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楚天华通医药设备有限公司

TRUKING WATERTOWN PHARMACEUTICAL EQUIPMENT CO.,LTD.

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May 2023 Edition



流体技术BU



Overall Solution For Pharmaceutical Water (Gas) Storage And Distribution System 制药用水(气)储存分配系统整体解决方案

楚天华通医药设备有限公司

TRUKING WATERTOWN PHARMACEUTICAL EQUIPMENT CO.,LTD.

让世界制药工业插上智慧的翅膀

Equip global pharmaceutical manufacturing industry with intelligent wings.

TRUKING

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TRUKING

公司简介 Company profile





楚天华通医药设备有限公司系楚天科技股份有限公司全资子公司,始建于1993年,是目前亚洲领军制药用水系 统(制备、储存和分配)、配液系统、不锈钢压力容器、污水处理、蒸发浓缩结晶、换热器研发制造基地,装备及 制造工艺处于行业优级水平,员工总数1300余人,资产总额20亿元,服务于全球1000余家制药企业。

公司位于长春九台经济开发区,是中国制药装备行业协会理事单位,中国医药设备工程协会、中国膜工业协会 会员单位,获评定为国家级高新技术企业、吉林省专精特新企业、吉林省级企业技术中心,获得省级创新型科技企 业、长春市百强民营企业、长春市科技型小巨人企业等荣誉。公司拥有中国特种设备压力容器D级(10MPa以下的 一类、二类、三类压力容器)设计与制造资质、压力管道(GC2)安装许可证、建筑机电安装工程专业承包贰级资 质、环保工程专业承包贰级、环境工程设计专项(水污染防治工程)乙级、美国ASME(U)钢印设计与制造资质、 欧盟CE(PED、MD)认证资质。截至2023年4月,公司共提出中国专利申请320项,有效专利180项,另提出1件 PCT国际专利申请。产品已出口美国、意大利、比利时、希腊、土耳其、俄罗斯、韩国、泰国、越南、印尼、印 度、埃及、沙特、摩洛哥、秘鲁等30多个国家和地区,国际市场占有率正逐年快速提升。

公司拥有经验丰富的研发技术团队,覆盖工程设计、项目管理、测试调试、验证与咨询服务,联合楚天科技、德 国ROMACO集团、四川省医药设计院共同承接制药企业EPCM总包服务,为制药企业提供工程工艺优化、产品的全 生命周期管理与服务。

2021年公司确认新建楚天华通医药装备智能制造产业园项目,位于长春市九台经济技术开发区中古医药产业 园。项目新购地36.1117万平方米,计划在5年内分三期完成项目整体建设任务,项目建成后,将崛起楚天华通研发 中心大楼、智能车间、员工公寓以及商务接待中心等现代化智能配套公用工程。一期工程建筑面积6万平米,预计 2023年7月投产。作为楚天华通年产5000台套医药装备的智能制造基地,楚天华通医药装备智能制造产业园项目完 成后将大幅提升企业产能,将进一步推动企业战略目标的实现。

公司坚持"做受尊敬的人、造受尊敬的产品、办受尊敬的企业"的核心价值观,秉承"要么唯一,要么第一" 的理念, 弘扬"因为执着, 所以卓越"的精神, 将楚天华通打造成全球制药用水系统领军企业之一。

Truking Watertown Pharmaceutical Equipment Co., LTD., a wholly-owned subsidiary of Truking Technology Limited, was founded in 1993. It is the leading R&D and manufacturing base of pharmaceutical water system (preparation, storage and distribution), liquid preparation system, stainless steel pressure vessel, sewage treatment, evaporation, crystallization and heat exchanger in Asia. With more than 1300 employees and 2 billion yuan of assets, the company serves more than 1000 pharmaceutical enterprises around the world.

Truking Watertown is located in Jiutai Economic Development Zone, Changchun. It is a member of China Pharmaceutical Equipment Industry Association, China Pharmaceutical Equipment Engineering Association and China Membrane Industry Association. It has been rated as a national high-tech enterprise, Provincial Specialized and Sophisticated Enterprise, Provincial Enterprise Technology Center. It has been honored as provincial innovative technology Enterprise, Changchun Top 100 Private Enterprise, and Changchun Small Giant Technology Enterprise. Truking Watertown has Chinese special equipment Class D (Class I, Class II and Class III below 10MPa) pressure vessel design and manufacturing license, Pressure pipeline (GC2) installation license, construction mechanical and electrical installation engineering contracting Class II, environmental engineering contracting Class II, environmental engineering design special (water pollution control engineering) Class B, ASME(U) steel seal design and design manufacturing qualification, EU CE(PED, MD) certification qualification. Truking Watertown has applied for 320 patents, 180 patents of which have been authorized until April 2023, and one PCT international patent application, Products have been exported to the United States, Italy, Belgium, Greece, Turkey, Russia, South Korea, Thailand, Vietnam, Indonesia, India, Egypt, Saudi Arabia, Morocco, Peru and other 30 countries and regions, the international market share is rapidly increasing year by year.

Truking Watertown has an experienced R&D technical team, covering engineering design, project management, testing and commissioning, validation and consulting services. Together with Truking Technology, Germany ROMACO Group and Sichuan Pharmaceutical Design Institute, the company jointly undertakes EPCM general contract services for pharmaceutical enterprises, providing engineering process optimization and product lifecycle management and services for pharmaceutical enterprises.

In 2021, Truking Watertown pharmaceutical equipment Intelligent Manufacturing Industrial Park project started, located in Jiutai Economic and Technological Development Zone of Changchun Medicine Industrial Park. The new plant occupies 361,117 square meters. It is planned to complete the overall construction in three phases within 5 years. After the completion of the construction, Truking Watertown R&D Center building, intelligent workshop, employee apartment and business reception center and other modern intelligent supporting utilities will be used. The first phase of the project covers a construction area of 60,000 square meters and is expected to be put into operation in July 2023. As base of Truking Watertown with an annual output of 5,000 sets, pharmaceutical equipment intelligent manufacturing Industrial Park will greatly improve the enterprise's production capacity after the completion of the project, which will further promote the realization of the strategic objectives of the enterprise.

We insist on the core value of being respected person, making respected product and running respected enterprise and adhere to the philosophy to be the unique or to be the first and promote the spirit of Because of persistence, we are superexcellent to make Truking Watertown be one of the leading pharmaceutical water system enterprises all over the world.

制药用水系统储存单元解决方案

Storage Unit Solutions for Pharmaceutical Water Systems

技术优势 / Technical advantages



- ◎ 制造能力: 5L-100000L 不锈钢罐
- ◎ 设计与制造遵循GB150、ASME BPE、EU PED、EU CE、FDA等标 准,参与行业标准的起草与制定
- ◎ 洁净设计符合最新《 ASME-BPE 生物过程设备》,无菌法兰或拉 拔口结构确保清洗零死角
- ◎ 内表面电解抛光,外表面拉丝、亚光处理
- ◎ 整体材料跟踪与制造过程可追溯
- 完善的质量控制与验证文件支持体系
- · Manufacturing capacity: 5L-100000L stainless steel tank
- Design and manufacturing in accordance with GB150, ASME BPE, EU PED, EU CE, FDA and other standards, participate in the drafting and setting of industry standards
- ·Clean design conforms to the latest 《ASME-BPE biological process equipment》,
- sterile flanges or pull-out structures ensure zero dead leg for cleaning
- ·The inner surface is electropolished, and the outer surface is brushed and matt
- Overall material and manufacturing process can be tracked
- Perfect quality control and validation document support system

应用领域 / Application Field

◎ 生物药版块 · Biological Drugs

◎ 化学药版块 · Chemical Medicine

◎ 中药版块 ·Traditional Chinese Medicine

· Active Pharmaceutical Ingredients

·Oral Medicine Preparation

◎ 口服制剂版块

◎ 实验室版块 · Laboratory

◎ 原料药版块

01 TRUKING TRUKING 02

性能特点 / Performance characteristic

- ◎ 制药装备行业最大的电解抛光车间,最大20000L罐整体进行内表面电解抛光处理,满足电解抛光Ra≤0.28μm
- ◎ 具有强大的有限元分析计算能力
- ◎ 结构设计充分考虑人员操作与维护安全
- ◎ 罐体开孔采用冷精密切割工艺
- ◎ 采用进口卷板机、自动焊机、抛磨机等加工设备
- ◎ 采用进口数字成像探伤设备,对罐体焊缝进行100%射线探伤
- ◎ 选用国内一流原材料供应商,符合相关材料标准
- ·The largest electrolytic polishing workshop in pharmaceutical equipment industry, Inner surface of the maximum 20000L tank is electrolytically polished, meeting electrolytic polishing Ra≤0.28μm
- ·Powerful finite element analysis and calculation capabilities
- ·Structural design fully considers the safety of personnel operation and maintenance
- ·Tank opening adopts cold precision cutting technology
- ·Imported plate rolling machine, automatic welding machine, polishing machine and other processing equipment
- $\cdot \text{The imported digital imaging inspection equipment is used to carry out 100\% ray inspection on the tank welding seam} \\$
- ·Select domestic first-class raw material suppliers, in line with the relevant material standards





储罐标准选型表 / Tank standard selection table

序号 No.	型号 Model	外形尺寸 直径×高度(mm) Dimension Diameter X Height	纯化水储罐运行重量 (kg) PW Tank Working Weight	注射用水储罐运行重量 (kg) WFI Tank Working Weight	系列 Series
1	P/WST500V2	850×850	1032	1092	S/P/E
2	P/WST1000V2	1100×900	1696	1795	S/P/E
3	P/WST1500V2	1100×1400	2291	2391	S/P/E
4	P/WST2000V2	1350×1200	3103	3303	S/P/E
5	P/WST3000V2	1500×1500	4457	4512	S/P/E
6	P/WST4000V2	1700×1500	5794	6312	S/P/E
7	P/WST5000V2	1900×1500	7340	8000	S/P/E
8	P/WST6000V2	1900×1800	8351	9041	S/P/E
9	P/WST8000V2	1350×1200	10743	11663	S/P/E
10	P/WST10000V2	2000×2200	13852	14647	S/P/E
11	P/WST12000V2	2300×2500	16205	17095	S/P/E
12	P/WST15000V2	2600×2500	21190	22370	S/P/E
13	P/WST20000V2	2800×2800	27140	28990	S/P/E
14	P/WST25000V2	3000×3000	33140	35200	S/P/E
15	P/WST30000V2	3000×3800	39410	42115	S/P/E

^{*}可根据用户用水及厂房进行非标设计

Non-standard design can be carried out according to user's water consumption and plant

备注: 高度包含罐底出液口高度,罐底出液口高度按照500mm统计。

Note: The height includes the height of the liquid outlet at the bottom of the tank, which is counted as 500mm.



制药用水系统分配模块SKID解决方案

Pharmaceutical Water System Distribution Module SKID Solution



无菌制剂版块 / Sterile Preparations Section

设计特点 / Design Features

- ◎ 基于风险分析的详细工艺计算
- ◎ 符合cFDA、cGMP、EU GMP、WHO GMP、SFDA GMP规范和指南
- ◎ 基于PLM产品数据管理的模块化、标准化、归一化设计,高可靠性和质量一致性
- ◎ 全自动在线监测与控制,节能降耗,超低排放率
- ◎ 应用BIM空间管理,项目可视化且易维护
- ◎ 智能运行与维护系统,关键组件自动监控运行状态
- ◎ 支持微信推送报警,可提供远程故障诊断

- · Detailed process calculations based on risk analysis
- ·Comply with cFDA, cGMP, EU GMP, WHO GMP, SFDA GMP specifications and guidelines
- ·Based on PLM product data management modular, standardized, normalized design, high reliability and quality
- Fully automatic online monitoring and control, energy saving, low emission rate
- · Using BIM space management, the project is visualized and easy to maintain
- · Intelligent operation and maintenance system, critical components automatically monitor the running status
- -Support Wechat alarm receiving, can provide remote fault diagnosis

应用领域 / Application Field

◎ 生物药 Biological Medicine ◎ 化学药 Chemical Medicine ◎ 中药注射剂 Traditional Chinese Medicine Injection



● 非无菌制剂版块 / Non-sterile Preparations Section

设计特点 / Design Features

- ◎ 符合cFDA、cGMP、EU GMP、SFDA GMP规范和指南
- ◎ 基于PLM产品数据管理的模块化、标准化、归一化设计, 高可靠性和质量一致性
- ◎ 节能降耗、超低排放率
- ◎ 设计简洁、经济性较强,连续运行稳定
- ◎ 专业3D设计,产品结构紧凑,外观精美
- ◎ 人性化设计,易操作、易维护
- $\cdot \text{Comply}$ with cFDA, cGMP, EU GMP, SFDA GMP specifications and guidelines
- ·Based on PLM product data management modular, standardized, normalized design, high reliability and quality consistency
- · Energy saving, low emission rate
- $\cdot \text{Simple}$ design, strong economy, stable continuous operation
- $\cdot \text{Professional}$ 3D design, compact product structure, beautiful appearance
- ·User-friendly design, easy operation, easy maintenance





应用领域 / Application Field

- ◎ 口服制剂 Oral Medicine Preparation
- ◎ 中药前处理 Traditional Chinese Medicine Pretreatment
- ◎ 原料药及中间体 API and Intermediates
- ◎ 医疗器械 Medical Instrument





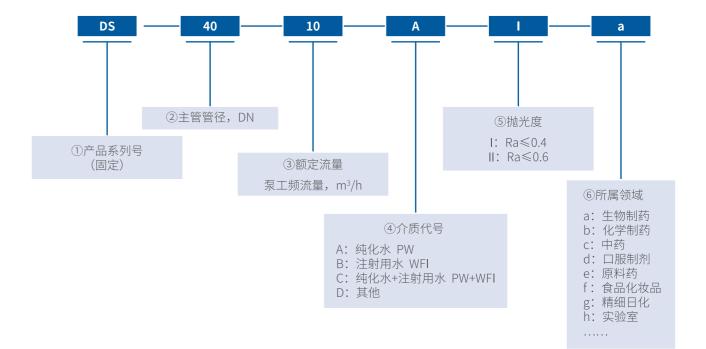
分配模块SKID产品参数 / Assign module SKID product parameters

型号 Type(型号②)		25	40	50	65	80			
设计参数 Design Parameter									
泵循环量 (型号③) Pump circulation	m3/h	5	10	20	30	45			
峰值用水量 Max. simultaneous water consumption	m3/h	3	6	12	16	25			
最大泵出口压力 Max. pump outlet pressure	bar	7	7	7	7	7			
回路回水压力 Loop return pressure	bar	1.5 – 2.5	1.5 – 2.5	1.5 – 2.5	1.5 – 2.5	1.5 – 2.5			
PW运行温度 PW Operating temperature	°C	€30	≤30	≤30	€30	≤30			
WFI运行温度 WFI Operating temperature	°C	≥75	≥75	≥75	≥75	≥75			
连接参数 Connection Parameter									
进口(与水箱连接处) Inlet(connected with tank)	焊接口 ASME BPE DN	40/25	65/50	65	80	100			
回路出口 Outlet to loop	卡盘连接 ASME BPE DN	25	40	50	65	80			
回路到储罐 Loop return to tank	卡盘连接 ASME BPE DN	25	40	40	50	65			
废水集中排放口 Waste water manifold	卡盘连接 ASME BPE DN	25	40	50	65	80			
外形尺寸 Dimensions									
长度(L) Length (L)	mm	1500	1500	2000	2400	3000			
宽度(W) Width (W)	mm	1200	1200	1250	1250	1250			
高度(H) Height (H)	mm	2500	2500	2500	2500	2500			
空载 Unloaded Weight	kg	720	770	800	870	970			
满载 Full Weight	kg	1020	1120	1200	1320	1470			

^{*}可根据用户车间用水进行非标定制化设计

Distribution skid parameter Non-standard design can be carried out according to user's water consumption









制药用水系统洁净管道工程解决方案

Pharmaceutical Water System Clean Pipeline Engineering Solutions

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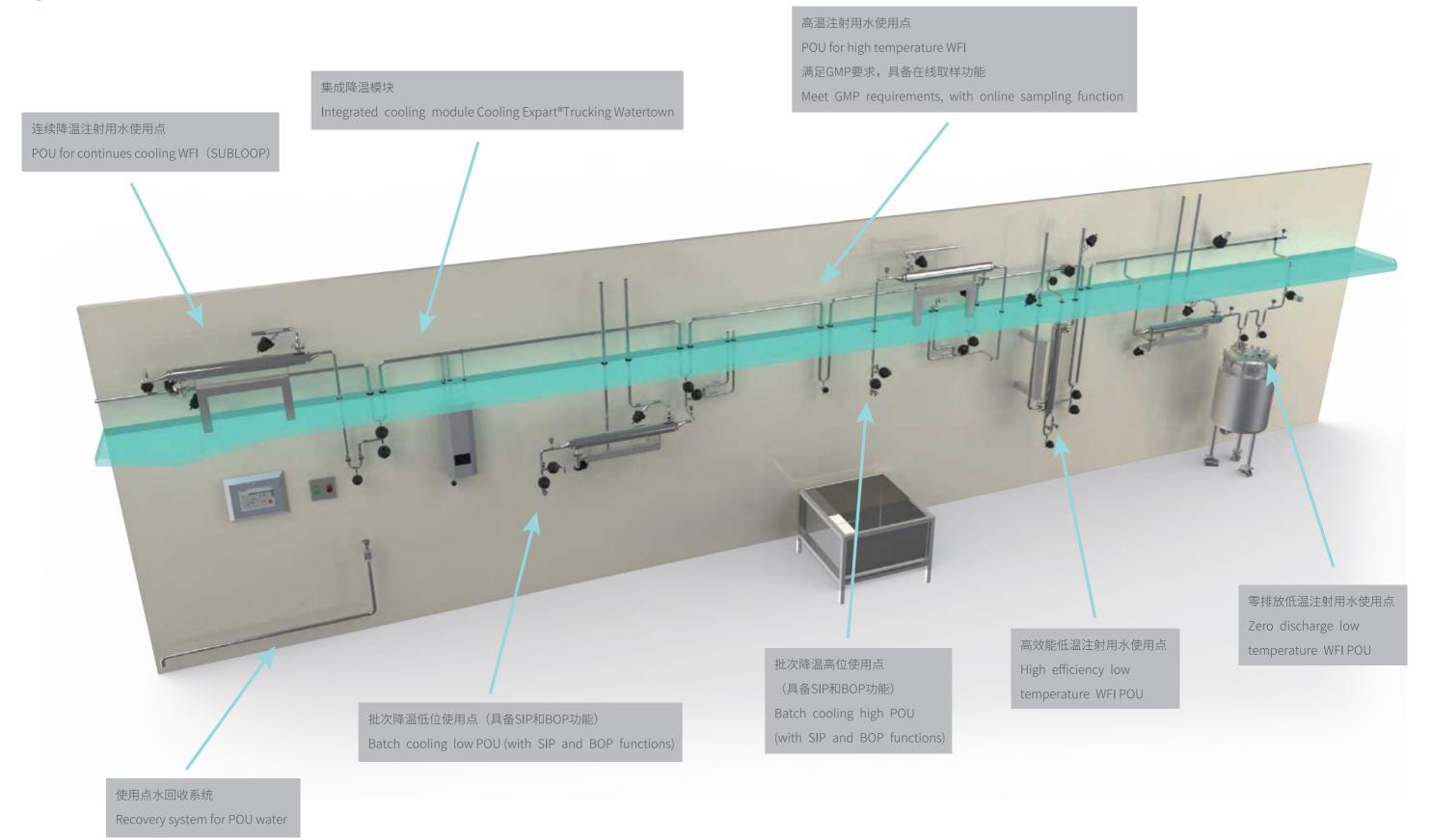
纯化水使用点解决方案 / Purified Water Point-of-Use Solutions





TRUKPIG

注射用水使用点解决方案 / Water for Injection Point-of-Use Solutions





THURPIC

工艺用气系统解决方案 / Process Gas System Solutions

气体总送管路设计除菌过滤器,并在终端设计有除菌过滤器,保障高品质气体输送到用气点

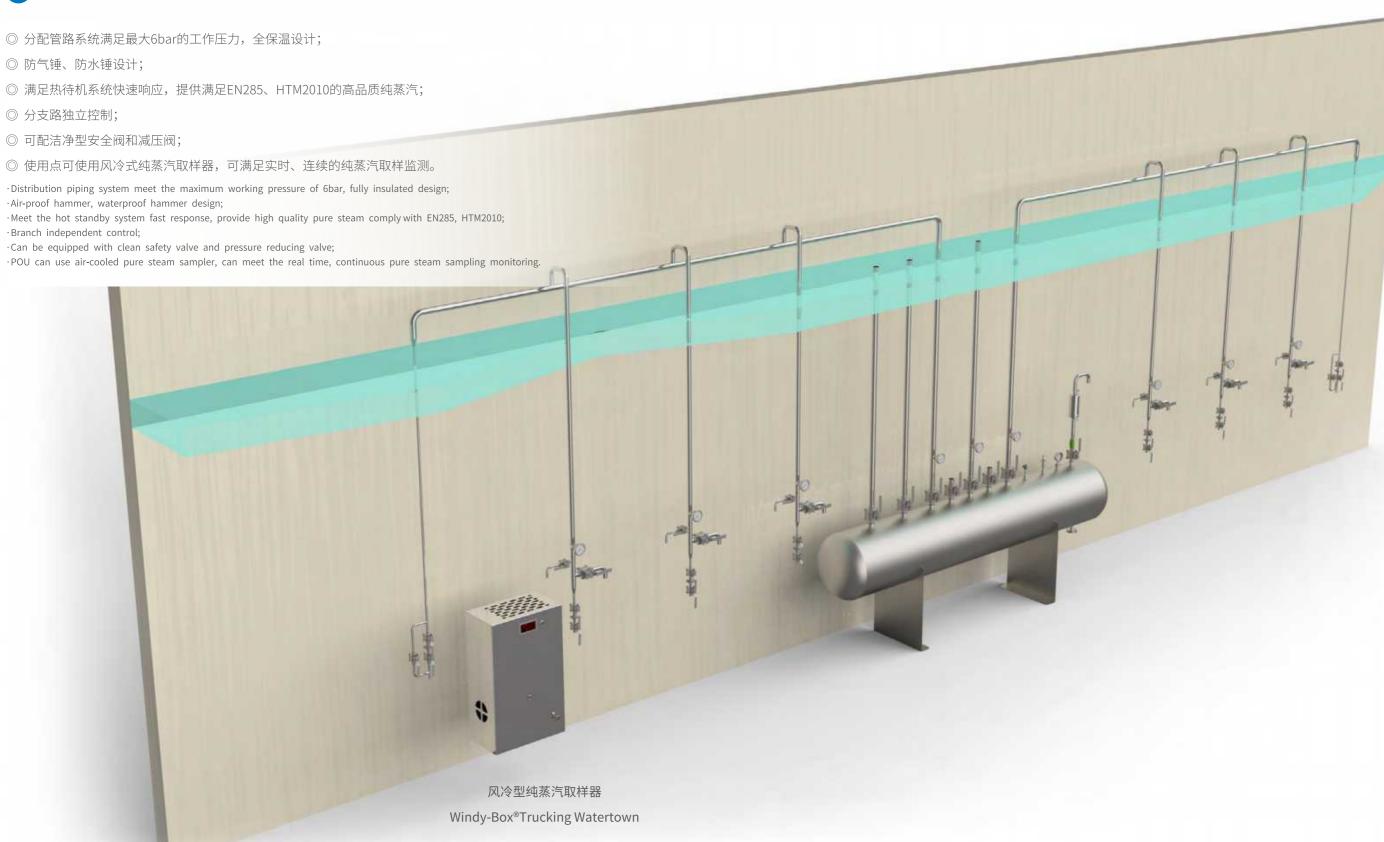
The main gas delivery pipeline is designed with sterilizing filter, and the sterilizing filter is designed at the terminal to ensure high-quality gas delivery to the gas POU



气体储罐可根据用户需求替换为分气缸或气体汇流排 Gas storage tank can be replaced with separate cylinders or gas busbars according to user requirement



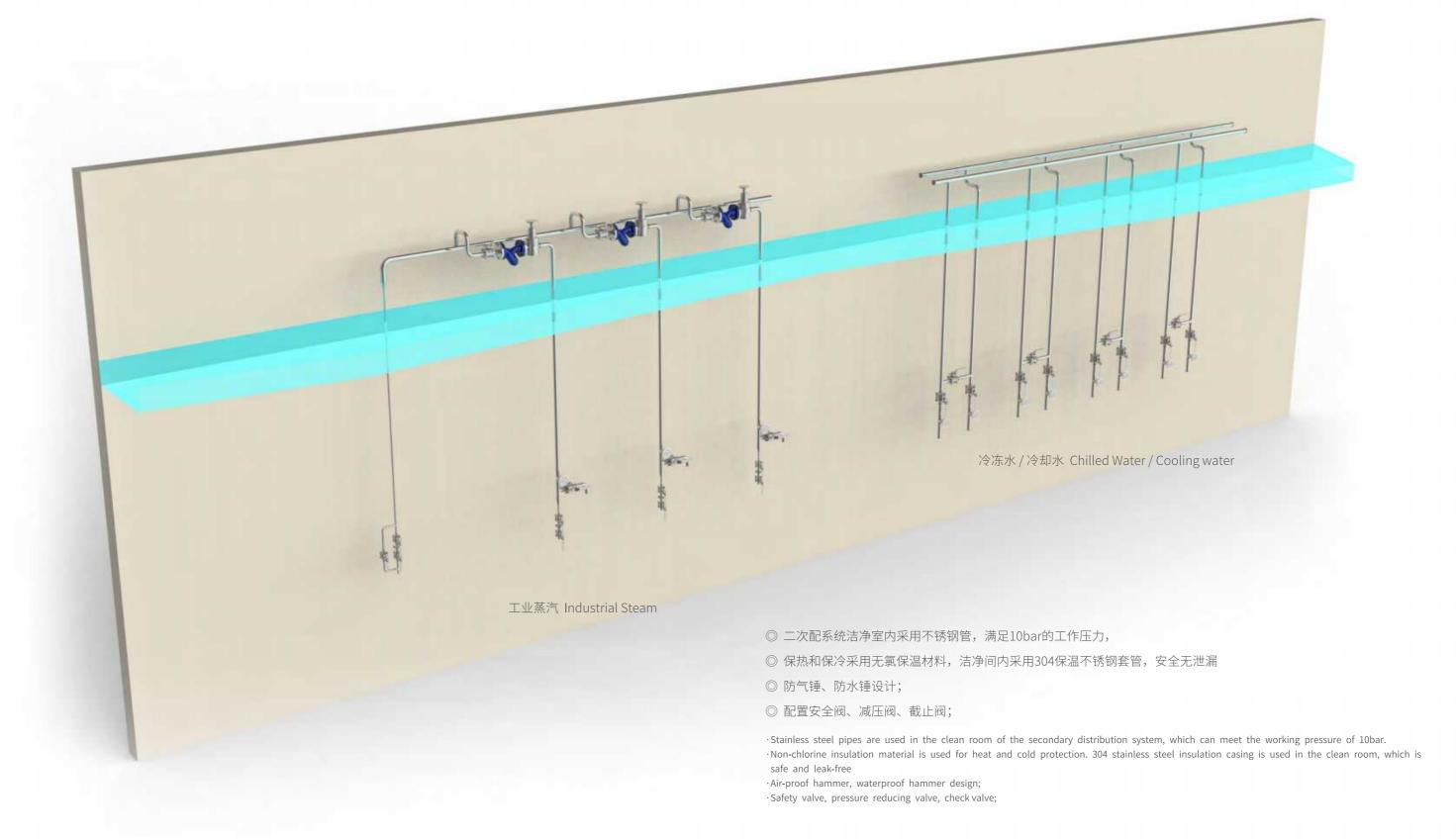
🧆 纯蒸汽系统解决方案 / Pure Steam System Solutions





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洁净室内管道工程解决方案 – 工业蒸汽、冷冻水/冷却水 / Clean Room Plumbing Solutions – Industrial Steam, Chilled Water/Cooling Water



自动化控制系统解决方案

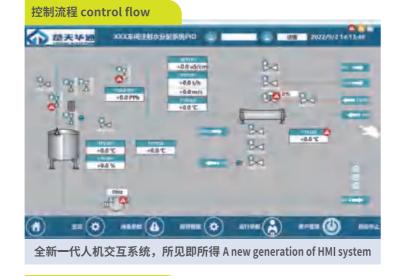
Automation Control System Solutions

法规符合 / Regulatory compliance

- ① 符合美国FDA、欧盟、WHO标准
- ② cGMP、欧盟认证检查
- ③ GAMP5良好自动化生产实践指南
- ④ FDA 21 CFR part11相关要求
- ① Conform to FDA, EU and WHO standards
- ② cGMP and EU certification inspection
- 3 Good Automated Manufacturing Practice
- 4 Relevant requirements of FDA 21 CFR part 11

设计功能 / Design Function

- ① 数据完整性
- ② 权限管理/集中用户管理
- ③ Audit显示
- ④ 移动监控/微信推送报警
- ⑤ 灾难恢复/智能无人值守
- ⑥ Flash/USB/SD管理
- ⑦能源管理/报表开发
- ① Data completion
- ② Rights management/Centralized user management
- 3 Audit shows
- Mobile monitoring/Wechat alarmreceiving
- ⑤ Disaster recovery/intelligent unattended
- ⑥ Flash/USB/SD management
- The energy management/report development





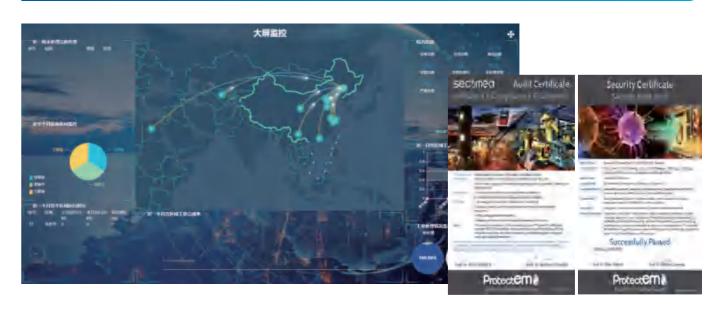


操作追溯 Operation trace



可检索审计跟踪日志 Retrievable audit trail log

工业互联网远程运维平台/Industrial Internet remote operation and maintenance platform



◎ 传统被动维护转为主动智能维护

·Switching from passive maintenance to active maintenance

◎ 远程解决设备故障

·Troubleshoot device faults remotely

◎ 程序升级与调整

·Program upgrade and adjustment

◎ 支持深度定制,数据上云

·Support deep customization, data on the cloud

◎ 短信/微信自动推送报警

· SMS/WeChat automatic push alarm

◎ 经安全认证,带操作追踪

· Safety certified and operation tracking





报表开发 / Report development

OR00 第1页共1页

纯化水分配输送记录

					>0	WWW.	品制公记	-3C						
开	纯化水:符合《中国药典》对纯化水的水质标准						纯化水供应: □正常 □不正常							
机 前 检 查 项	电力: 380	电力: 380V/220V±10%, 三相五线制, 50Hz						电力供应: □正常 □不正常						
	仪表压缩空气: (0.5-0.8)MPa						压缩空气压力	压缩空气压力: MPa						
	工业蒸汽: (0.3-0.8) MPa						工业蒸汽压力	工业蒸汽压力: MPa						
É	生产前检查全部符合规定后,可以开机制水						开机时间:	开机时间: 2017年10月31日						
项 目	操作时间			生物膜车间			间	1			预灌封车间			
	时 分		操作人	储罐液位	温度	电导率	回水流量	温度	储罐液位	温度	电导率	回水流速	温度	
		分		%	°C	μs/cm	T/H	°C	%	°C	μs/cm	m/s	°C	
	0	0	user2	81.71	26.39	1.27	8.04	28.94	65.54	28.49	0.54	1.04	28.32	
记.	2	0	user2	81.60	26.79	1.27	7.99	29.17	67.01	28.36	0.54	1.06	28.39	
	4	0	user2	81.51	27.08	1.27	7.99	29.40	67.17	28.47	0.54	1.02	28.41	
	6	0	user2	81.42	27.31	1.27	7.97	29.63	66.27	28.38	0.53	1.04	28.36	
	8	0	user2	81.37	27.49	1.27	7.96	29.75	68.92	28.32	0.54	1.03	28.30	
	10	0	user3	89.61	26.79	1.24	7.80	29.51	67.91	28.37	0.54	1.07	28.22	
记 录	12	0	user3	89.70	26.10	1.13	7.99	28.47	59.87	28.30	0.50	1.01	28.21	
	14	0	user3	80.09	25.64	1.08	8.02	28.13	60.12	28.32	0.51	1.05	28.26	
	16	0	user3	87.64	25.46	1.05	8.04	27.78	57.36	28.27	0.50	1.02	28.26	
	18	0	user3	81.42	26.10	1.08	7.99	29.63	67.01	28.37	0.50	1.04	28.30	
	20	0	user3	81.37	25.64	1.08	7.97	29.75	67.17	28.30	0.51	1.03	28.22	
	22	0	user3	81.60	27.08	1.13	7.96	29.51	66.27	28.32	0.53	1.07	28.32	
	电导率	警戒限	•	1				•						

◎ 定制化日报表

◎ 根据需要按区域、设备检索报表

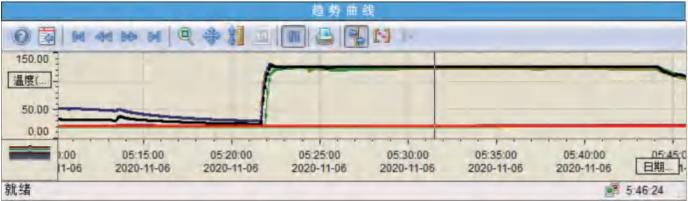
◎ 数据报表、趋势报表可进行显示编辑

· Customized daily report

 \cdot Search by area or equipment as required

· Data report and trend report can be edited to display







验证咨询与服务解决方案

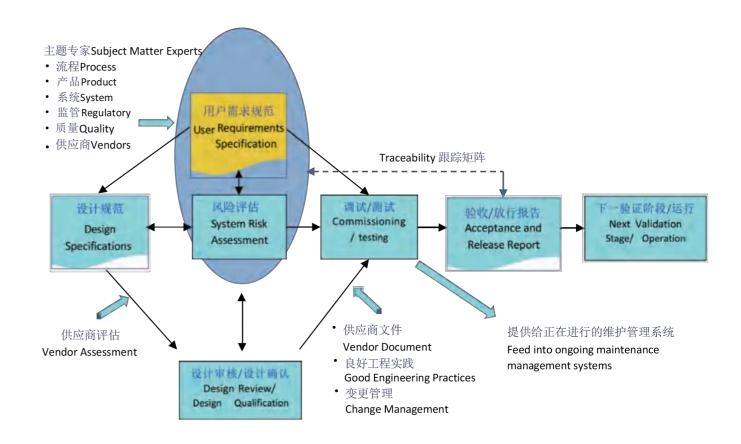
Validation Consulting and Service Solutions

我们建立了应对不同客户需求的验证文件执行体系,提供的验证服务包括验证咨询服务、验证测试服务及有关GMP合规风 险管理的培训服务,验证文件体系符合FDA、EUGMP、WHO、cGMP等规范和标准要求。

We have established a validation document execution system to meet different customer needs. The validation services we provide include validation consulting services, validation testing services and training services related to GMP compliance risk management. The validation document system complies with FDA, EUGMP, WHO, cGMP and other specifications and standards.

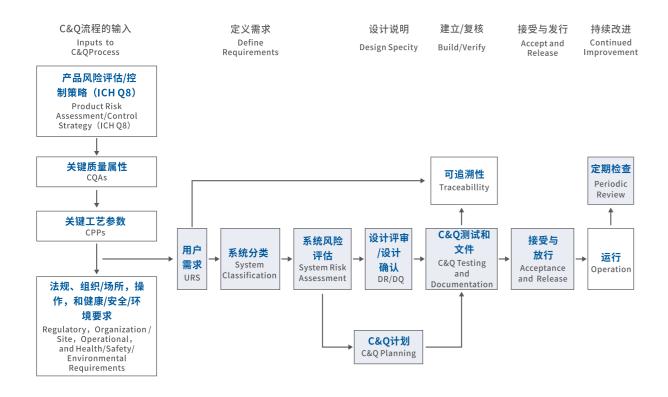
C&Q 活动和文档的关系图-用户需求规范

Relational Diagram for C&Q Activities and Documents - User Requirements Specification



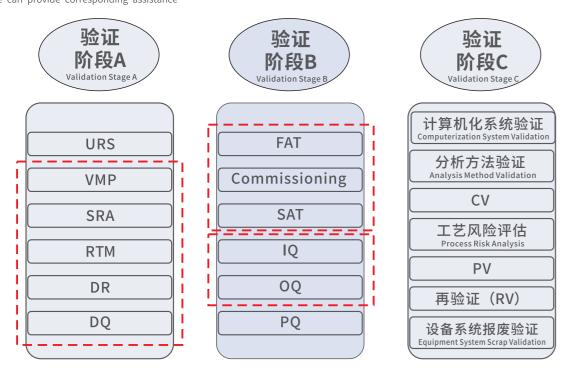


基于科学和风险的C&Q的流程图 / C&Q Process Flow based on Science and Risk



验证工作分属 / Validation Allocation

红色虚线部分是我们提交与客户的文件,客户对其进行批准;其他部分是以客户为主,我们可以提供相应的协助工作 The dashed red line is the document we submit to the customer, and the customer approve it. Other parts are customer-oriented, and we can provide corresponding assistance



验证咨询业务 / Validation Consulting Services

我们拥有30余位药企生产和质量工作经验的验证工程师,可为用户提供制药流体工艺系统验证服务,如制药用水分配与管网系统、制药用气管网系统、配液系统、CIP/SIP系统、工艺罐等。产品应用范围涉及生物制品(如疫苗、血液制品、重组产品等)、药品制剂(如小容量注射剂、粉针剂、冻干粉针剂、大容量注射剂、固体制剂、口服液等)原料药等多种剂型。根据用户的需求,提供符合现行版中国GMP、欧盟GMP、美国FDA、WHO等规范和标准要求的完善的确认与验证咨询服务。

We have more than 30 validation engineers with production and quality work experience in pharmaceutical companies. We can provide customers with validation services for pharmaceutical fluid process system, such as pharmaceutical water distribution and pipeline system, pharmaceutical gas pipeline system, liquid dispensing system, CIP/SIP system, process tank, etc. The product application scope involves biological products (such as vaccines, blood products, recombinant products, etc.), pharmaceutical preparations (such as small volume injection, powder injection, lyophilized powder injection, large volume injection, solid preparations, oral liquid, etc.), bulk drugs and other dosage forms. According to the needs of users, we provide perfect confirmation and validation consulting services in line with the current version of Chinese GMP, EU GMP, FDA, WHO and other norms and standards.



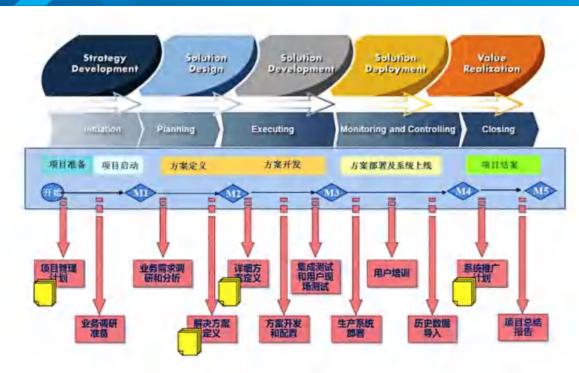






工程项目管理解决方案

Engineering Project Management Solutions



我们建立了端到端的项目化管理协作平台,动态、高效调配项目所需资源,全流程管控项目执行过程,并拥有一支深耕制药行业、高度专业化、职业化的项目管理团队,通过组织和体系保障,利用自身经验优化项目设计、BIM空间设计、项目实施方案,合理统筹规划,提升总体项投资效益,确保每一个用户具有良好的项目体验,促进项目高质量交付。

We established the end-to-end project management collaboration platform, dynamic, efficient deployment project resources required, whole process control project implementation process, and has a highly specialized and professional project management team deeply explore in pharmaceutical industry, through the organization and system security, use its experience to optimize project design, BIM space design, project implementation plan, and reasonable overall planning. Improve overall project investment benefits, ensure that every user has a good project experience, and promote high-quality project delivery.

需求管理	Requirement	进度计划管理	Schedule
URS输入 技术方案DQ确认 工程造价 质量&进度需求	URS input DQ Project cost Quality & schedule requirements	项目进度主计划 工厂制造 现场安装 调试&验证	Schedule master plan Factory On-site installation Commissioning & Validation
资源管理	Resource	风险管理	Risk
原材料供应链制造平台物流运输 现场人、机、料	Raw material supply chain Manufacturing Logistics People, machine and materials on site	技术风险 供应链风险 运输风险 安装风险	Technical risk Supply chain risk Transport risk Installation risk
质量管理	Quality	沟通管理	Communication
品质控制制造质量安装质量调试&测试质量	Quality control Manufacturing quality Installation quality Commissioning & test quality	项目启动会 技术交底 变更管理 过程问题关闭	Project start meeting Technical clarification Change management Process problem closure





需求管理 Requirement Management

进度计划管理 Schedule Management





GO TRATE

ALL DESCRIPTIONS OF THE PROPERTY OF

资源管理 Resource Management

风险管理 Risk Management

沟通管理 Communication Management







质量管理 Quality Management







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售后服务 / After-sales Service After-sales Service / 售后服务

售后服务

After-sales Service

秉承"一切为客户着想,为一切客户着想, 为客户着想一切"的理念,以"为客户创造 价值"为己任,楚天专注于打造一流的研发、 设计、销售、制造、服务团队及服务管理体系, 为客户提供高效、优质的产品与服务。





◎ 项目规划支持

楚天拥有系列专业医药设计院、产品研究院, 一批行业 资深科研技术人员,无菌制药工艺的验证专家、教授等, 为客户的项目提供科学、有效的技术规划支持。



◎ 走进园区服务

楚天作为设备供应商,不仅仅将行业法规标准融入到产 品设计、制造中,还让法规标准以讲座、交流的形式走 进园区,与药企的工艺、生产形成互动与融合。



- ◎ 坚持"以客户为中心",以匠人之心打造 极致服务体验,为客户创造更多价值
 - 34 全国34个省(市)
 - 365 全年 365 天
 - 7x24 7X24 小时服务时间



◎ 过程保障服务

楚天推出的医药装备整体解决方案,实现药品生产过程 的全自动化、无菌化,智能检测、分选,以及计算机验 证保障,生产出让市场"放心"的产品。



◎ 设备管理咨询服务

楚天致力于满足客户效益最大化需求,提供一揽子的设 备管理模式,协同药厂实现投入最小化,产出最大化。

- ◎ 我们随时待命为客户单位设备正常运行保 驾护航
- + 现场安装、调试、验收
- + 设备工艺、操作、维护等相关培训
- + 周期性的定期上门维护与回访
- + 设备各部件性能的检测与保养
- + 备品备件的及时供应
- + 产品技术升级与技术二次开发
- + 设备大修

0431-81989135



Adhering to concept of "all for customers, for all customers", and with the mission of "creating value for customers", TRUKING focuses on building first-class R&D, design, sales, manufacturing, service teams and service management system to offer high-efficient and high-quality products and services for the customers.



Project Planning Support

TRUKING has a series of professional medical and pharmaceutical design institutes, product research institutes, a group of senior scientific research and technical personnel, aseptic pharmaceutical process verification experts, professors, etc., to provide scientific and effective technical planning support for customers' projects.

Service In The Park

As an equipment supplier, TRUKING not only integrates industrial regulations and standards into product design and manufacturing, but also introduces the industrial regulations and standards into Truking industrial park in the form of lectures and exchanges to interact and integrate with the technology and production of pharmaceutical enterprises.

Process Assurance Service

TRUKING launched the overall solution for medical & pharmaceutical equipment realizing the full automation and aseptic production process, intelligent detection and sorting of the drug, as well as computer verification assurance so as to produce assured products for market.

Equipment Management Consultation Service

TRUKING aims to satisfy the maximum benefited demands of the customer and to provide a package of equipment management services to realize minimization investment and maximization production output together with pharmaceutical factories.

- Adhere to the philosophy of "customer-centric", TRUKING creates the extraordinary service experience with the spirit of the craftsman, to create more value for customers.
- We are always ready to escort the normal operation of the customer's equipment.

- + Onsite equipment installation, commissioning,
- + Training for equipment process, operation and maintenance
- + Periodic door-to-door maintenance and return visit
- + Performance test and maintenance for machinery
- + Timely supply of spare parts
- + Product technology upgrading and secondary development
- + Equipment overhaul

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