



CNS TECHNOLOGY (SUZHOU) CO., LTD.

炎黄液压 / 承托您的梦想

YANHUANG HYDRAULIC, LIFT YOUR DREAM

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YANHUANG
HYDRAULIC

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01 品牌篇 BRAND



COMPANY PROFILE

企业简介

一体化 高新技术产业

CNS Technology (Suzhou) Co., Ltd., belong to CNS Group, certified by ISO9001, was established in 2006, located in Suzhou, Anhui, covers an area of 60000 square meters and over 500 employees, specializing in R&D, production and sales of hydraulic cylinders, brand: CNS-YANHUANG with nearly 20 years experience in hydraulic industry and has over 20 product innovation patents.

Main products include all series of standard and non-standard hydraulic cylinders, including top-mounted, side-mounted, and bottom-mounted hydraulic stations, which are widely used in construction machinery, sanitation machinery, special-purpose vehicles, mining, transportation, ship building, forging, coal and chemical industries and are making efforts to develop new products to meet different requirements.

YANHUANG has its own CNC equipments to strictly control the product quality. Adhering to the business principle of mutual benefits with a reliable reputation among customers due to professional services, quality products and competitive prices . We warmly welcome to cooperate for common success.

YANHUANG invests nearly quarter of saleroom in R&D and provides OEM/ODM service for both in and abroad customers. Products have been exported to Middle East, South East Asia, South America etc. countries and now we are expanding exclusive agents and branch offices in around 20 countries. We sincerely welcome your visit and talk about cooperation.

INTEGRATION HIGH-TECH INDUSTRY

安徽炎黄液压科技有限公司隶属于 CNS 集团，已通过 ISO9001 认证，成立于 2006 年，坐落于安徽省宿州市。公司占地面积 60,000 平方米，拥有员工 500 余人，专注于液压油缸的研发、生产与销售。公司旗下品牌 “CNS-YANHUANG” 深耕液压行业近二十载，现已拥有二十余项产品创新专利。

公司主要产品涵盖全系列标准及非标准液压油缸，包括顶置式、侧置式及底置式液压站。这些产品广泛应用于工程机械、环卫机械、专用车辆、矿山设备、交通运输、船舶制造、锻压设备、煤炭开采及化工等多个领域；同时，公司正持续致力于新产品的研发，以满足客户多元化的需求。

炎黄液压拥有自主的数控（CNC）加工设备，能够对产品质量实施严格管控。公司秉承 “互惠互利” 的经营理念，凭借专业的服务、卓越的产品品质及极具竞争力的价格，在广大客户群体中树立了良好的信誉。我们热忱欢迎各界伙伴洽谈合作，共创辉煌。

炎黄液压每年将近四分之一的销售额投入到研发工作中，并为国内外客户提供专业的 OEM /ODM 代工定制服务。目前，公司的产品已远销至中东、东南亚、南美洲等多个国家和地区；同时，我们正积极在全球约 20 个国家和地区拓展独家代理商及设立分支机构。我们诚挚欢迎您的莅临考察，共商合作大计。

CORPORATE HONOR

企业荣誉



SCIENTIFIC RESEARCH RESULTS STRENGTH CERTIFICATION

科研成果实力认证



CORPORATE CULTURE

企业文化



企业使命 / ENTERPRISE MISSION

We strive for excellence and dedicate ourselves wholeheartedly to providing our customers with suitable and durable products, helping them achieve excellence and success.



企业愿景 / CORPORATE VISION

Innovation and breakthroughs, stable quality, striving to become a first-class enterprise in the domestic industry.



企业精神 / ENTERPRISE SPIRIT

Rigorous, pragmatic, enterprising, and innovative.



核心价值观 / CORE VALUES

Face it, accept it, and resolve it.

Innovative concepts

Technological innovation, product innovation, and the development of new types of productive forces

Management Philosophy

Strictly adhere to procedures; meticulous, efficient, and sustainable.

Service Philosophy

Solving customer pain points and timely execution

Brand Positioning

Leading technology and strict supply chain control

Quality Policy

Focus on customers, strive for excellence, continuously improve, and constantly surpass.

02 产品篇

PRODUCT



车载高空作业车及云梯车油缸应用

AERIAL WORK TRUCK AND LADDER TRUCK CYLINDER APPLICATION



- Main customer groups: XCMG, Sanyi, Jiubang, Beijun, Galya, Jiuhe, Xiangjian, etc.; annual supply of aerial work platforms is about 1,500 units.

Product Introduction

These hydraulic cylinders operate at a pressure of 20 MPa and undergo a test pressure of 30 MPa. The cylinder barrels are made of materials such as 45# cold-drawn steel, 45# quenched and tempered steel, and 25Mn. The piston rods are made of 45# steel.

We have a mature hydraulic cylinder production line for this series of products, enabling large-scale, short-cycle production. We also provide quality assurance for production, truly giving our customers a sustainable competitive advantage.



高空俯仰油缸



高空伸缩油缸



高空提升油缸



高空展开油缸

Safety Performance

The reliability of aerial work platforms is directly related to personal safety; therefore, Yanhuang prioritizes safety and reliability in its product design, ensuring that the hydraulic cylinders have a sufficient safety margin. Yanhuang also reduces cylinder weight through optimized structural design, and the integrated design of the cartridge valve block and hydraulic cylinder makes the system simpler and more compact. Extensive experience in designing aerial work platform cylinders allows Yanhuang's products to withstand the challenges of any harsh environment. Currently, Yanhuang can provide customized hydraulic cylinder solutions for its full range of telescopic boom aerial work platforms and folding aerial work platforms.

自行走高空作业车油缸应用

SELF-PROPELLED AERIAL WORK VEHICLE CYLINDER APPLICATION



- Main customer groups: XCMG, Jinda, Jiubang, Yunxiang, Jiuwu, etc.; annual supply of aerial work platforms is about 2,000 units.

Product Introduction

These hydraulic cylinders operate at a pressure of 20 MPa and undergo a test pressure of 30 MPa. The cylinder barrels are made of materials such as 45# cold-drawn steel, 45# quenched and tempered steel, and 25Mn. The piston rods are made of 45# steel.

We have a mature hydraulic cylinder production line for this series of products, enabling large-scale, short-cycle production. We also provide quality assurance for production, truly giving our customers a sustainable competitive advantage.



Product Parameters

Name	Cylinder Diameter	Rod Diameter	Stroke	Work pressure
Telescopic Cylinder	Φ100	Φ80	5500mm	25Mpa
Luffing Cylinder	Φ180	Φ120	1270mm	25Mpa
Leveling Cylinder	Φ110	Φ50	342mm	25Mpa
Steering Cylinder	Φ70	Φ40	245mm	21Mpa
Balance Cylinder	Φ90	Φ50	42mm	25Mpa
Flying Arm Cylinder	Φ70	Φ45	660mm	22Mpa



随车吊油缸应用

APPLICATION OF OIL CYLINDER ON BOARD CRANE



- Main customer groups: **XCMG, Fuman, Tengchang, Zoomlion, etc.**; annual supply of about 1,400 units.

Product Introduction

The truck-mounted crane's hydraulic cylinder has a working pressure of 28MPa and a test pressure of 35MPa. Cylinder materials include 45 cold-drawn steel, 45 quenched and tempered steel, and 25Mn. The piston rod material is 45 stainless steel.

We handle cylinder diameters ranging from 40 to 320mm. Seals are sourced from imported Parker, British Hallite, and domestic Longli.

Product Parameters

Truck-mounted crane straight boom

Name	Cylinder Diameter	Rod Diameter	Stroke	Pressure
First extension	φ80	φ56	2400mm	20MPa
Second extension	φ70	φ50	2300mm	20MPa

Truck-mounted crane folding boom

Name	Cylinder Diameter	Rod Diameter	Stroke	Pressure
First Amplitude	φ170	φ125	700mm	28MPa
Second Amplitude	φ140	φ110	839mm	28MPa
First Telescopic Cylinder	φ70	φ50	1700mm	20MPa
Second Telescopic Cylinder	φ70	φ50	1750mm	20MPa
Third Telescopic Cylinder	φ63	φ45	1750mm	28MPa
Outrigger Cylinder	φ70	φ50	600mm	20MPa



泵车油缸应用

PUMP CAR CYLINDER APPLICATION



- Main customer groups: **Huimeng, Xiangjian, Pump Friends, Conile, Jiuhe, Tiantuo, Tuowo, and Jiubang**; we supply complete hydraulic cylinders for pump trucks ranging from 26 to 65 meters; with an annual supply of approximately 500 units.

Product Introduction

The pump truck's hydraulic cylinder has a working pressure of 35MPa and a test pressure of 45MPa. The maximum cylinder diameter of the upper cylinder is 360mm. The maximum stroke is 2.6 meters. The cylinder barrel material is selected from 25Mn, 27SiMn, 20MnTiB, etc., and the piston rod material is 45 quenched and tempered.

The seals are from internationally renowned brands that are suitable for the operating conditions of the host machine, such as Parker, Hallite (UK), and Longli (China).

Pump truck equipment cylinders operate under high pressure, high frequency, high vibration, high strength, and long service life.

Product Parameters

Pump Truck39M

Name	Cylinder Diameter	Rod Diameter	Stroke	Pressure
One-arm hydraulic cylinder	φ230	φ140	1354mm	35MPa
Two-arm hydraulic cylinder	φ230	φ120	1300mm	35MPa
Three-arm hydraulic cylinder	φ180	φ100	937mm	35MPa
Four-arm hydraulic cylinder	φ140	φ85	816mm	35MPa
Five-arm hydraulic cylinder	φ110	φ70	540mm	35MPa

Pump Truck52M

Name	Cylinder Diameter	Rod Diameter	Stroke	Pressure
One-arm hydraulic cylinder	φ270	φ150	1868mm	35MPa
Two-arm hydraulic cylinder	φ240	φ150	2053mm	35MPa
Three-arm hydraulic cylinder	φ220	φ120	1349mm	35MPa
Four-arm hydraulic cylinder	φ190	φ110	1389mm	35MPa
Five-arm hydraulic cylinder	φ120	φ70	920mm	35MPa
Six-arm hydraulic cylinder	φ80	φ40	324mm	35MPa



湿喷机油缸应用

WET INJECTION OIL CYLINDER APPLICATION



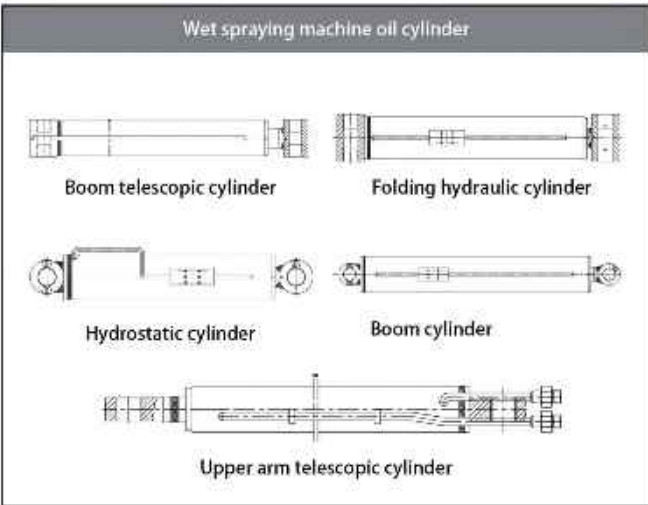
- Main customer groups: Fuman, Jiale, Gengli, Pengxiang, Xianggong Puli, Xinzhu, Saner, Qili etc.; with an annual supply of approximately 1,200 units.

Product Introduction

The working pressure of the wet spraying machine's hydraulic cylinder is 28MPa, and the test pressure is 35MPa. The cylinder barrel material is selected from 45# cold-drawn, 45# quenched and tempered, 25Mn, etc., and the piston rod material is selected from 45#.

This series of hydraulic cylinders operates in harsh environments. In recent years, we have been committed to researching and improving the internal structure of these cylinders to extend their service life. After the improvements, the service life of the cylinders has been significantly extended, the market feedback has been very good, and production has also increased.

Product Structure



环卫油缸应用

UTILITY VEHICLE CYLINDER APPLICATION



- Main customer groups: XCMG, Changsha Puhui Environmental Protection, Zhejiang Huanlong, Jiangxi Lvchuang, Nantong Meiyun Environmental Protection, and many other companies. We primarily supply hook-lift systems, underground waste compression stations, and vehicle-mounted mobile compression stations.

Product Introduction

The matching extrusion cylinder is a double-acting three-stage hydraulic cylinder. The largest cylinder diameter of the 12 cubic meter extrusion cylinder is $\Phi 220$, the stroke is 5 meters, the working pressure is 25MPa, and the total extension length reaches 8 meters. It has a large off-center load and harsh working conditions.

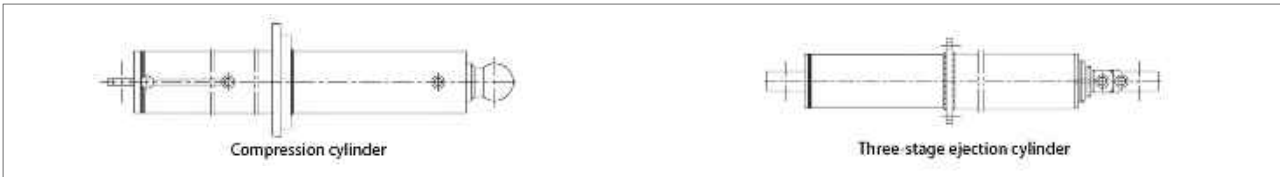
This series of hydraulic cylinders has been supplied to customers for many years. It features a reliable design, meeting the needs of sanitation equipment for excellent corrosion resistance, high reliability, and long service life. The company is particularly professional and mature in the design and production of double-acting multi-stage cylinders, effectively solving common problems such as cylinder expansion, disordered cylinder operation, oil leakage, and cylinder scoring. This provides customers with quality assurance.

Product Parameters

Garbage station oil tank				
Name	Cylinder	Rod Diameter	Stroke	Pressure
Door lifting cylinder	$\phi 63$	$\phi 35$	1500mm	21MPa
Three-stage ejection cylinder	$\phi 145/110/80$	$\phi 130/95/63$	4450mm	21MPa
Hydraulic cylinder	4250	$\phi 180$	3900mm	21MPa



Garbage station compression cylinder





车桥转向油缸应用

AXLE STEERING CYLINDER APPLICATION

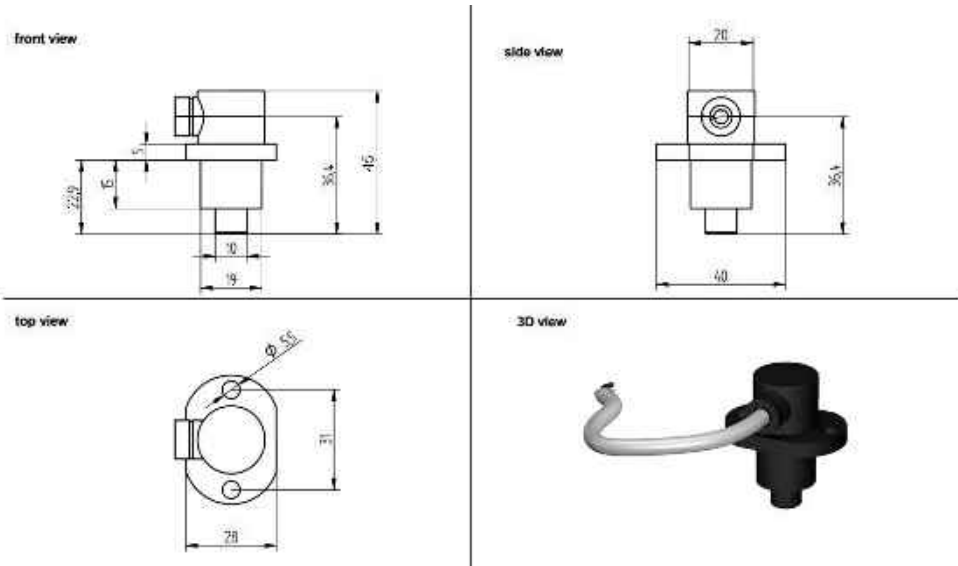


Product Introduction

The CZML19-AT is an intelligent optical detection sensor developed by our company, employing a specially designed chip. It is primarily installed in the hydraulic steering cylinders of the steering axle. Its main function is to detect whether the vehicle wheels are correctly aligned, used in the steering cylinders of various engineering machinery steering axles. When the sensor detects a specially treated mark on the surface of the steering cylinder piston rod, it generates a signal feedback. This product is available in different versions, such as with an M12 aviation 4-pin standard connector, automotive-compliant connectors, or straight-out waterproof plugs of varying lengths conforming to Amphenol standards.

This product uses a reflective sensor as its input stage, an internal computing unit based on a microprocessor, and a high-end driver for the output pulse signal. It can drive high-current loads up to 600mA. The sensor employs an automotive-grade chip, featuring long lifespan, reliable operation, and easy installation. It ensures reliable operation in harsh environments (e.g., temperature changes, wear warnings for specific piston rod markings, component aging warnings, electromagnetic interference, etc.), and guarantees robustness in harsh environments.

Product Parameters



Technical parameters

Operating voltage	12/24V DC
Operating temperature	-20°C~+80°C
Storage temperature	-40°C~+85°C
Relative humidity	45%~90%
Protection level	IP67
Electrical protection	Power port input reverse connection protection, output overcurrent and short circuit protection
	Signal port input/output overvoltage and overcurrent protection
Communication methods	PNP
External dimensions	40mmX28mmX45mm
Technical parameters	Voltage range:9~30V(vehicle battery)
	Detection distance: ≤1.5mm
	Maximum input voltage: +36V
	Load current: 1~600mA(Typical value:100mA)
	Maximum output voltage: V-0.3V
	Minimum output voltage: 0~150mV
	Minimum detection range: 3mS(Load current is 100mA)
	Maximum detection range: 1m/S(Load current is 100mA)
	Response time: ON-OFF 20uS(Load current is 100mA)
	OFF-ON: 50uS(Load current is 100mA)
Connector	M12 connector for aircraft, Amphenol AT-04 direct output cable with 3-pin connector
Product testing types	High and low temperature tests, temperature and humidity tests, vibration tests, shock tests, drop tests, EMC tests

Test Standards

Electromagnetic compatibility testing	Test item: Electrostatic discharge immunity, Level 3, Class A. Test standard: GB/T17626.2 Test item: Radio frequency electromagnetic field radiation immunity, Level 3, Class B test standard: GB/T17626.3 Test item: Conducted interference level induced by radio frequency field, Class 3A test standard: GB/T17626.6
High-temperature operation test	Test items: High-temperature continuous operation test, high-temperature start-stop test Test Standards: GB/T2423; IEC60068
Low temperature operation test	Test items: Low-temperature continuous operation test, low-temperature start-stop test Test Standards: GB/T2423; IEC60068
High and low temperature shock test	Test item: High and Low Temperature Shock (Low Temperature -40 , High Temperature 85) High and Low Temperature Transition Time 2min Test Standard: GB/T2423; IEC60068
Temperature and humidity cycling test	Test item: Temperature range -40°C ~85°C. Rate of temperature change 3°C /min Test Standard: GB/T2423; IEC60068
Vibration test	Test items: sinusoidal vibration, variable frequency sinusoidal vibration Test Standard: GB/T2423; IEC60068 15g /10-2000Hz
Salt spray test	Test item: Salt spray test Test Standards: GB/T2423; IEC60068
Impact test	Test item: Drop test simulating transportation conditions Test Standard: GB/T2423; IEC60068 100ms(11ms)

农机农具油缸应用 AGRICULTURAL MACHINERY OIL CYLINDER APPLICATION



Product Introduction

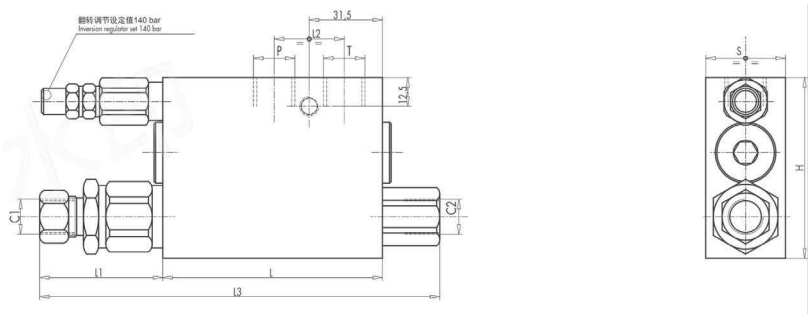
Connect C1 to the oil port of the hydraulic cylinder, connect C2 to the cylinder body of the hydraulic cylinder, and connect P and T to the tool input port. Due to its special design, the valve block can be installed on the hydraulic cylinder or directly fixed to the plow body through the threaded hole on the valve body.

Use and Operation

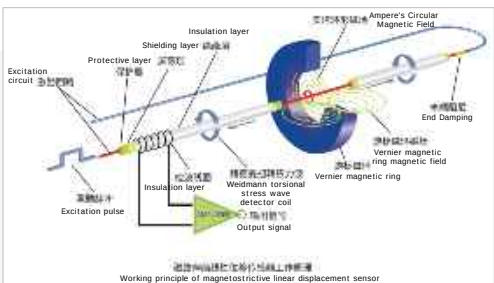
This valve block, when applied to the reversible plow cylinder, enables automatic hydraulic oil return, ensuring that the reverse movement of the hydraulic cylinder allows the plow to reverse. Equipped with dual hydraulically controlled check valves, it guarantees high safety and allows for the advance and halting of the cylinder at any position. The piston's reverse movement is achieved at the plow's dead center via a differential relief valve, simultaneously generating greater power and speed. This valve block can be installed on heavy-duty, unbalanced reversible plows, and is suitable for cylinder inner diameters of 40/50, 60/80, 80/100, 100/110, and 110/130 mm.

Product Parameters

型号 CODE	款式 TYPE	C2 P-T GAS	C1 mm	L1 mm	L2 mm	L3 mm	H mm	S mm	重量 WEIGHT Kg
E000022761	VRAP 40/50 DE	G 3/8"	Φ12	58	30	176	80	35	2.13
04659	VRAP 60/80 DE	G 3/8"	Φ12	58	30	176	80	35	2.13
04660	VRAP 80/100 DE	G 3/8"	Φ12	58	30	176	80	35	2.13
E000003516	VRAP 100/110 DE	G 3/8"	Φ12	58	30	176	80	35	2.13
E000002186	VRAP 110/130 DE	G 3/8"	Φ12	58	30	176	80	35	2.13

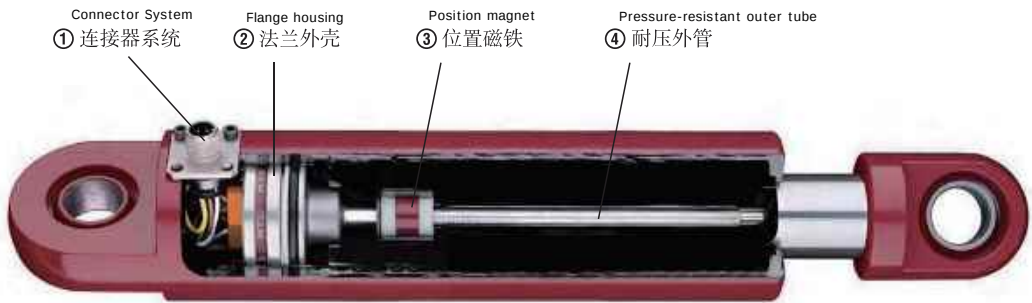


磁制位移传感器油缸应用 MAGNETIC DISPLACEMENT SENSOR CYLINDER APPLICATIONS



Product Introduction

Magnetic displacement sensors can be used without limitations in multi-functional mobile machinery and can replace contact-type linear sensors, such as potentiometers. In high-dynamic systems, magnetic displacement sensors can be used for safety control, thereby improving the productivity, availability, and quality of work during machine operation. Magnetic displacement sensors are insensitive to vibration, impact, dust, weather conditions, and electromagnetic interference. Magnetic displacement sensors have been successfully applied to steering cylinders in front axles and articulated frames, hydraulic jacks, and hydraulic steering systems in agricultural and construction machinery.



Product Introduction

Simple mechanical structure

This sensor is extremely robust and durable, and consists of the following main components:

- ◆ The innovative connector system can be installed in seconds, which is very convenient and requires no soldering or crimping. It is dustproof and waterproof with a rating of up to IP69K.
- ◆ The flange housing has built-in electronics and signal converters.
- ◆ The position magnet, as the only moving part, can be fitted to the bottom of the piston. This magnet is a permanent magnet, can move along the pressure tube without contacting the pressure-resistant outer tube and without wear; it can measure the actual position.
- ◆ The pressure-resistant outer tube is placed in the piston rod of the drilled hole and contains a protected magnetostrictive sensing element.
- The MH series sensors are small in size, thus requiring very little space.
- Suitable for applications with working pressures up to 350 bar.
- Unaffected by surrounding media such as aged oil or foam oil
- Insensitive to the effects of shock and vibration
- Suitable for all common power supply voltages (12/24VDC)
- Magnetic displacement sensors can send all commonly used output signals: Analog signal: VDC, mA Digital signal: CANopen Safety



汽车尾板

CAR TAILBOARD

A hydraulic tailgate is a hydraulically driven loading and unloading mechanism installed at the rear of box trucks and various sealed vehicles. Powered solely by the vehicle's battery, it can handle the loading and unloading of several tons of cargo. The tailgate consists of a mechanical system, a hydraulic transmission system, and an electrical control system. With its fast, safe, and efficient characteristics, the hydraulic tailgate significantly improves transportation and loading/unloading efficiency, making it an essential piece of equipment in modern logistics. It is widely used in logistics, commerce, finance, postal services, paper industry, manufacturing, chemical industry, and other sectors.



Folding Tailgate

A folding tailgate is a type of tailgate that is hidden under the truck bed. In addition to the basic functions of a regular tailgate, the aluminum alloy cargo platform can be folded under the vehicle after use, without affecting the opening and closing of the truck bed or reversing. It also allows for seamless connection with cold storage facilities and greatly facilitates the use of other loading and unloading tools (such as forklifts and loading/unloading platforms).

Folding Tailgate

Model	TT-QBZD05/100	TT-QBZD15/130	TT-QBZD15/150
Lifting weight	500Kg	1500Kg	1500Kg
Lifting height	1000	1300	1500
Panel Dimensions	Customizable	Customizable	Customizable
Overall color	Customizable	Customizable	Customizable

Cantilever Tailgate

Most of these vehicles use a suspension bracket with five hydraulic cylinders, mounted on a hanging plate and fixed to the main beam at the rear of the truck. Operated via an electronic control and pump station system, the tailgate is controlled to open from a vertical position, then horizontally, lower to the ground, and finally tilt downwards until the front edge of the tailgate is flush with the ground. At this point, the truck bed door can be opened for loading and unloading. The entire process can be operated by one person, offering safety and convenience. These products are characterized by high load capacity and low failure rate; they are suitable for aerospace, military, various box trucks, open wagons, postal services, banks, supermarket logistics, and other special transport vehicles, making them the most widely used structural form. With improvements in production technology and to meet market demands, truck tailgates are now available with two or four cylinders, and in steel and aluminum versions, resulting in reduced cost and weight, and easier and more practical installation. They are now used in pharmaceutical, environmental protection, and metrology special transport vehicles. This is the most widely used type of tailgate.



Cantilever Tailgate

Model	TT-QB10/110	TT-QB10/130	TT-QB15/150	TT-QB20/150
Lifting weight	1000Kg	1000Kg	1500Kg	2000Kg
Lifting height	1100	1300	1500	1500
Panel Dimensions	Customizable	Customizable	Customizable	Customizable
Overall color	Customizable	Customizable	Customizable	Customizable

03 生产篇

PRODUCTION

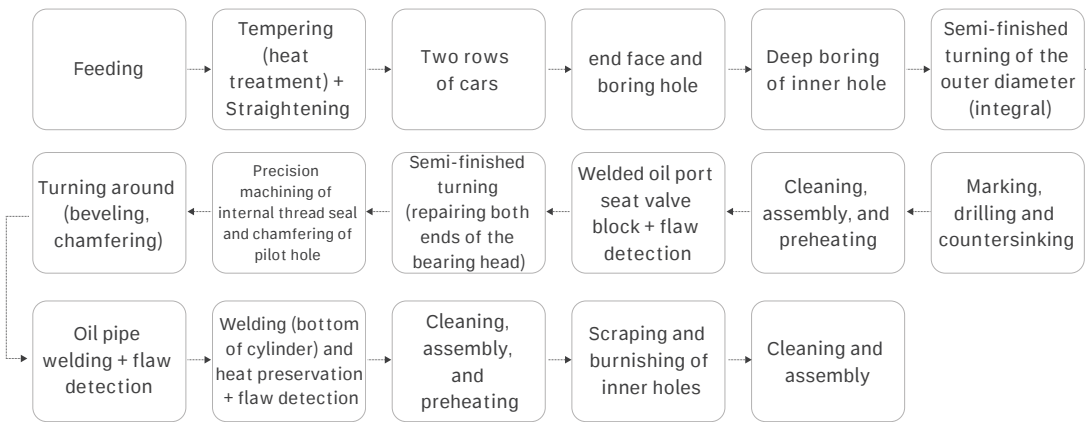


产品研发

PRODUCT RESEARCH AND DEVELOPMENT

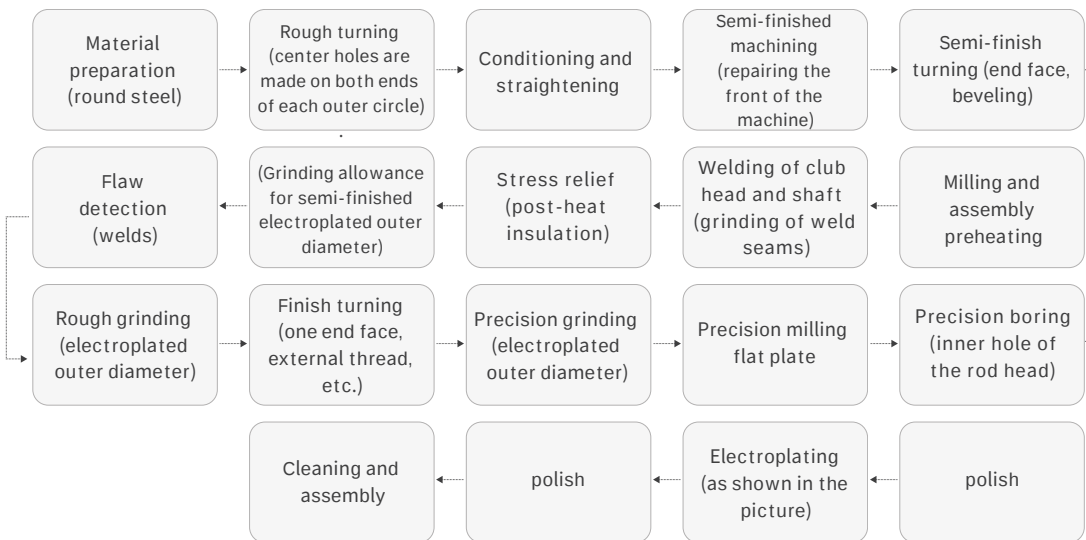
螺纹连接缸体加工流程
Threading connection cylinder body
machining process (capillary material)

(毛管材料)



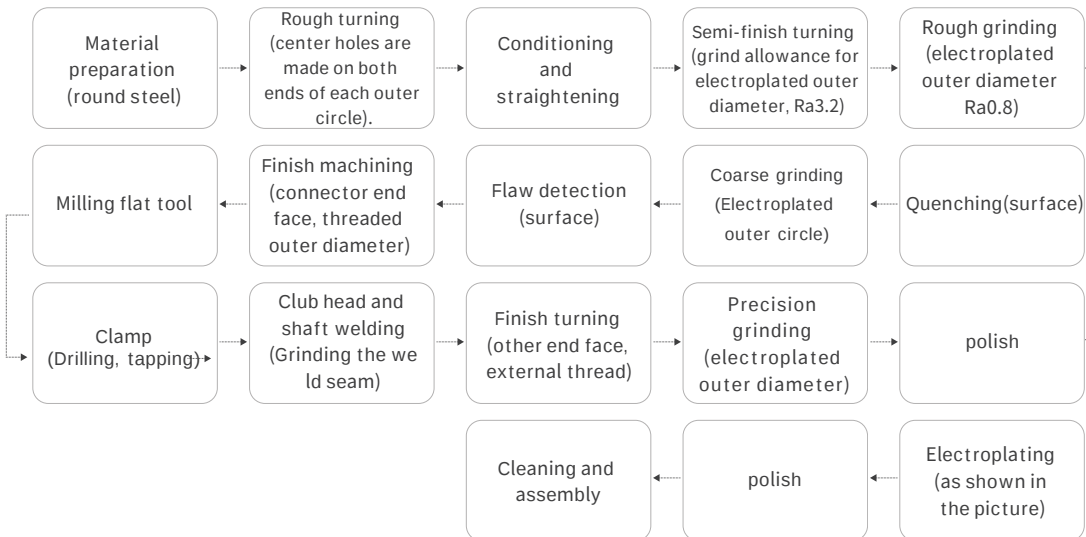
杆头与杆体焊接式活塞杆
Machining process for welded piston
rods (round steel material)

加工流程(圆钢材料)



螺纹结构活塞杆加工流程
Machining process for threaded
piston rods (round steel material)

(圆钢材料)

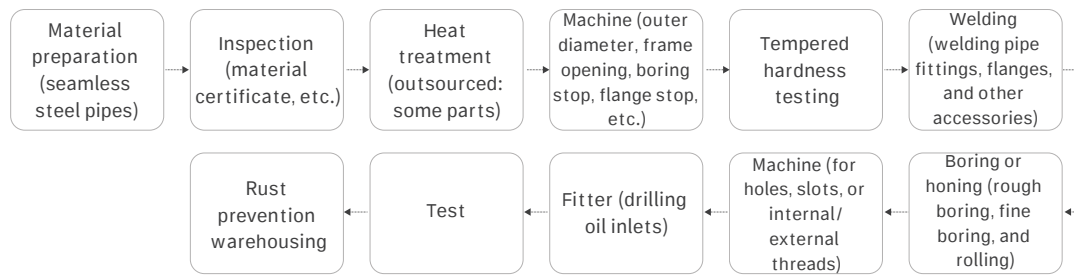


液压油缸加工工艺流程

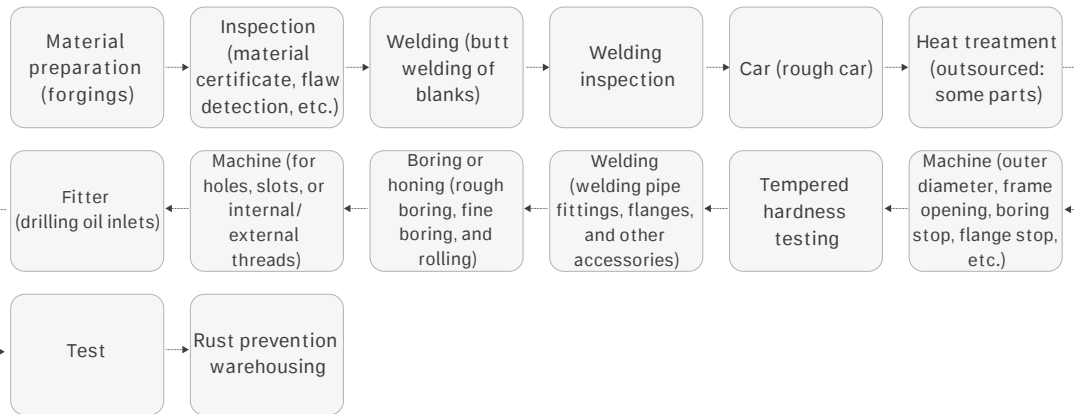
HYDRAULIC CYLINDER MACHINING PROCESS FLOW

Cylinder

缸筒 A
cylinder



缸筒 B
cylinder



Piston Guide Sleeve

活塞导向套 A
Piston guide sleeve A

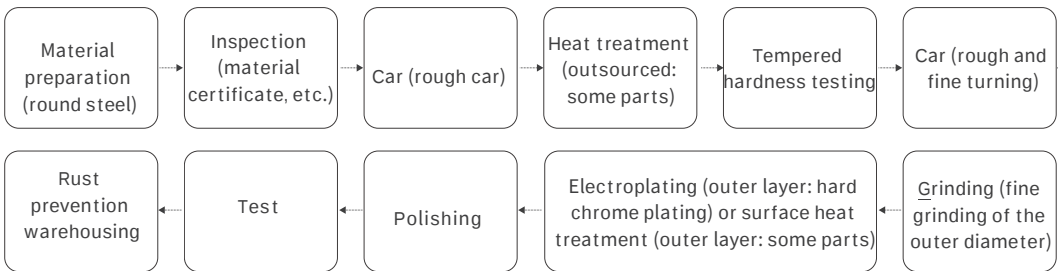


活塞导向套 B
Piston guide sleeve B

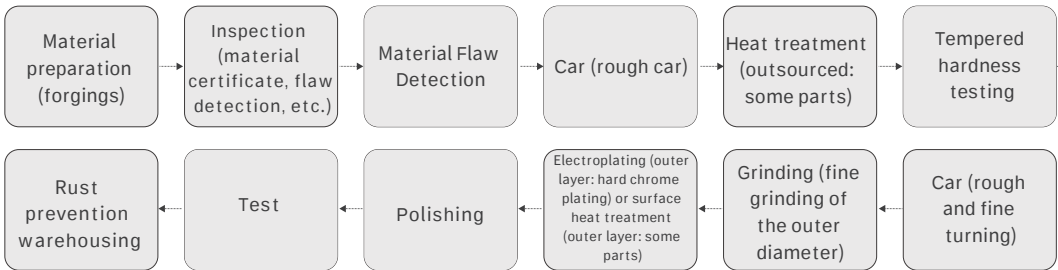


Piston Rod

活塞杆 A Piston rod A

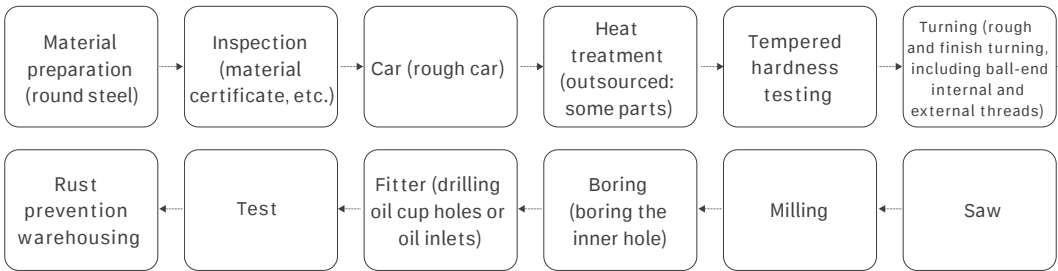


活塞杆 B Piston rod B

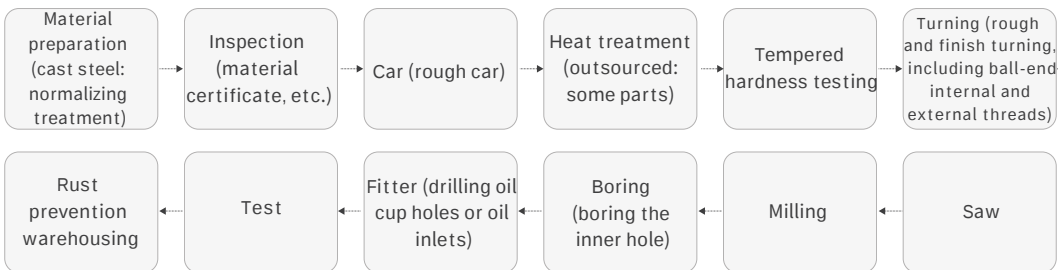


Cylinder Head, Rod Head

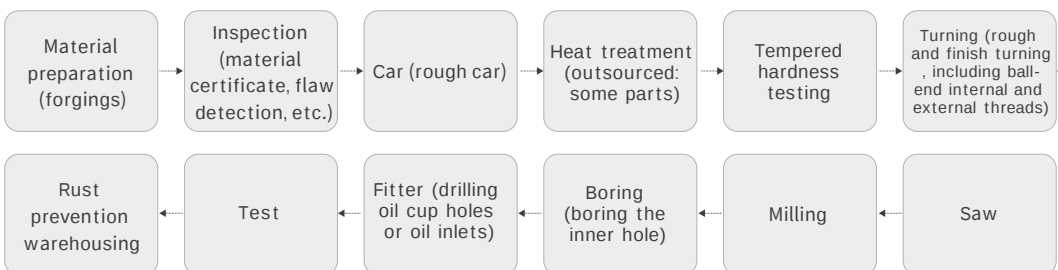
缸头杆头 A Cylinder Head, Rod Head A



缸头杆头 B Cylinder Head, Rod Head B

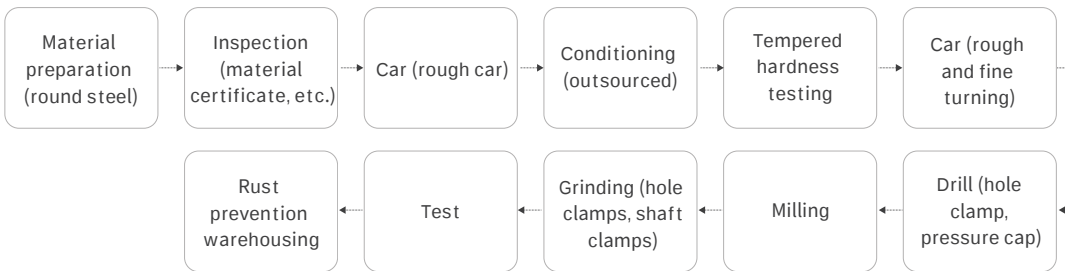


缸头杆头 C Cylinder Head, Rod Head C

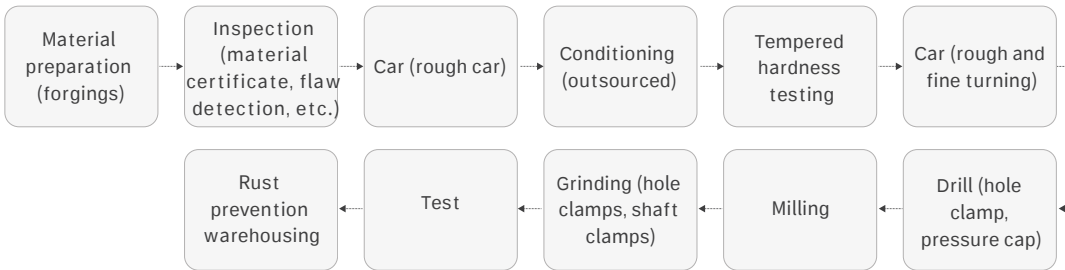


Hole clips, shaft clips, wire coils, pressure caps

丝圈、压帽 A 孔卡、轴卡 A Hole clip, shaft clip, threaded coil, pressure cap A

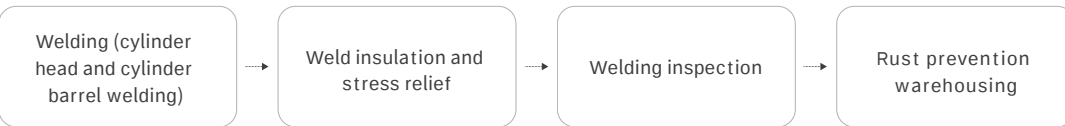


丝圈、压帽 B 孔卡、轴卡 B Hole clip, shaft clip, threaded coil, pressure cap B



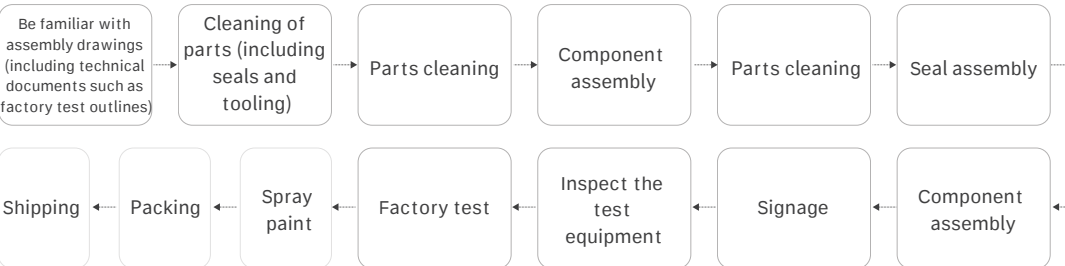
Cylinder block

缸体 Cylinder block



Assembly

装配 Assembly



Note: Due to variations in cylinder size, the manufacturing processes for the above components are not uniform. Appropriate machining processes should be adopted based on the component drawings.

Conditioning

Tempering is a comprehensive heat treatment process combining quenching and high-temperature tempering. Tempered parts typically operate under significant dynamic loads, experiencing tension, compression, bending, torsion, or shearing. Some surfaces also exhibit friction, requiring a certain level of wear resistance. In short, these parts operate under various combined stresses. These parts are primarily structural components of various machines and mechanisms, such as shafts, connecting rods, bolts, and gears, and are widely used in machine tool, automotive, and tractor manufacturing industries. Tempering is particularly prevalent for large components in heavy machinery manufacturing. Therefore, tempering plays a crucial role in heat treatment. The required performance of tempered parts in mechanical products varies depending on their stress conditions. Generally, all tempered parts should possess excellent comprehensive mechanical properties, namely a proper balance of high strength and high toughness, to ensure long-term smooth operation. In terms of strength, tempered parts should have high tensile strength (σ_b) and fatigue strength (σ_{-1}) to prevent excessive plastic deformation or fracture under external loads during operation.

Cooperate

- ◆ Clearance fit, running fit, loose fit. The tolerance zone of the hole is completely above the tolerance zone of the shaft, that is, a fit with clearance (including a fit with a minimum clearance of zero), i.e., $Y_{max} \geq 0$.
- ◆ Transition Fit. In the fit between a hole and a shaft, the tolerance zones of the hole and the shaft overlap. Any pair of holes and shafts may have a clearance or an interference fit.
- ◆ Interference fit, interference fit, press fit, tight fit. The tolerance zone of the hole is completely below the tolerance zone of the shaft, that is, it has an interference fit (including the fit with minimum interference equal to zero), that is, $X_{max} \leq 0$.

Hydraulic cylinder spraying process

1

Preparation:

First, clean the surface of the hydraulic cylinder to remove oil, dust, and dirt to ensure a good spraying effect. Next, check the surface of the hydraulic cylinder for loose coatings or scratches. If any are found, repair or grind them to avoid affecting the spraying quality. Prepare the spraying equipment and materials, including spray guns, compressed air sources, pigments, solvents, etc.

2

Primer Spraying:

First, pour the primer into the paint can and connect the can to the spray gun. Adjust the pressure of the spray gun and the nozzle size to achieve the desired coating effect. Begin spraying, applying the primer evenly to the surface of the paint tank, being careful to maintain a suitable spraying distance and speed to avoid missed areas or uneven primer thickness.

5

Topcoat Spraying:

Pour the topcoat into the paint can and connect it to the spray gun; adjust the pressure of the spraying equipment and the nozzle size of the spray gun to achieve the desired spraying effect; start spraying, and spray the topcoat evenly onto the surface of the oil tank, paying attention to maintaining an appropriate spraying distance and speed to avoid missed spraying or uneven spraying thickness.

4

Pretreatment Before Topcoat Spraying:

Inspect the surface of the oil cylinder after the primer has dried. If there are any defects or flaws, grind, repair or polish them to ensure that the surface is flat and smooth.

3

Drying Process:

After the primer is applied, the oil tank needs to be placed in a well-ventilated drying room for drying to allow the primer to cure quickly. The appropriate drying time and temperature should be determined based on the requirements of the primer material used to ensure complete drying.

6

Drying Process:

After the topcoat is applied, the oil tank needs to be placed in a well-ventilated drying room for further drying to allow the topcoat to cure quickly. This process depends on the type of topcoat material used.

7

Inspection And Acceptance:

After the hydraulic cylinders have been painted, a visual inspection is performed. If uneven coating, color differences, or missed areas are found, corrections are necessary. Finally, according to the process requirements, the painting quality is accepted to ensure that the hydraulic cylinders achieve the expected painting effect and quality requirements.

生产设备

PRODUCTION EQUIPMENT



数控加工中心

CNC MACHINING CENTER

1. The main axis is in a vertical position;
2. There are three linear motion coordinates (X, Y, Z axes);
3. Suitable for processing disc sleeves and plate-shaped parts.



数控车床

CNC LATHE

1. High precision, high surface finish, and high positional accuracy;
2. Stable processing quality;
3. High processing efficiency.



数控管螺纹车床

CNC PIPE THREAD LATHE

1. Processing irregularly shaped parts;
2. Machining frameless cylinder barrels;
3. Machining extra-long cylinder barrels.



数控管螺纹车床

CNC PIPE THREAD LATHE

1. Processing irregularly shaped parts;
2. Machining frameless cylinder barrels;
3. Machining extra-long cylinder barrels with small diameters.



自动装缸机

AUTOMATIC CYLINDER LOADING MACHINE

- 1. The main axis is in a vertical position;
- 2. There are three linear motion coordinates (X, Y, Z axes);
- 3. Suitable for processing disc sleeves and plate-shaped parts.
- 4. Mainly processes piston/guide sleeve cross-section mounting grooves or holes, rod head cylinder bottom pin holes, flange holes, etc.



外圆磨床

EXTERNAL CYLINDRICAL GRINDING MACHINE

- 1. Mainly rough and fine grinding of the outer diameter of the piston rod;
- 2. Grinding precision IT6-IT5, surface roughness Ra0.8-0.2;
- 3. Rough grinding of the outer diameter before quenching is performed to reduce Ra and prevent cracking on the workpiece surface;
- 4. The outer diameter needs to be finely ground before electroplating to ensure the tolerances required by the drawing.



CK6163YG型数控油缸专用车床

AUTOMATIC CYLINDER LOADING MACHINE

- 1. Maximum workpiece rotation diameter on the machine bed: $\phi 630\text{mm}$
- 2. Maximum workpiece length: 3000 mm



五轴焊接机器人

FIVE AXIS WELDING ROBOT

- 1. Maximum workpiece length: 3000 mm, thus improving production efficiency.
- 2. High precision: Utilizing advanced sensor technology and a precision control system, highly accurate positioning and control are achieved, ensuring stable and reliable welding quality.
- 3. Multifunctional: It can quickly adapt to different workpiece materials, shapes, and sizes.



04 市场篇
MARKETING



权威认证

AUTHORITATIVE CERTIFICATION

服务中心

SERVICE CENTER

Supplier Annual Quality Report Card

Service Commitment

Since its inception, our company has always regarded "people" as its most important asset and strength. Our people-oriented management system embodies the perfect corporate culture we consistently strive for. "People" includes our loyal customers and partners; their support and dedication are the primary factors contributing to our success. Our customers' support and trust are built upon excellent product quality and efficient service. We consistently strive to create the highest quality products and provide the best after-sales service, focusing on customer value. Our company firmly believes in and adheres to the principles of sincerity, enthusiasm, responsibility, and customer satisfaction as our consistent service tenet.

Service System

The company will uphold an open, innovative, simple, and practical corporate culture that emphasizes detail, and adhere to a corporate spirit of integrity, pragmatism, unity, and order. Serving customers is the fundamental principle and highest aim of the company: customer needs are the guide to our work, and serving customers is our goal. We will provide users with first-class technical support and services with a responsible attitude and a pursuit of excellence in quality.

01 Provides 24/7 telephone support
Hotline consultation service

02 Provide 24/7 online support
Email and online services.



03 Providing the nearest time: Door-to-door service
On-site inspection and repair service at the user's location

04 Proactive tracking service
Our company has established a proactive tracking service to ensure normal operation and enable users to receive our highest quality, most timely, and most comprehensive after-sales service.



徐州徐工物资供应有限公司 供方质量管理部

供方年度质量成绩单

徐州炎黄工程机械有限公司：

首先感谢贵司在 2022 年合作过程中的配合和响应。

2022 年即将成为历史，为能够充分聚焦质量难点和瓶颈，找到双方努力的方向，提升产品质量和工作效率，现将贵司 2022 年度质量表现情况进行反馈。希望 2023 年，徐州炎黄能够一如既往的支持徐工发展。

一、质量情况

1、整体质量表现

项目	2022 年反馈		
	内部	外部	整体
品类平均	0.51%	0.23%	0.74%
炎黄指标	0.44%	0.31%	0.75%
炎黄达成	0.00%	0.00%	0.00%

2022 年度反馈率达成目标，全年无反馈。

二、2022 年指标考核

2022 年徐州炎黄完成指标，不进行指标考核。希望 2023 年徐州炎黄自我提升，质量更进一步。

三、2023 年管理指标

依据 2022 年实际达成情况，对管理指标进一步细化，2023 年指标设定如下：

品类	2022 年达成	2023 年指标
油缸品类	0.00%	0.67%

四、2023 年管理计划

1



徐州徐工物资供应有限公司 供方质量管理部

1、品类质量改善

通过对 2022 年油缸品类所有供方的质量监控，锁定油缸品类 TOP5 质量问题有油漆质量、锈蚀、磕碰划伤。要求徐州炎黄针对以上问题，自主排查风险，举一反三，预防质量问题发生。

2、质量成本统计

2023 年徐州炎黄需逐步开展质量成本统计工作，导入《GB/T 13339-2009 质量成本管理导则》，量化预防成本、鉴定成本、内部损失成本、外部损失成本。

3、质量攻关项目

依据 2022 年产品生产过程、客户使用中反馈的问题或问题隐患，制定 2023 年度质量攻关计划，经总经理签字后，于 2023 年 1 月 10 日前回传。

总经理签字：

徐州徐工物资供应有限公司



2

主要合作品牌

MAJOR COOPERATIVE BRAND



徐州徐工集团
工程机械股份有限公司



三一重工
股份有限公司



中联重科
股份有限公司



中国铁建
股份有限公司



中铁路装备集团
有限公司



中国中车
股份有限公司



江苏谷登重型机械
科技股份有限公司



徐州福曼
随车起重机有限公司



湖南星邦智能装备
股份有限公司



福田雷萨重型
机械公司



中国重汽集团
有限公司



比亚迪
股份有限公司