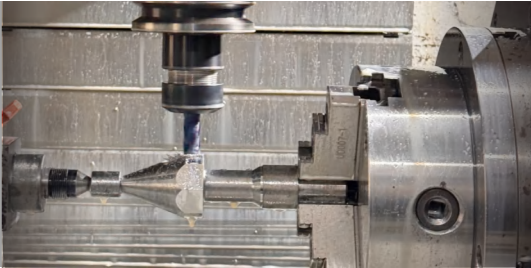
## Horizontal grinder

Special equipment for processing the root diameter of the screw and ensuring the processing accuracy.



## CNC Machining Centers

Fine processing of the product to control the dimensional accuracy of each part.



## CNC polishing machine

Instead of manual work, the product surface finish is higher and the size is more accurate.



## Inspection and testing

Professional testing methods and professional testing equipment strictly control the quality of products.



## PRECISION INSTRUMENTS

Provide precise data assurance for products

Jinyi starts from precision machining, while attracting and cultivating excellent employees, Actively introduces a number of sets of advanced precision instruments. Bruker direct reading spectrometer, coordinate measuring instrument, metallographic analyzer, Image measuring instrument, Vickers hardness tester, rockwell hardness tester, roughness tester and other advanced inspection equipment.

### Bruker direct reading spectrometer

Detect the composition of the steel



### Coordinate measuring machine

The accuracy of the product is inspected



### Metallographic analyzer

Detection of the metallographic structure of steel



### Image measuring instrument

The accuracy of the product is inspected



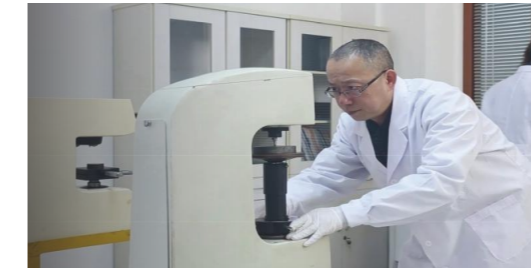
### Vickers hardness tester

Detect surface hardness



### Rockwell hardness tester

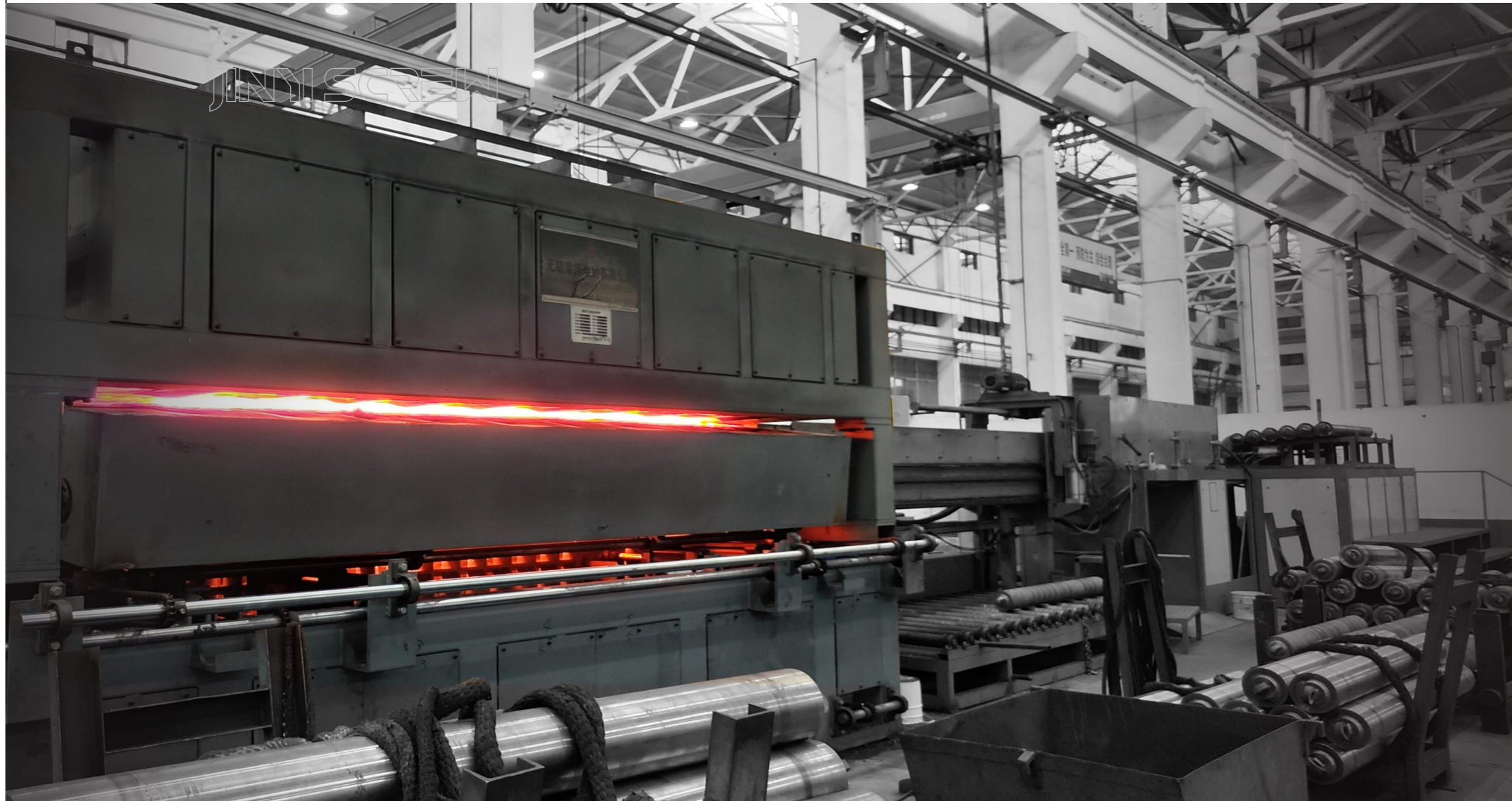
Test the hardness of the product



### Roughness tester

Inspect the finish of the surface of the product

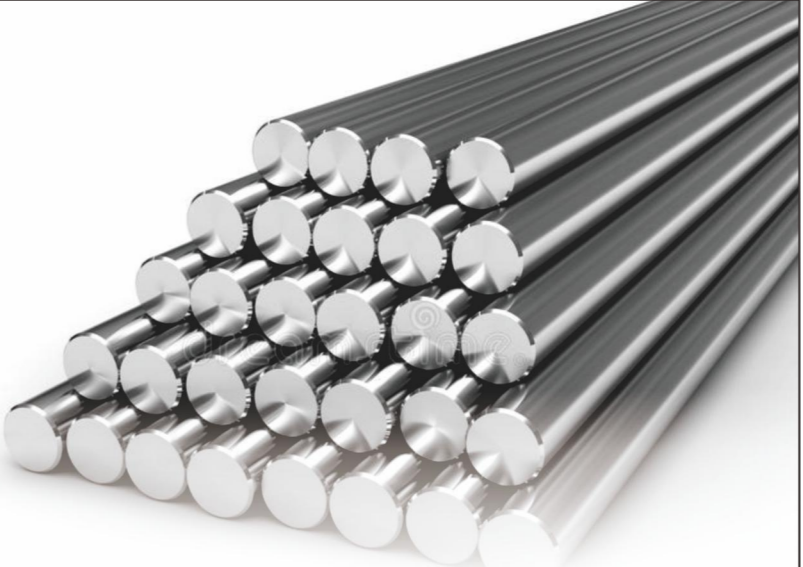




## PRODUCT BASE MATERIAL SELECTION

For the base material of the product, the R&D team of JINYI continues to explore, and after continuous testing, unique material selection is formed. The quenched and tempered hardness range of ordinary steel has been continuously optimized, and the optimized product performance has been continuously improved. Meanwhile the wear resistance of the bimetallic layer is excellent.

The material of the through hardened series is constantly improving, from the JYG series to continuously upgrade, JINYI strictly control the quality of steel and provide customers with a variety of material choices in order to meet the needs of customers.



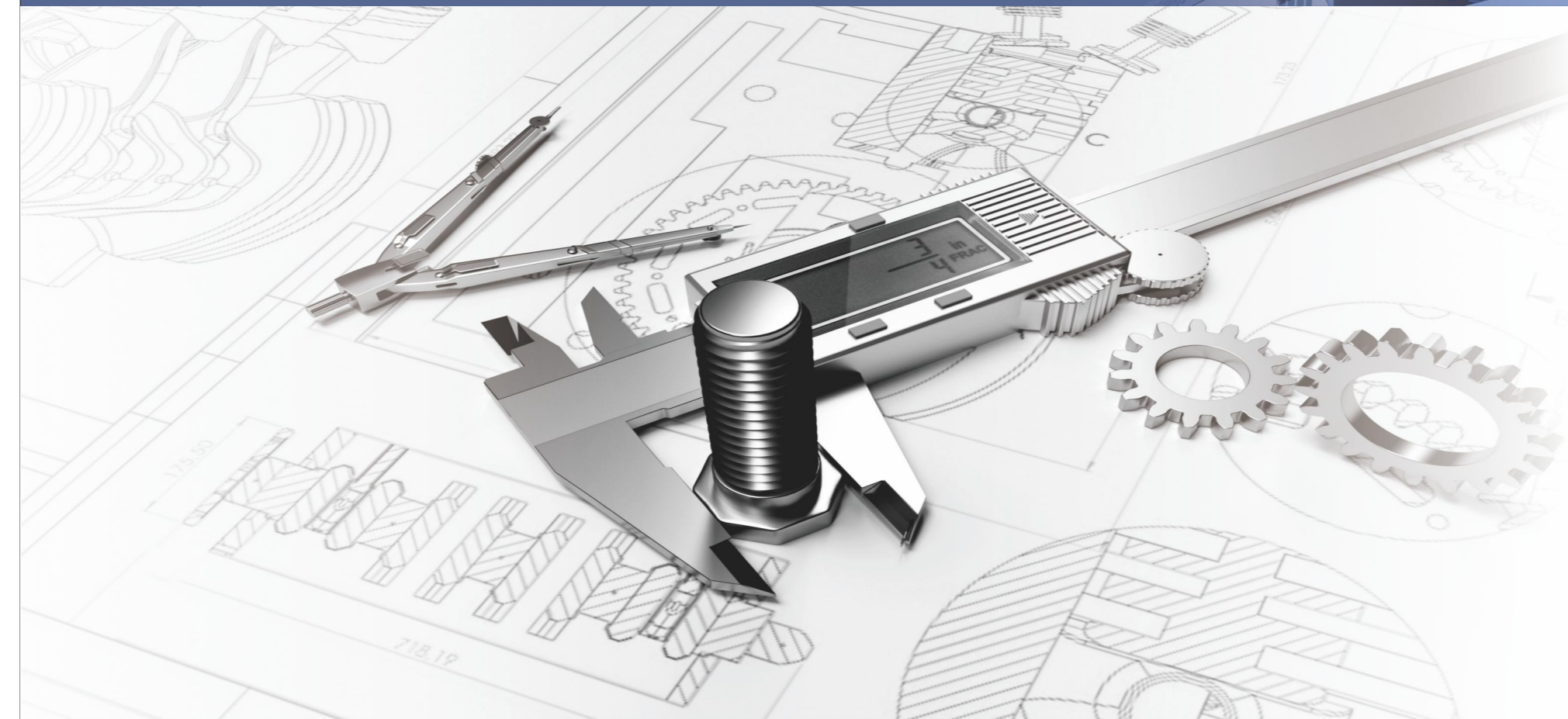
### For substrates

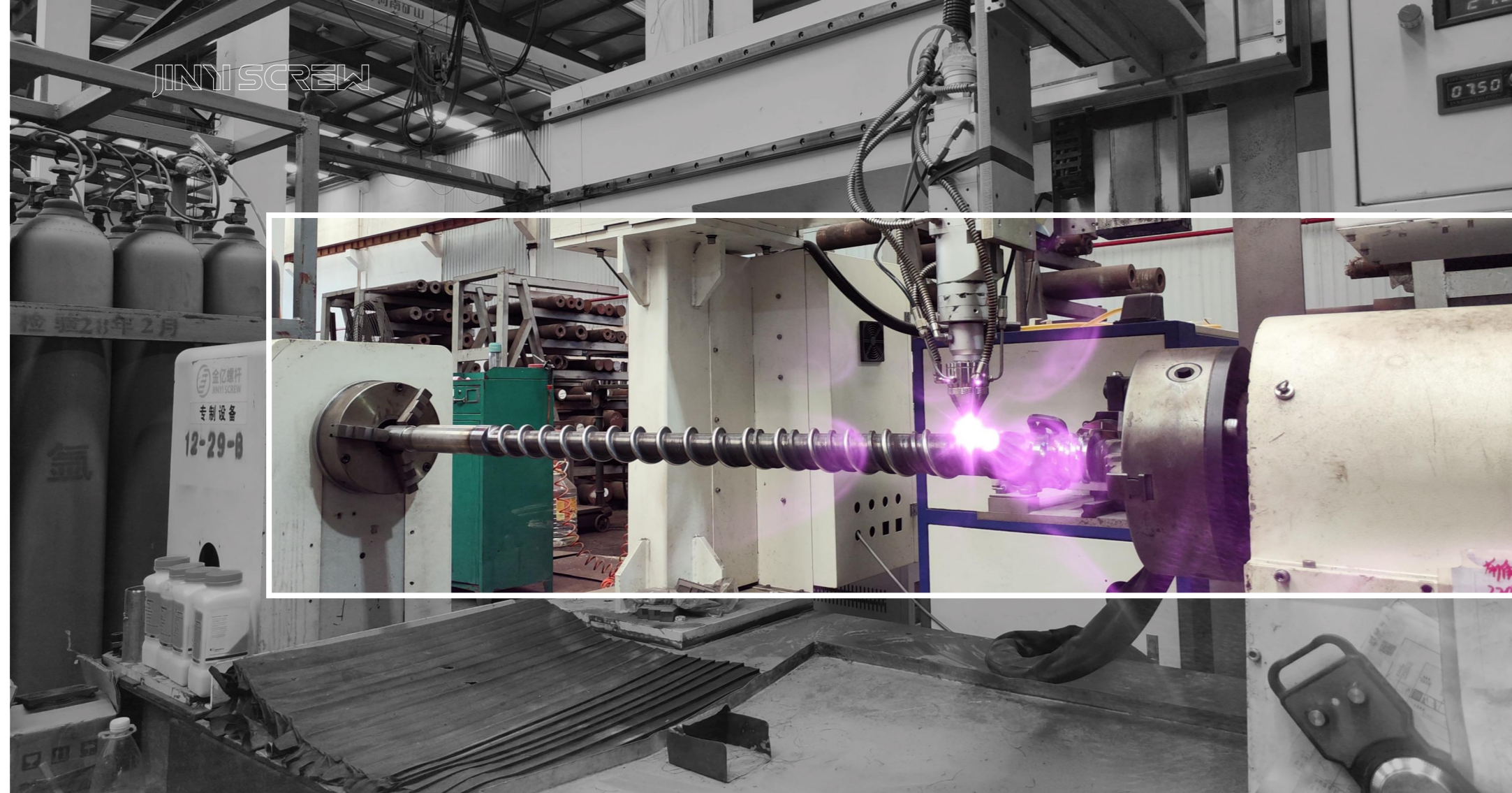
JINYI (CODE)	CHINA (GB)	JAPAN (JIS)	USA (AISI/SAE)	GERMANY (DIN)	Hardness	Main Purpose
JYN 1	38CrMoAL	SACM645	6470E	41CrAlMo7	HV950-1000	Common Plastics
JYN 2	40Cr	Scr440	5140	1.7035	HRC42-55	Bimetallic substrates
JYN 3	42CrMo	SCM440	4140	1.7223	HRC48-52	Tie bar
JYN 4	45#	S45C	1045	1.1191	HRC42-46	Accessories
JYH 5	Cr12MoV	~SKD11	D5	1.2601	HRC56-58	Engineering materials
JYH 6	4Cr5MoSiV1	SKD61	H13	1.2344	HRC50-52	Engineering materials
JYH 7	9Cr18MoV	SUS440B	440B	1.4112	HRC56-58	Corrosive material
JYG 1	*confidential				HRC54-60	<30% Glass fiber
JYG 2					HRC60-65	<50% Glass fiber
JYG 3					HRC58-62	<40% Glass fiber
JYG 4					HRC62-65	>50% Glass fiber
JYG 5					HRC62-65	>50% Glass fiber
JYG 6					HRC62-65	>50% Glass fiber
JYG 7					HRC50-56	Optical products
JYG 8					HRC56-58	>300℃ High-temperature material

\*The materials listed above are the conventional substrates used by our company, subject to change without notice, hardness and scope of application will depend on the specific situation, this table is for reference only.

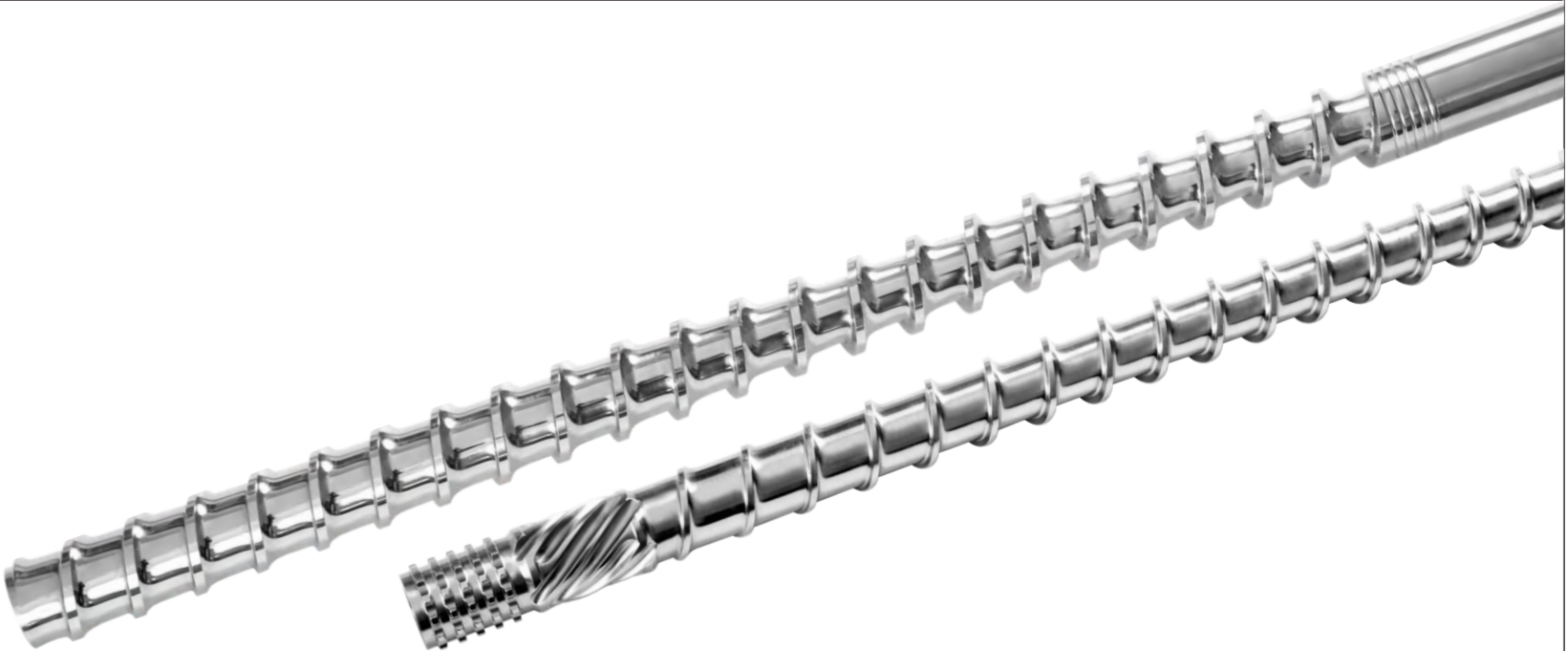
JINYI SCREW

PRODUCT INTRODUCTION





JINYI SCREW



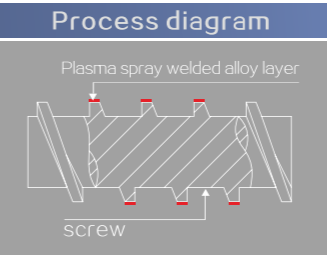
## BIMETALLIC SCREW

PTA (Plasma Transferred Arc) alloy automatic spraying technology is a new application technology. In particular, PTA has better performance, stability and aesthetics than traditional handmade alloy spraying.

**ADVANTAGE** Spray welding of 1.5–2.0mm thickness high-quality alloy powder on the screw can make the screw obtain higher wear resistance and corrosion resistance.

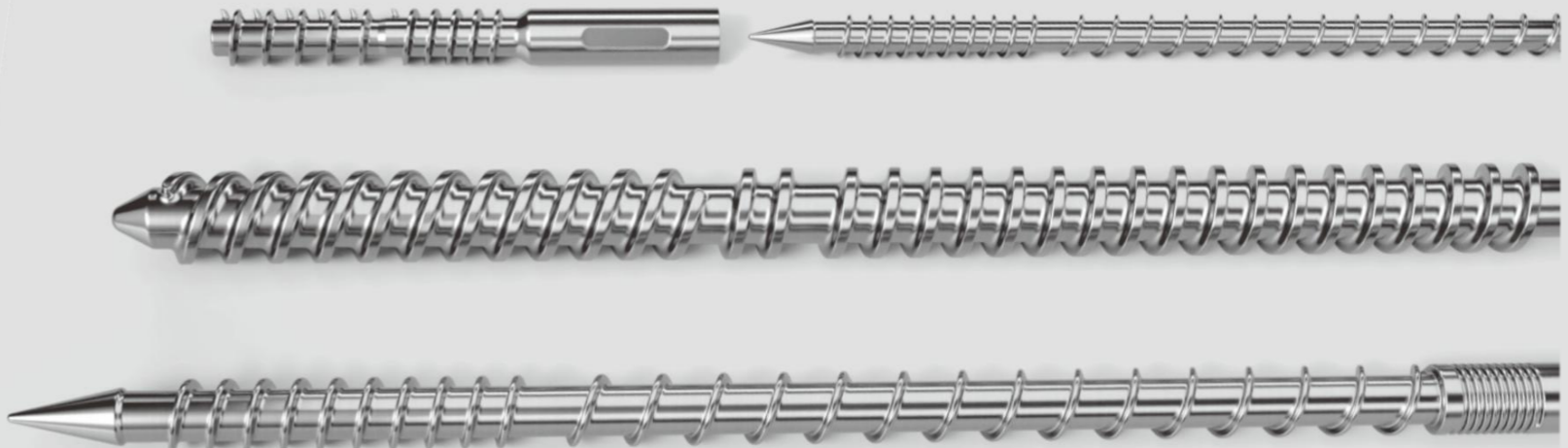
**APPLICATION** General plastics and engineering plastics contain less than 15% glass fibers.

Main parameters	
Material	JYN1 substrate+JYS series alloys
Applicable machines	Injection Molding/extrusion/blow Molding
Available sizes	Diameter14-400mm , length<8000mm
Process method	PTA spray coating
Surface hardness	46-58 HRC
Surface roughness	< Ra0.8
Screw straightness	<0.02mm/m



JYS Series Alloys					
At this stage, we have JYS-1, JYS-2 and JYS-3 alloy types and wear resistant treatments.					
Level	Alloy Components	Hardness	Abrasion resistance	Corrosion resistance	Application conditions
JYS-1,B	Ni, Cr, Si	52-56	★	★	Recycled plastics and engineering plastics processing
JYS-2,A	Ni,Cr,W	54-58	★★	★	Engineering plastics and less than 20% reinforced additives for plastics processing.
JYS-3,D	Co, Cr, W	44-48	★	★★	Suitable <15% GF & Reinforced additives corrosive plastics.

\*Applicability: (★ Good) to (★★★ Excellent)



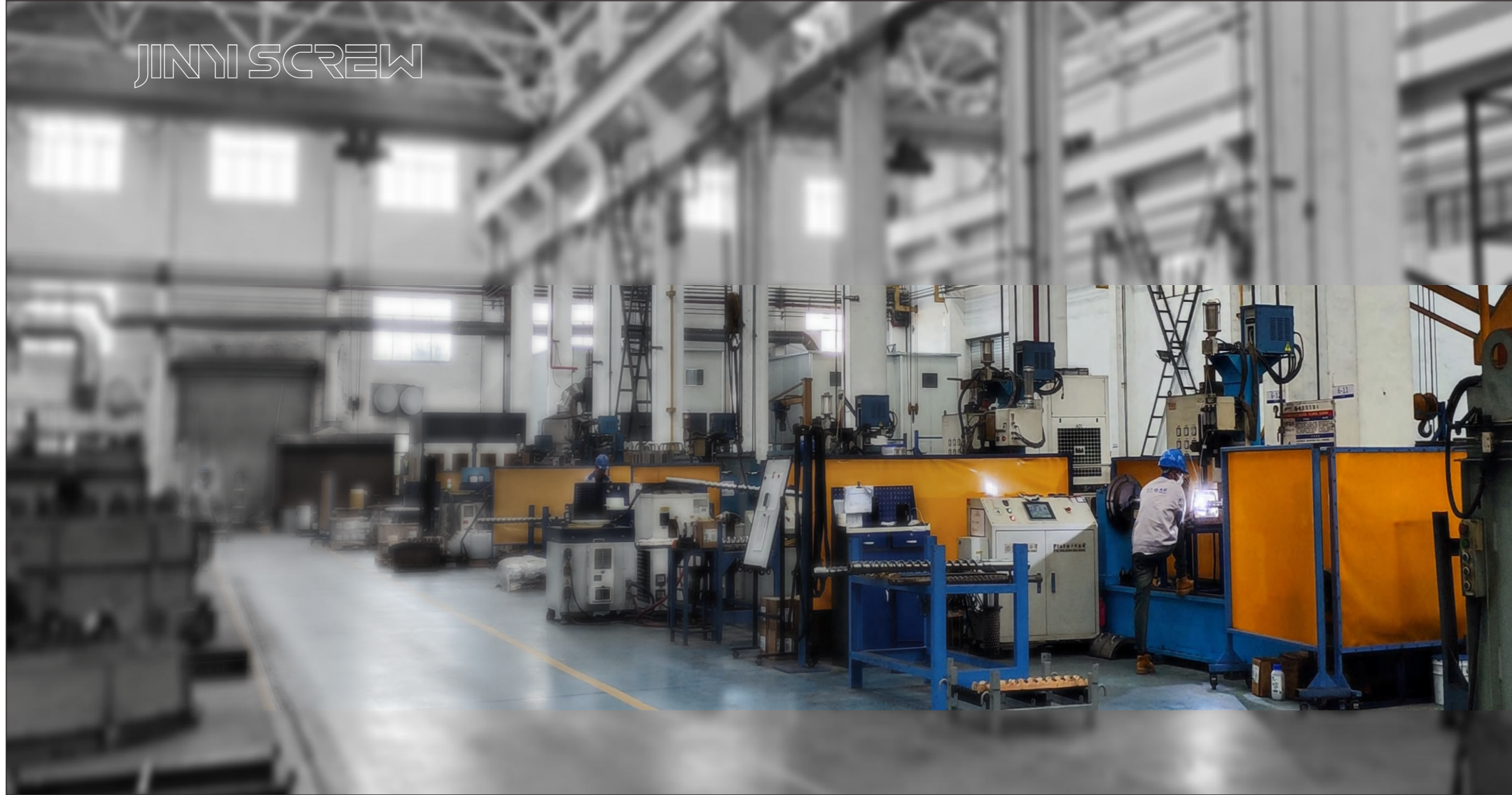
## THROUGH HARDENED SCREW

JINYI is not only using domestic materials but also importing abroad special materials, including JYG1, JYG2, JYG3..... TO JYP8. After a series of quenching and annealing processes, to achieve high toughness & hardness. They are especially suitable for high wearing materials and production processing.

**ADVANTAGE** It has high tensile resistance, torsion resistance, wear resistance, High temperature resistance and other properties, the surface can meet the corrosion resistance after a treatment, at the same time greatly meet the grid rate of customers' plastic products.

**APPLICATION** Glass fiber, calcium powder and other additives within 70% of the general plastics and engineering plastics.

MAIN PARAMETERS:		CODE	JYG1	JYG2	JYG3	JYG4	JYG6	JYG7	JYG8	JYP8
Material	JYG1, JYG2.....JYP8 Through Hardened Materials	Components	C、Cr、V、Mo、Mn	C、W、Mo、Cr、V	C、Cr、Mo、Mn、V	C、W、Mo、Cr、V	C、W、Mo、Cr、V	C、Cr、Mn、V	C、Ni、Co、Cr	W、Cr、Ni
Applicable machines	Injection molding machine/extruder/bakelite injection molding machine, etc	Hardness	56-60HRC	60-65HRC	58-62HRC	62-65HRC	62-65HRC	50-56HRC	56-58HRC	62-67HRC
Available sizes	Diameter 14-160mm , length≤5000mm	Abrasive Resistance	★★	★★★	★★	★★★★	★★★★	★★	★★	★★
Process method	The whole quenching treatment is treated, and the hardness of the whole screw is the same as 58-65HRC	Applications	PA、LCP、PBT、POM、Glass fiber content is less than 30%; PC、PMMA, etc. after electroplating.	PA、LCP、PBT、POM、PPSU、PEEK、PEI、The glass fiber content is less than 50%, etc.	PA、LCP、PBT、POM、PPSU、PEEK、PEI、Glass fiber is less than 40% & high fatigue resistance.	PA、LCP、PBT、POM、PPSU、PEEK、PEI、The glass fiber content is more than 50%, etc.	PA、LCP、PBT、POM、PPSU、PEEK、PEI、The glass fiber content is more than 50%, etc.	Corrosion-resistant, high-viscosity plastics, PC, PMMA optical products, etc.	The molding temperature is higher than 350℃ degrees.	special halogen-free plastics,PA46、PA4T、PA9T、PSM、DSM and other plastics.
Hardness	Ra ≤ 0.2									
Finish	≤ 0.02mm									

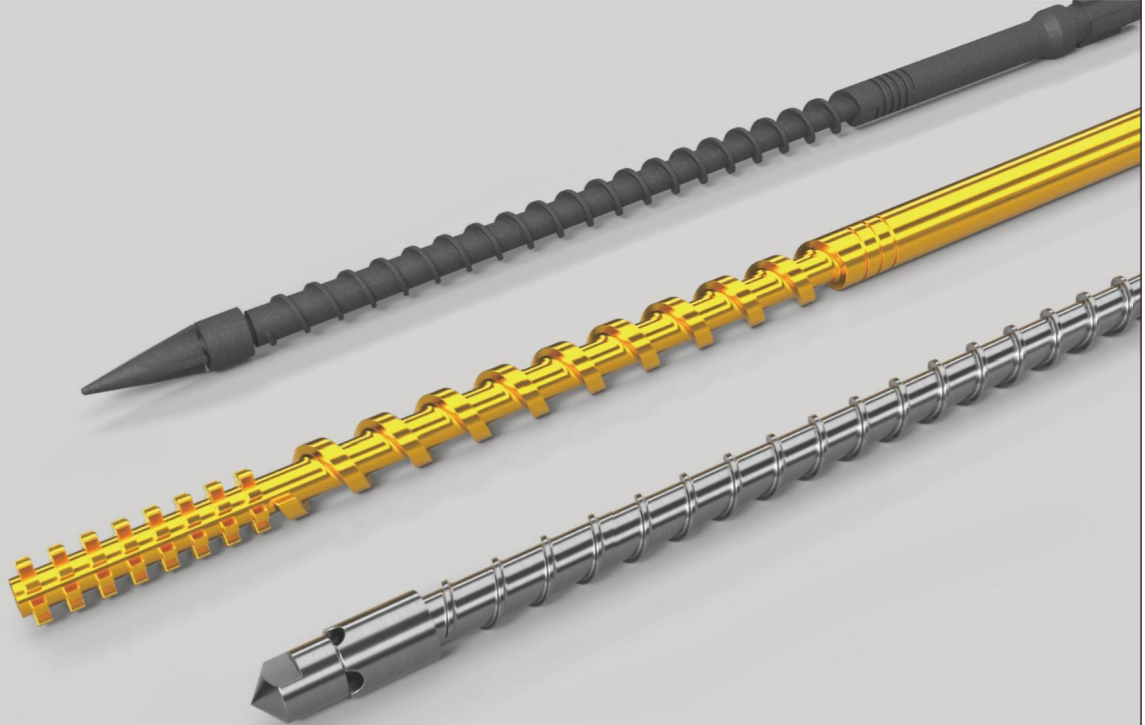


JINYI SCREW

# COATING SCREW

In JINYI, there are three different spraying technologie for coating screws including electroplating(Chrome), PVD vacuum plating(Nitriding Titanium, Chromium nitride and Titanium aluminum nitride,etc.) and HVOF coating (Tungsten carbide).

Comparison Of The Technical Parameters Of The Three Coatings					
Spraying method	Type	Thickness(mm)	Hardness (HV)	Length (mm)	Application conditions
Electroplating	Chromium	0.02-0.08	≥850HV	8000	Processing of transparent products and corrosive plastics
PVD	TiN,CrN,ALTiN	0.002-0.003	2000-2200	1900	Processing of optical products and abrasive plastics
HVOF	Tungsten carbide	1.0-1.5	1100-1400	<8000	Processing of high-wear plastics





JINYI SCREW



### CHROME PLATING SCREWS

Chrome plating is the technology of electroplating a thin layer of chromium on the surface of the screw. The chrome plating layer can improve the surface finish and improve high corrosion resistance and increased surface hardness.

Main parameters	
Machining diameter range	12mm-300mm
Machining maximum length	8000mm
Ion chlorination	0.3-0.4mm
Plating thickness	Unilateral thickness≥0.03mm
Plating hardness	≥850HV

### HVOF COATING SCREW

HVOF (High Velocity Oxygen Fuel) coating process is a kind of thermal spraying technique that melted(orheated) materials are sprayed into the surface.

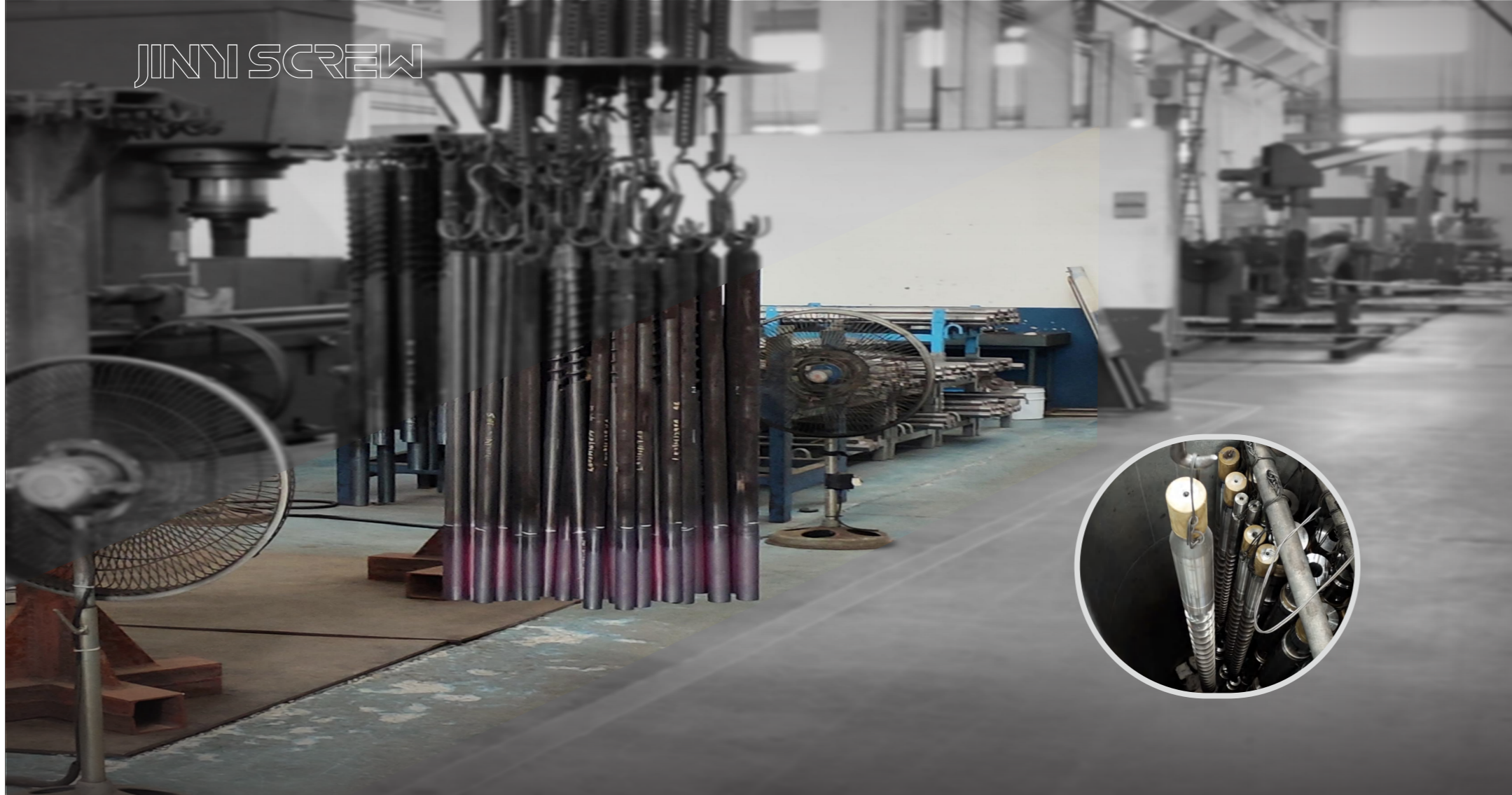
#### ADVANTAGE

HVOF spraying technology is used to achieve high-pressure and high-speed spraying of alloy powder. The adhesivi force is above 10,000 PSI, the powder density can reach 99.8%, and it is wear resistance and corrosion resistance.

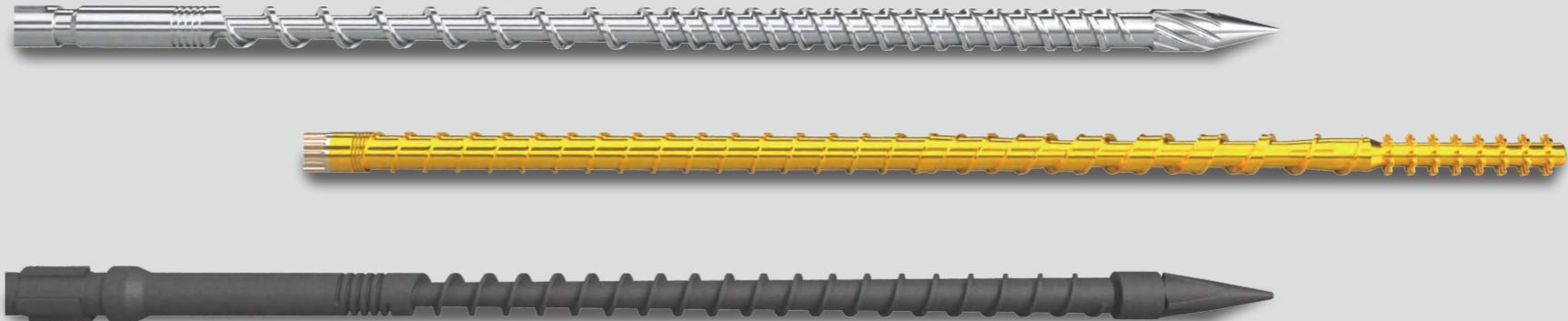
#### APPLICATION

It is especially suitable for halogen-free materials with a glass fiber filling rate of less than 65%.

Main parameters	
Material	JYG3
Surface treatment	HVOF Tungsten carbide alloy coating
Applicable machines	Injection molding/extrusion/blow molding
Available sizes	diameter14-600mm , length<8000mm
Surface hardness	1100-1400 HV



JINYI SCREW



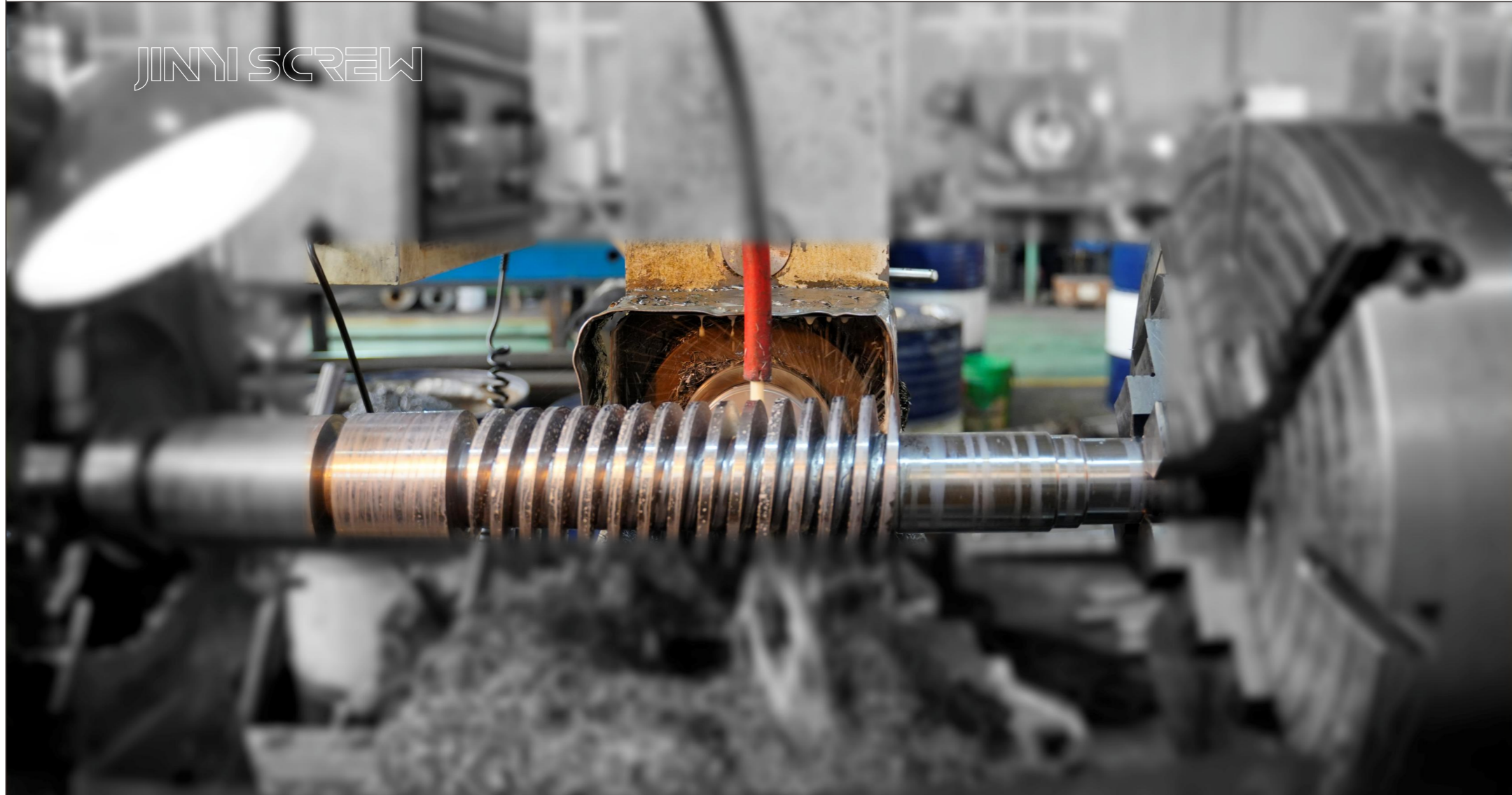
PVD COATING SCREW

PVD Coating(Physical vapour deposition) allows a high-hardness coating to form on the surface of the screw, providing additional corrosion and wear protection.

**APPLICATION** Suitable for optical products & abrasive plastics processing.

Main parameters	
Material	JYG3
Surface treatment	PVD AlTiN Coating, PVD Tin Coating, PVD CrN Coating, etc.
Applicable machines	Injection Molding/Extrusion/Blow Molding
Available sizes	Diameter14-80mm , length<1800mm
Surface hardness	2200-2500 HV

Several main PVD-coated screws		
1	Titanium aluminum nitride (AlTiN)	The hardness of aluminum nitride titanium is HV2800-3300, which has high hardness and high heat resistance, and is suitable for fluorinated polymers (PTFE, PVDF), polyaryl ether (PEEK, PPS, PSU, PES, PPE, PPO) and other special plastics.
2	Titanium nitride (TiN)	The hardness of titanium oxide is HV1800-2200, which is suitable for optical products such as ultra-thin light guide plates such as PC PMMA, which can greatly reduce the probability of black spots in the finished product and reduce the defective rate.
3	Chromium nitride (CrN)	The hardness of chromium nitride is HV1700-1900, the coefficient of friction is low, and the oxidation temperature is high. It has good effect in terms of wear resistance and corrosion resistance. It is suitable for the processing of glass fibers, metal minerals and plastics with high halogen-free flame retardant content.



JINYI SCREW



## CONICAL AND PARALLEL TWIN SCREWS

**ADVANTAGE**  
Unique technical design, larger output, advanced equipment, fine processing, perfect matching tolerances.

**APPLICATION**  
It is suitable for the production of PVC (soft and rigid PVC and virgin or recycled materials), PE and other pipes, granule.

Main parameters	
Applicable machines	Injection molding/extrusion/blow molding
Available sizes	Diameter12-300mm, length≤8500mm
Nitride depth	0.6mm
Surface nitriding hardness	≥950HV ( Rockwell hardness≥68HRC )
Surface roughness	< Ra0.8
Screw straightness	≤ 0.02mm/m

## BIMETALLIC BARREL

Centrifugal casting or rotary casting is a casting technique that is commonly used to cast thin-walled cylinders. It is primarily used to manufacture rotationally symmetrical blanks of standard sizes for further processing, rather than custom formed parts for a specific end use.

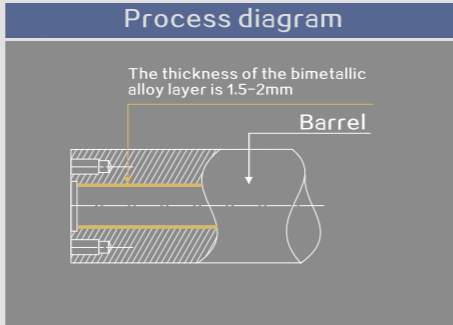
**ADVANTAGE** By casting and sintering high-quality alloy powder with a thickness of 1.5-2.0mm on the inner surface of the barrel, the barrel can obtain higher wear resistance and corrosion resistance.

**APPLICATION** General plastics and engineering plastics with a glass fiber filling rate of less than 70%.

Level	Element	Hardness (HRC)	Abrasion resistance	Corrosion resistance	Fields of application
JYK-1 C	Fe,Cr,Ni	56-60	★★	★	Civilian products, auto parts, electronic devices, general plastic products, etc
JYK-2 B	Ni,W,Cr	58-62	★★★	★★	High viscosity plastic products, corrosive plastic products, high glass fiber content plastics, etc
JYK-3 A	Ni,W,Cr	60-64	★★★	★★★	High-temperature plastic products, high-wear-resistant plastic products, high-corrosion plastic products, halogen-free plastics, etc

\*\*Applicability: (★ Good) to (★★★ Excellent)

Main parameters	
Material	JYN3 substrate+JYS series alloys
Applicable machines	Injection molding/extrusion/blow molding
Available sizes	diameter<500mm, length<8500mm
Alloy layer thickness	1.5mm-2.5mm
Hardness of the alloy layer	56-64 HRC
Surface roughness	<Ra0.8
Screw straightness	<0.02mm/m



JYK series									
At this stage, we have JYS-1, JYS-2 and JYS-3 alloy types and wear resistant treatments.									
Alloy grades	Component (wt%)								
	Cr	C	Fe	B	Si	W*	Mn	Ni	other
JYK-1 C	8	1.2	Bal	4.3	4	/	0.65	10.8	< 1.0
JYK-2 B	8	1.4	5	4	3.3	16.5	0.5	Bal	< 1.0
JYK-3 A	8	1.4	5	4	3.3	40.0	0.5	Bal	< 1.0
*The highest proportion of tungsten carbide can reach 45%, which can make the wear resistance of the machine simple reach 5 times that of ordinary alloy machine simple, and the proportion of glass fiber filling of general plastics and engineering plastics is as high as 60%									

## NITRIDED BARREL

**ADVANTAGE**

Automatic CNC lathes, milling machines, deep hole boring machines, nitriding and automatic heat treatment equipment up to 10m deep, professional operators to ensure the accuracy of each process.

**APPLICATION**

General plastics and engineering plastics contain less than 10% glass fiber.

Main parameters	
Applicable machines	Injection molding/extrusion/blow molding
Available sizes	The diameter < 550mm, the length < 9000mm
Process method	Gas nitriding or plasma nitriding
Nitriding hardness	≥ 950HV (Rockwell hardness ≥ 68HRC)
Nitriding cycle	120 hours nitriding process
Nitride depth	≥0.6mm
Maximum nitriding depth	0.6-0.8mm
Surface roughness	<Ra0.8
Screw straightness	<0.02mm/m





JINYI SCREW



## SCREW FITTINGS

Barrel Head/Nozzle/Screw Tip Set  
(Screw tip, Check ring, Seat ring).

Using state-of-the-art design and manufacturing techniques, we produce a wide range of accessories such as barrel head, screw tip set and nozzle to meet the needs of today's injection molding machines.



## TIE BARS AND ACCESSORIES

It is mainly used in injection molding machines, die-casting machines, forging presses, etc

Main parameters	
Product name	Tie bar
Surface treatment	Nitriding or chrome plating
Chrome thickness	0.05mm
Surface hardness	>55HRC
Maximum diameter	600mm
Maximum length	10000mm

**Tie rods**  
Our second factory, Ningbo Lichao tie bar Precision Machinery Co., Ltd. is an enterprise specializing in the production of nitriding and chrome-plated tie rods and supporting guide rods, piston rods, nuts and other parts for injection molding machines, die-casting machines and forging presses.

**Pistons**  
It mainly includes pistons and piston rods, etc., selects materials (such as 45#, 40Cr, 42CrMo, etc.) according to customer requirements, provides surface chrome plating and intermediate frequency heat treatment processes.

**Nuts**  
It mainly includes tie rod lock nut and die adjusting screw nut, etc., selects materials (such as 45#, 40Cr, 42CrMo, castings) according to customer requirements. Heat treatment processes such as galvanizing, salt bath nitriding, gas nitriding, etc.