设备优势

Advantages

采用升级版高冲击模式提高清洗范围,保证 最优的清洗效果。

The Intelligent Automatic Cleaner uses an upgraded high-impact mode to improve the cleaning range and ensure optimal cleaning effect.

数字化控制机械臂,可实现罐内清洗精准定位,消除人工下罐的安全隐患,更安全。

The digitized control mechanical arm achieves precise positioning for cleaning inside the tank, making it safer and eliminating the safety hazards of manual cleaning.

操作简便,清洗过程只需1人控制完成,降低人工成本,更省钱。

The operation is simple and can be completed by only one person, reducing labor costs and saving

数字化可视操作,每次操作过程可记录、可追溯,避免人工操作的随意性和多种不可控因素,更稳定。

The digitized visual operation can record and trace each operation process, making it more stable.

清洗喷头可清洗直径8米大罐,满足大型反应罐清洗需求,1台设备一次搞定,更实用。

The cleaning nozzle can clean tanks with a diameter of up to 8 meters, meeting the cleaning needs of large reaction tanks.

人工智能污垢监测,清洗后通过黑光数字化 镜头验证清洗效果,更放心。

The equipment includes artificial intelligence dirt monitoring, which can verify the cleaning effect through a black light digitized lens after cleaning, making it more reassuring.

不同方式对比表「Highlights

方式Methods 指标Indicators	传统人工刷洗 Manual	高压水清洗 High Pressure Water Cleaning	智能自动清洗机 Intelligent Automatic Cleaner
清洗时间 Time	30-60mins	30mins	20mins
清洗效果	一 般	较好	优秀
Effect	General	Better	Excellent
劳动强度	高		1£t
Labour Intensity	High		Low
人工配置	至少2人		1人
Manual Configuration	At least 2 persons		1 person
工作环境	恶劣(高温、氰	好	
Working Environment	Worse(High temperatu	Good	
安全隐患	不能保证下罐人员安全		无安全隐患
Safety	Safety can't be guarantee		Safe
稳定性	操作手法不	稳定	
Stability	Different operation method	Stable	
可追溯性	无记录,	数字化,可追溯	
Traceability	No Records, I	Digital and traceable	

天俱时集团

TIANS Group

天俱时始创于1998年,是一家赋能新技术产业化的工程设计集团,依托先进的设计理念和前瞻性的国际视野,为全球客户提供工艺技术服务、工程咨询与设计、工程总承包、智能装备、自动化与信息化于一体的综合解决方案,帮助客户实现From Lab to Fab的产业化转化。业务涵盖精细化工、电子化学品、合成生物、生物医药、化学制药、食品健康、冶金矿山等高科技行业领域。

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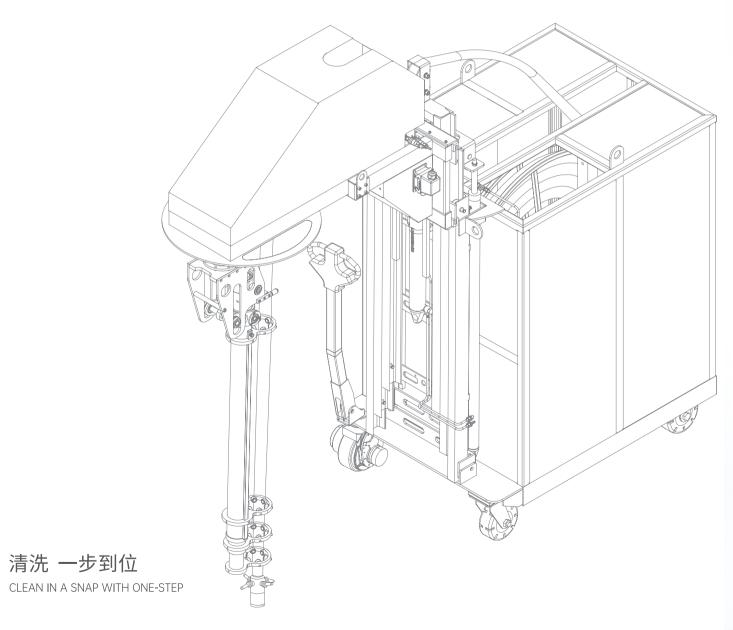
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TIAN'S 天俱时

Intelligent Automatic Cleaner

智能自动清洗机



智能自动清洗机

Intelligent Automatic Cleaner

智能自动清洗机是一种用于发酵罐、反应釜内360°全方位无死角的 高压自动清洗装置。智能自动清洗机自动运行,清洗效率高,安全可 靠,改善了工人劳动环境,避免了工人下罐清洗存在的诸多安全隐患, 降低了人工成本,解决了清洗时间长等问题。广泛应用于生物医药、生 物材料、医美、新能源、天然健康产物等行业的各种反应罐。 An intelligent automatic cleaner is a high-pressure automatic cleaning equipment that can be used for cleaning inside fermenters and reactors. The sprayer can rotate 360-degree full-angle and has no-dead-corner. The intelligent automatic cleaner runs automatically, with high cleaning efficiency and safety and reliability, which improves the working environment for workers, avoids many safety hazards of manual tank cleaning, reduces labor costs, and solves problems such as long cleaning times. It is widely used in various reactors vessels in the industries of biomedicine, biomaterials, medical aesthetics, new energy, natural health products, and more.



反应釜智能自动清洗机

Intelligent Automatic Reactor Cleaner



产品规格 Product Specifications

两种型号可选 2 Different Models	01 反应釜清洗机标准款 Reactor Cleaner Standard Model	02 反应釜清洗机防爆款 Reactor Cleaner Explosion-Proof Model
规格型号 Models	TJS-RC-I	TJS-RC-II
清洗罐最大直径(mm) Maximum Diameter	2400	2400
清洗罐最大高度(mm) Maximum Height	6000	6000
清洗液流量 (m³/h) Cleaning Fluid Flow	1—4	1—4
操作方式 Operation Mode	手操器遥控操作 Operation by manual controller	按钮+PLC操作(可用于防爆区域) Button+PLC Operation (Can be used in anti-explosion areas)
主机外形尺寸Size (D*W*H mm)	1220*1000*1600	1220*1000*1600
装机容量(kw) Capacity	4.5-6	4.5-6
喷头清洁有效直径 (m) Effective Diameter	4	4

发酵罐智能自动清洗机

Intelligent Automatic Fermenter Cleaner



产品规格 Product Specifications

三种型号可选 3 Different Models	01 发酵罐清洗机标准款 Fermenter Cleaner Standard Model	02 发酵罐清洗机自动款 Fermenter Cleaner Auto Model	03 发酵罐清洗机智能款 Fermenter Cleaner Smart Model
规格型号 Models	TJS-FC-I	TJS-FC-II	TJS-FC-III
清洗罐最大直径(mm) Maximum Diameter	8000	8000	8000
清洗罐最大高度(mm) Maximum Height	20000	20000	20000
清洗液流量 (m³/h) Cleaning Fluid Flow	6—10	6—10	6—10
操作方式 Operation Mode	手操器遥控操作 Operation by manual controller	手操器遥控操作 Operation by manual controller plc执行轨迹操作 Operation by plc	智能检测清洗效果 Intelligent detection of cleaning effect
			手操器遥控操作 Operation by manual controller
			plc执行轨迹操作 Operation by plc
人孔直径 (mm) Manhole Diameter	>500	>500	>500
人孔高度 (mm) Manhole Height	800-1600	800-1600	800-1600
主机外形尺寸Size (D*W*H mm)	1400*1200*2400	1400*1200*2400	1400*1200*2400
装机容量 (kw) Capacity	7.5-11.75	7.5-11.75	7.5-11.75
喷头清洁有效直径 (m) Effective Diameter	8—25	8—25	8—25

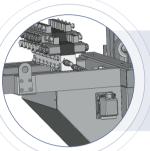
设备特点

Charactor



液压伺服送管系统,运行更平稳可靠。

Hydraulic servo pipe feeding system for more stable and reliable operation.



前臂4向调整,定位准确快捷。

Forearm 4-way adjustment for accurate and fast positioning.



三级提升门架,高度体积更小,安全稳定,方便转运。

Three-stage lifting gantry, smaller in height and volume, safe and stable, convenient for transportation.



自适应衡拉力盘管设计,安全、快捷、平稳、可靠。

Adaptive constant tension coil design, safe, fast, stable, and reliable.



360°旋转喷头,确保容器内每个部位都能被彻底清洗。

360° rotating nozzle ensures that every part of the container can be thoroughly cleaned.



多级笔式自动伸缩机构,适应不同罐直径。

电驱前轮设计,设备运行更加灵活、便捷。

Electric drive front wheel design makes equipment operation more flexible and convenient.

Multistage pen type automatic telescopic mechanism, suitable for different tank diameters.