

Zhejiang Huachang hydraulic machinery CO.,LTD

——Company profile



浙江华昌液压机械有限公司
ZHEJIANG HUACHANG HYDRAULIC MACHINERY CO., LTD.



1 Company introduction



Huachang Hydraulics is a joint-stock company, mainly engaged in the R&D and manufacture of hydraulic cylinders. It maintains a leading position in the market segment of hydraulic cylinders for forklifts in China. In 2022, the domestic market share was around 25%.

Summary of Huachang

- ◆ Registered capital: 54 million yuan;
- ◆ The total enterprise land is 16.8 acre, and the existing building area is 51300 square meters ;
- ◆ Capacity : 1.2 million pcs per year;
- ◆ Product range: inner diameter 25mm~360mm, length \leq 6m, pressure \leq 36 MPa

1 Company introduction

System certificates and honors

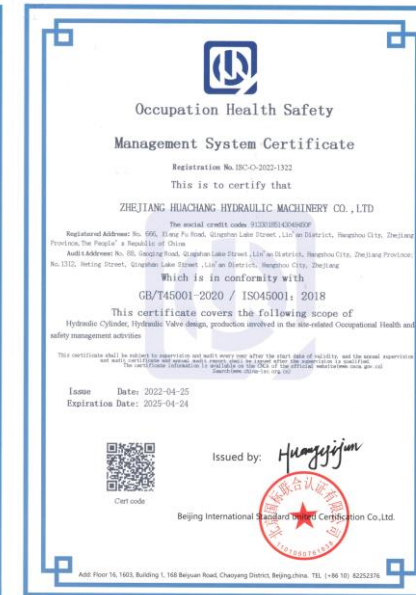
- ◆ System certificates: ISO9001 / ISO14001 / ISO45001
- ◆ National High-tech Enterprise;
- ◆ The “invisible champion” of Zhejiang Province / Little Giant Enterprise / Factory of the future

Business condition(RMB)

Item	2019	2020	2021	2022	2023
Income(RMB, million)	337	482	660	565	570
Total profit(RMB, million)	40	38	42	44	45
Net assets(RMB, million)	175	206	235	260	287
Total assets(RMB, million)	254	399	486	440	422

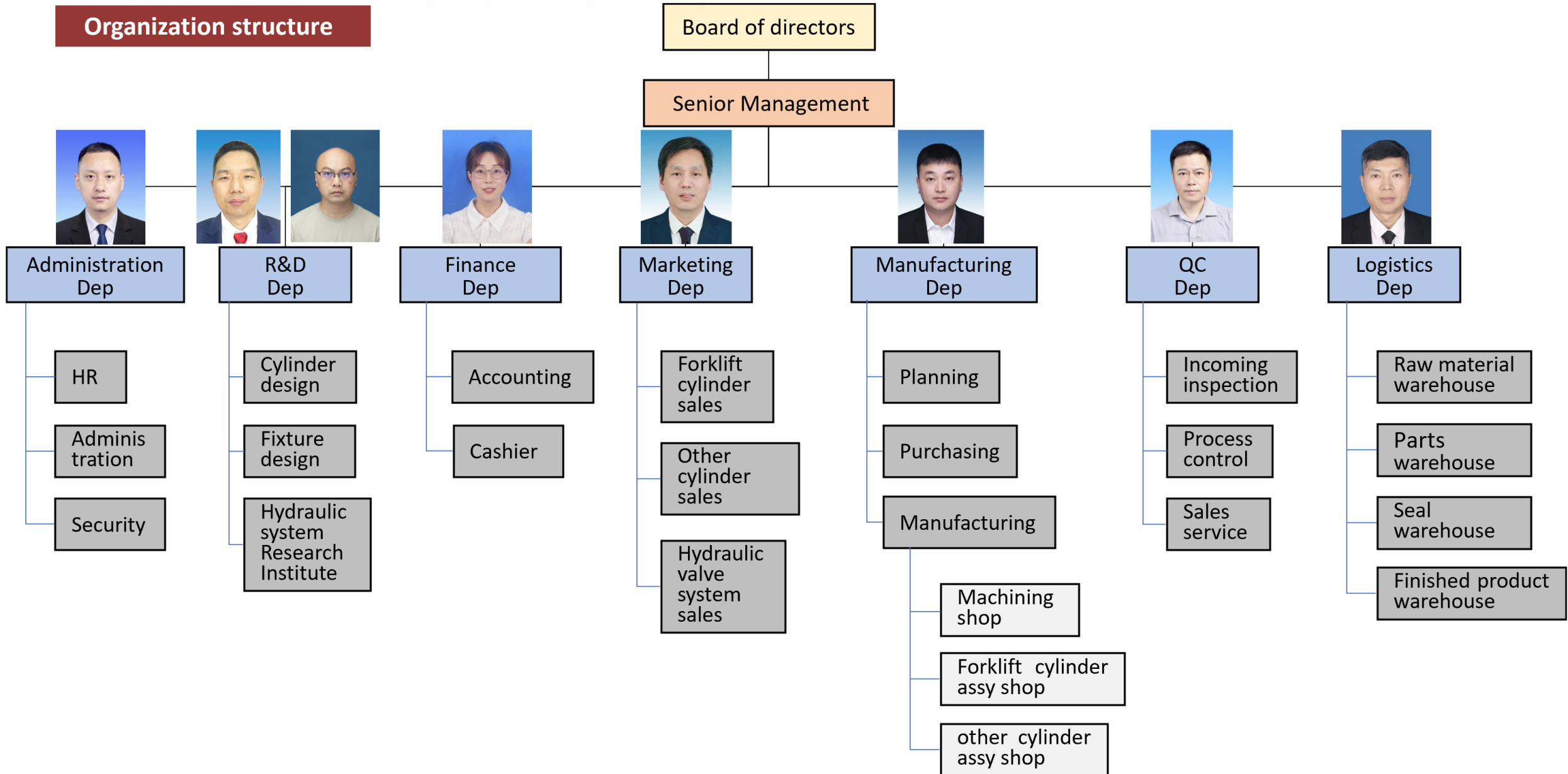
Domestic Market Share of Huachang Forklift Hydraulic Cylinder

Year	Total sales of industrial vehicles in China (units)	Total demand of forklift cylinders (PCS)	HC forklift cylinder sales(PCS)	HC forklift cylinder market share (%)
2020	800,239	2,676,236	695,200	25.98%
2021	1,099,383	3,272,574	816,000	24.93%
2022	1,047,967	2,888,626	710,000	24.58%



1 Company introduction

Organization structure



1 Company introduction

Enterprise carbon emissions and emission reduction



■ Since 2021, our company has cumulatively reduced 3652170.3 kilograms of carbon dioxide through photovoltaic power generation, which has been rated as a low-carbon enterprise by government agencies

■ The carbon emission per unit product is 0.004 tCO₂



1 Company introduction

Corporate Social Responsibility

Social donates

- We make donations to social welfare organizations such as Zhejiang Women's and Children's Foundation and the Red Cross Society from time to time.



Comprehensive employee benefits package

- Provide annual physical examination for employees;
Provide training opportunities (Vocational skill education, Education promotion);
Provide employee insurance;
Keep employee income growing and so on.

Help in difficulty

- Help workers with family difficulties;
In order to contribute to common prosperity, the company has provided more than 100,000 yuan annually to purchase agricultural products from poor areas in the past three years.

2 Product Introduction

Hydraulic cylinder is a non-standard product, and all products are independently developed by ourselves



Forklift series hydraulic cylinder

Full range of forklift cylinders from 0.75t to 45t



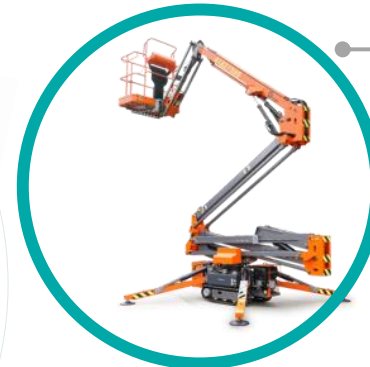
Aerial work platform cylinder

12-22m series of scissors hoist, for Dingli, Lingong



Mobile crane series

25 - 80t series model hydraulic cylinder
For Sany Heavy Industry



Telescopic handler

24-30m boom cylinder



Crawler crane series

160 - 4000t series model hydraulic cylinder
For Sany Heavy Industry



Sanitation vehicle cylinder

8-25t lift cylinder



Cylinder for forklift accessories

3 Typical customers



Hangcha Group
(one of the largest forklift manufacturers in China)



Zhejiang Dingli Machinery Co., Ltd.
(one of the largest manufacturers of high-altitude work vehicles in China)



SANY Heavy Industry Co., Ltd.
(one of the largest construction machinery manufacturers in China)



XCMG
(one of the largest construction machinery manufacturers in China)



SHANGHAI-VLE
(the largest logistics handling (arm hook) manufacturer in China)



Aichi High Altitude Work Vehicle
(a world-renowned manufacturer of high altitude work vehicles)



Kubota Agricultural Machinery
(a world-renowned agricultural machinery manufacturer)



Cascade Forklift Accessories
(a world-renowned manufacturer of forklift accessories)



KAUP Forklift Accessories
(a world-renowned manufacturer of forklift accessories)



HIAB
(a world-renowned manufacturer of logistics and handling machinery)



BYD FORKLIFT
(A well-known forklift manufacturer in China)



Zhejiang Yunda Wind Power
(one of the well-known wind power manufacturers in China)



Shanghai Peiner SMAG Machinery Co., Ltd.
(a globally renowned hydraulic grab manufacturer)



Lingong Heavy Machinery Co., Ltd.
(a well-known manufacturer of high-altitude work vehicles and mining trucks in China)



Shanghai Electric (Wind Power Company)
(one of the well-known wind power manufacturers in China)

4 Capability & Capacity

(1) Assembly

We have first-class independent R&D platform for assembly. The forklift cylinder production workshop has 4 semi-automatic lifting cylinder assembly lines and 1 fully automatic tilting cylinder assembly line, with a designed annual production capacity of 1 million pieces; the special cylinder workshop is equipped with semi-automatic cleaning and assembly systems of various specifications, with a designed annual production capacity of 200,000 pieces. It is equipped with famous brand CNC machining equipment, machining centers, special equipment for high-precision cylinder processing, robot welding machines, automatic cleaning machines, automatic cylinder assembly machines and automatic paint production lines. We have more than 300 sets of key equipment running. The optimized allocation and efficient utilization of equipment resources ensure the precision requirements of the products and meet the high standard quality requirements of the products.



Forklift cylinder assembly shop



Other types cylinder assembly shop

4 Capability & Capacity

(2) Machining

The machining shop is equipped with custom made tilt guide rail turning centers , machining centers, high-speed honing machines, welding robots other relevant equipments, which can handle the machining work of cylinder tube with 360mm Max ID and with 6 meters of Max length. ◦



■ Machining shop



■ Custom made high-precision equipment for cylinder tube

4 Capability & Capacity

(2) Machining

Huachang Holdings piston rod professional manufacturing plant, which can meet the diversified piston rod processing needs;
Huachang regularly evaluates and manages suppliers to ensure the quality of product production;



Raw material



Sawing



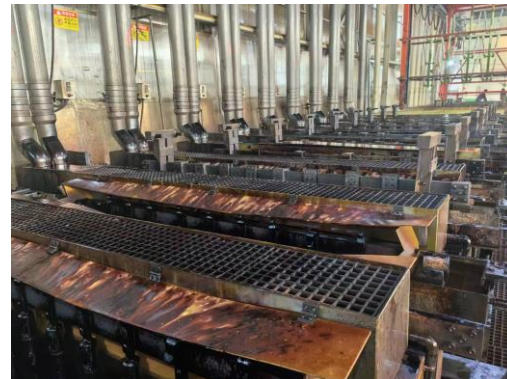
Quenching and tempering



Alignment



Grinder



Electroplating



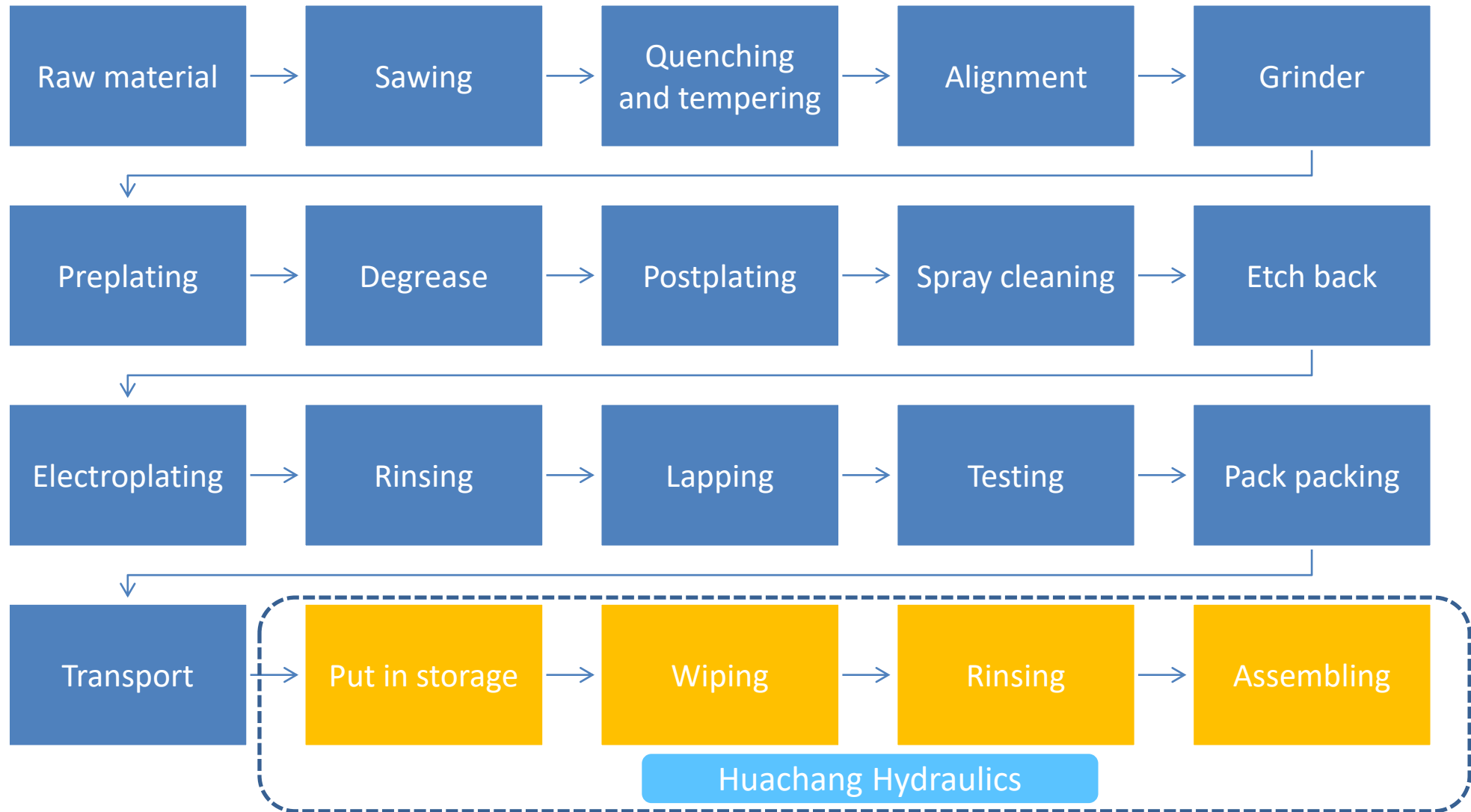
Lapping



Testing

4 Capability & Capacity

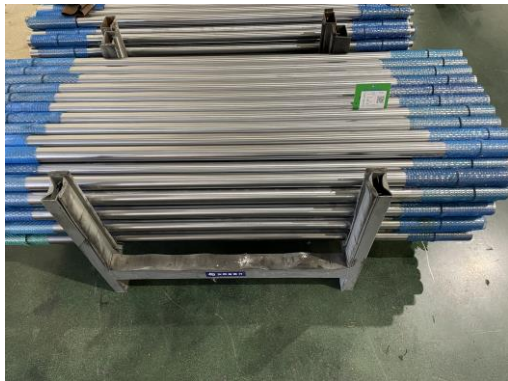
(2) Machining



4 Capability & Capacity

(2) Machining

Huachang has formulated relevant specifications for piston rod cleaning, inspection, etc., and strictly controls the cleanliness and size requirements of piston rod to ensure production quality



put in storage



Wiping



Rinsing




Assembling



浙江华昌液压机械有限公司		指导书编号	
叉叉活塞杆清洗作业指导书		工序号	1
		工序名称	叉叉活塞杆清洗

1. 活塞杆仓库根据单据, 将所需活塞杆发料至活塞杆清洗指定区域, 并挂牌摆放整齐 (如图1);





2. 操作工至活塞杆清洗指定区域, 按需求准备清洗剂喷壶、木挡、活塞杆专用架、干净的棉布等 (如图2);

3. 在活塞杆专用架上垫上木挡, 然后去除活塞杆两端的 O 型圈, 依次将活塞杆抬至专用架上, 铺满一层 (如图3), 注意去除的 O 型圈和备用的木挡统一放置在塑料框内, 保证现场整洁 (如图4);










4. 用喷壶将清洗剂喷淋至活塞杆表面, 然后用棉布擦拭活塞杆上半表面, 擦净后, 转动 180°, 再擦另一半表面 (如图5); 然后用棉布伸入端面孔内进行擦拭 (如图6); 再用气泵将内孔吹净 (如图7), 吹净后用干燥的棉布擦去孔内可能存在的水渍, 最后放上木挡开始清洗第二层, 重复上述步骤至放满活塞杆 (如图8);

5. 在擦拭活塞杆时, 操作工应注意检查活塞杆表面是否有划痕、磕碰伤或者镀层凹凸等不良现象, 如发现不良情况, 应用马克笔圈出, 通知质管处填写不良品标识卡, 做好标记单独放置 (如图9), 然后由质管处开单, 通知活塞杆仓库补发合格活塞杆, 以保证生产需求;

6. 操作工清洗分拣好活塞杆后, 将领料单和合格品标识卡挂在架子上 (如图10), 再让叉车将活塞杆运输至装配生产线指定位置, 要求摆放整齐, 方便装配 (如图11); 活塞杆装配结束后, 应将木挡整理好后放在专用架上, 由叉车工送回清洗区域 (如图12)。【为保证安全, 要求清洗操作和叉车操作在不同的工位上进行】

序号	车间名称	工序	工序内容	工艺装备名称及图号
1	装配	清洗活塞杆	将活塞杆装配后由工人擦拭清洗干净。	清洗剂、棉布、活塞杆专用架
			编制(日期)	审核(日期)
			舒乐园	会签(日期)
				批准(日期)
标记	处数	更改文件号	签名	日期
				2022.04

浙江华昌液压机械有限公司
零件检验控制单

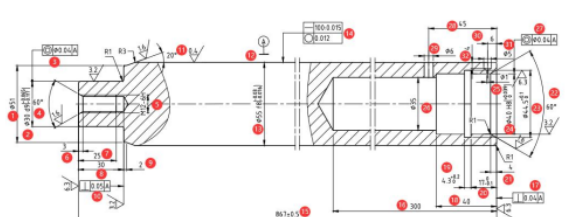
No: ZJHC·QR 82/08-76

页数: 共1页, 第1页

任务单号

零件名称	活塞杆	零件图号	X15W450-800001-000A		送检数		任检数	
			合格	不合格	合格	不合格		
零件编号	加工单位	新(旧)	合格	不合格	合格	不合格	合格	不合格
送检日期	受检日期	检验员						

序号	图纸尺寸要求	编号及实测值			序号	图纸尺寸要求	编号及实测值		
		1	2	3			1	2	3
1	Φ51				★19	4.29'			
★2	Φ30H7/g6				★20	17.4			
★3	Φ10H7/g6				21	4			
4	60°	✓			22	60°	✓		
★5	102-08				23	Φ44.57'			
6	3				★24	Φ400H7/f7			
7	25				25	Φ1			
8	30				★26	Φ35			
9	2				★27	Φ10H7/g6			
★10	11H7/g6				★28	45			
11	20°	✓			29	Φ6			
★12	检查Φ70H7/e8表面				30	6			
★13	Φ55H7/g6				31	Φ5			
★14	Φ10H7/g6				32	4			
★	Φ8H7/g6				33	各倒角、倒圆处			
★15	807±0.5				34				
16	300				35				
★17	11H7/g6				36				
18	40				★37				



外观质量	是否提供
不合格处置	检验记录
★ 代表严控尺寸	备注

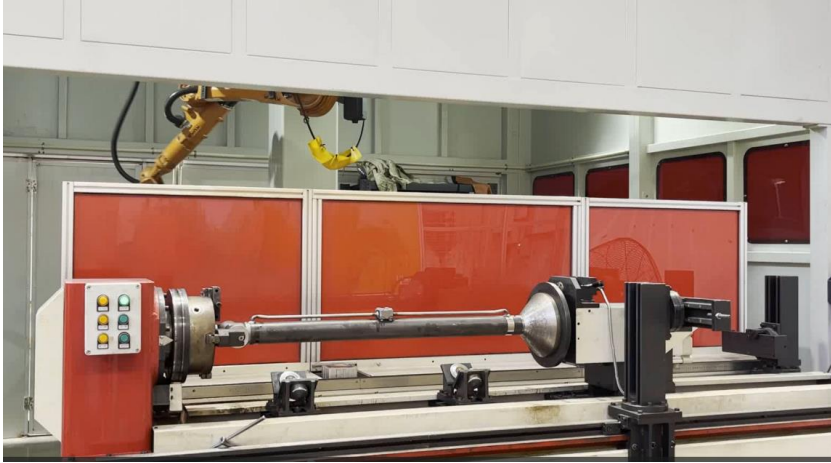
送检日期: 送检口 让步接收口 报废口

检验员: 日期:

Regulations

4 Capability & Capacity

(3) Welding



Multifunctional welding robot



Double function girth welder



Welding robot for oil port



Girth welder

4 Capability & Capacity

(4) Painting & coating

We have a fully automatic water-based paint coating line for small and medium cylinders, which realizes automatic loading and unloading and automatic spraying by robots, with a designed production capacity of 5,000 pieces per shift;

We have another semi-automatic painting line for large-scale cylinder , which is driven by a power chain, and the design capacity is 60 crates per shift.



■ Painting & coating line for large-scale cylinder
(diameter \leq 600mm, length \leq 6m)

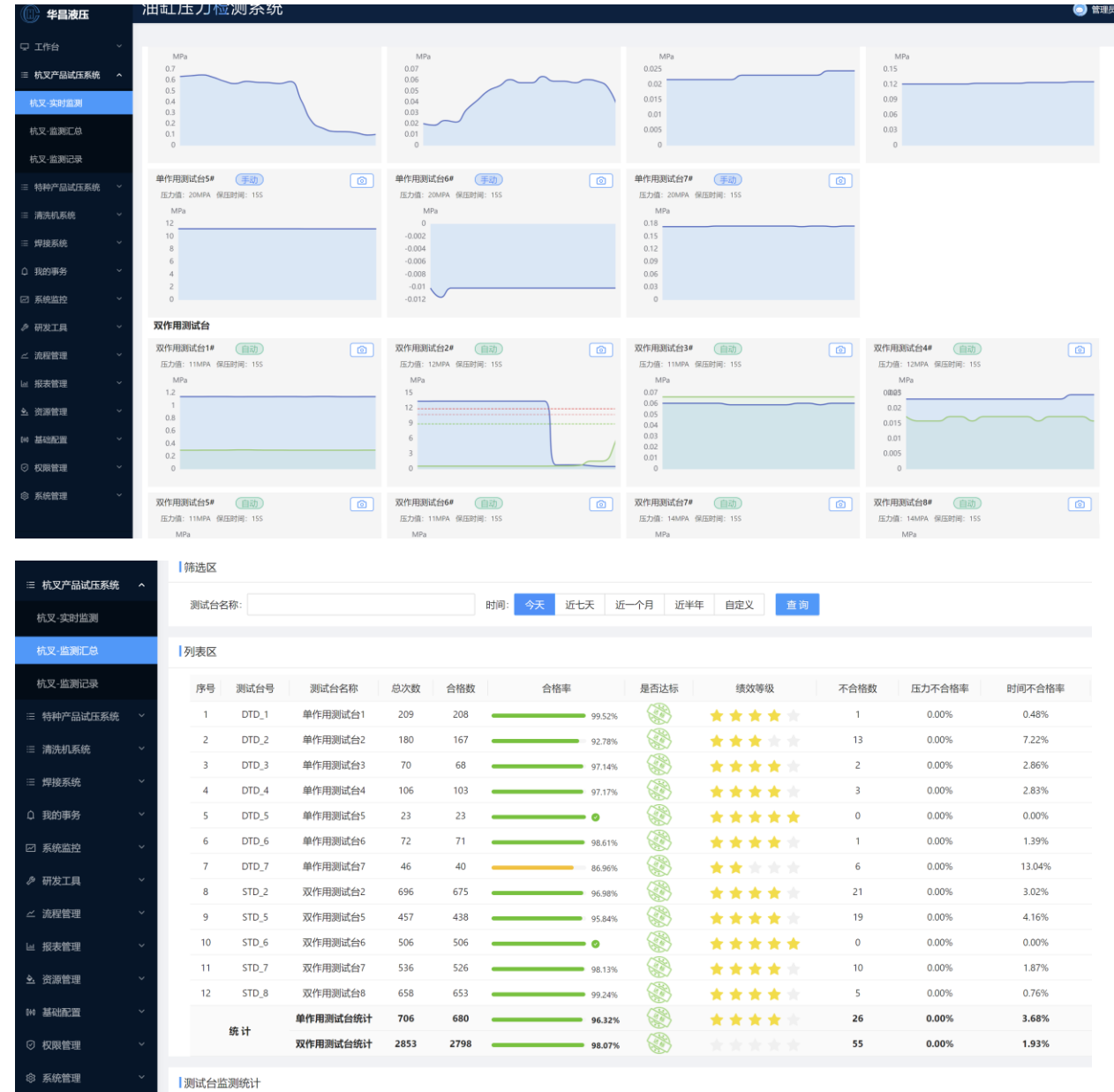
■ Fully automatic water-based paint & coating line
(diameter \leq 120mm, length \leq 2.5m)

4 Capability & Capacity

(5) Testing



Utilizing IoT technology to achieve automatic collection of quality inspection data for key processes in cylinder production (such as pressure testing)



5 Goal of short term

Business prospect in 5 years

Items	2024	2025	2026	2027	2028
Total income(RMB, million)	650	750	820	900	1000
Total profit(RMB, million)	45	55	65	72	80
Per capita output value(M/person)	1.40	1.50	1.62	1.75	1.85

Technology and product development planning

- Improve the standardized design and automatic manufacturing of Conventional cylinders, realize the digital management of the whole process ;
- Increase the support of developing custom made cylinders in the fields of Telescopic handler, construction machinery, aerial work, sanitation machinery, etc., ;
- Increase the development of export market, with export market accounting for more than 30% ;

6 Preparation

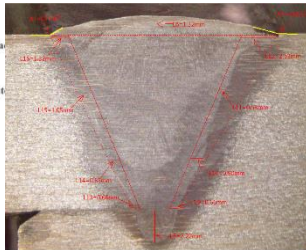
Currently

	检验说明 TEST DESCRIPTION	编号 No: WPQR-ZJHC-H23001
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一. 焊接工艺评定报告编号: WPQR-ZJHC-H23001 二. 制造商焊接工艺编号: pWPS-BSM-HC0001
 WPQR No: WPQR-ZJHC-H23001 pWPS No: pWPS-BSM-HC0001
 三. 焊接方法: 135【全机械化/Fully mechanized】
 Welding Process: 135【全机械化/Fully mechanized】
 四. 本报告包括以下内容:
 This report includes:

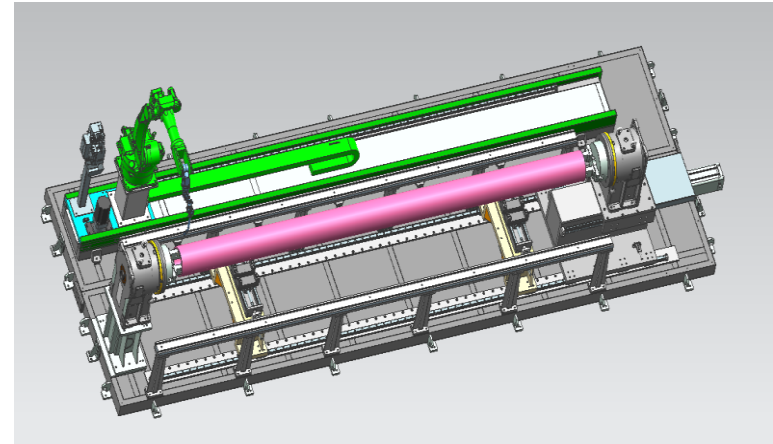
序号 No	检验报告 Test report	报告编号 Report No	页码 Page
1	焊接工艺评定报告 Welding procedure approval record	WPQR-ZJHC-H23001	2.
2	焊接试验详细内容 Details of weld test	WPQR-ZJHC-H23001	3.
3	试验结果 Test results	WPQR-ZJHC-H23001	4.
4	渗透探伤报告 <input checked="" type="checkbox"/> 磁粉探伤报告 <input type="checkbox"/> Liquid penetrant examination report Magnetic particle examination report	23HP001ZJHC	5.
5	射线探伤报告 <input type="checkbox"/> 超声探伤报告 <input checked="" type="checkbox"/> Radiographic examination report Ultrasonic examination report	23HU001ZJHC	6.
6	金相检验报告 Metallographic test report	23HJ001ZJHC	7.

五. 委托单位: 浙江华昌液压机械有限公司
 Customer: Zhejiang huachang hydraulic machinery
 六. 检验单位: 哈尔滨焊接技术培训中心
 Test Body: Harbin Welding Training Institute
 七. 结论: 合格
 Conclusion: Acceptable
 八. 日期: 2023/05/11
 Date: 2023/05/11



- ◆ Welding process validation
- ◆ Paint process validation
- ◆ Trial production of new products

Potential



- ◆ Continuous investment in production facilities
- ◆ Construction of dedicated production sites

感谢您的倾听

THANK YOU



浙江华昌液压机械有限公司
ZHEJIANG HUACHANG HYDRAULIC MACHINERY CO., LTD.