



产品介绍 | Description

TW-XJ10-100C发酵罐系统主体结构为不锈钢材质制造，在位灭菌，安全可靠。

TW-XJ10-100C fermentation tank structure is made by Stainless steel. It can sterilize on site, which is secure and reliable.

技术参数 | Technical parameter:

- * 大视角纵向视镜观测清晰；
- * 落地式框架结构，结构紧凑美观大方，操作方便；
- * 种子罐与发酵罐既可作扩培用，又可作为独立发酵系统单独运行，尤其适用超长时间微生物发酵，小罐与大罐之间通过压差来进行移种。
- * 设计压力：0.35Mpa 使用压力：0.2 Mpa。带压力表，手动调节（标配）带压力传感器，比例调节阀及气动阀自动调节（可选项）
- * 材质：与物料接触的为SUS316L不锈钢，其他为SUS304。
- * 搅拌方式：上机械搅拌(或下磁力耦合搅拌)，采用博格曼单端面双机械密封。一组直叶轮，一组斜叶轮，四块挡料板，带机械消泡浆。机械密封可进行灭菌，避免搅拌过程染菌。
- * 温度控制：罐体设有保温夹套和控温夹套，PID数字化控制，循环泵强制水循环，电磁阀自动控制PT100温度传感器检测。
- * 灭菌方式：在位灭菌，或离位高压灭菌锅灭菌。
- * 温度控制范围：5~65±0.2℃，分辨率0.1℃
- * 灭菌温度：100~130℃
- * 搅拌转速：50~1000rpm±5%*最高转速，分辨率 1rpm，变频器调节。根据罐的大小及物料要求决定转速。



- * PH控制：2~12±0.02PH，分辨率0.01PH。PH、酸与碱联动控制。蠕动泵自动调节以加酸、加碱。梅特勒PH传感器进行信号传输。
- * DO控制：0~100%±5%，分辨率0.1%，DO与转速联动控制，梅特勒DO传感器进行信号传输。
- * 泡沫控制：自动控制与报警，不锈钢电极在线监测，蠕动泵自动加消泡剂。
- * 空气流量：质量流量计，气动阀自动调节。进气过滤器，尾气过滤器，带PALL滤芯，过滤精度 0.02 um
- * 罐体配置：小罐有火焰接种口。
- * 取样阀、罐底阀可进行随时灭菌。
- * 配标准PH,DO电极侧边接口,配置泡沫液位、温度传感器接口，侧面大视角观测视镜,配有安全照明视灯。



- * large side wide vertical view goggle makes it more clear.
- * Floor mount framework makes it beautiful and easy to operate.
- * The seeding tank and the fermentation tank can not only be used to expand the autoclave, but can also be used alone for fermentation system, especially applicable for bio fermentation for a long time. The transplant of seeds between the big tank and the small tank can be achieved by pressure difference.
- * Design pressure: 0.35 Mpa Working pressure:0.2 Mpa. It has pressure gauge with pressure sensor, hand regulation (standard configuration), automatic adjusted by proportional control Valve or pneumatic valve (option)
- * Materials: SUS316L contact with material, other part is SUS304
- * Stirring type: top Mechanical stirring (or below magnetic coupling mixing). It adopts Borgman single end and double mechanical seal technology. And it has one set of upright impeller, one set of slanted impeller, four baffle blades with mechanical defoaming pulp. The mechanical seal technology can sterilize during the stirring process.
- * Temperature: The tank is equipped with jackets for heat protection and heat control. It has PID digital control, water forced circulation by circulation pump, auto controlled by magnetic valve, PT100 temperature sensor.
- * Sterilization type: sterilization on site, or

- sterilization by high pressure autoclave
- * Temperature range: 5~65±0.2℃, resolution 0.1℃
- * Sterilization temperature: 100~130℃
- * Stirring speed: 50~1000rpm±5%* resolution 1rpm, adjusted by convertor. The speed is confirmed according to the tank size and material property.
- * PH control: 2~12±0.02PH, resolution 0.01PH. PH, acid and soda coordinate with each other. The peristaltic pump adds acid or soda by automatic regulation. The signal is transmitted by Mettler PH sensor.
- * DO control: 0~100%±5%, resolution 0.1%. DO and speed coordinate with each other. The signal is transmitted by Mettler DO sensor.
- * Foam control: It can control and alarm automatically. The online monitoring is achieved by stainless steel electrode, and the defoaming substance is added by the peristaltic pump automatically. * Air flow: Mass flowmeter. The pneumatic valve can regulate automatically. It is equipped with inlet filter, tail gas filter, and PALL filter element with the filtration accuracy of 0.02 um.
- * Tank configuration: The small tank has fire interface. * Fetch valve and tank bottom valve can be sterilized any time.
- * It is equipped with standard PH, DO electrode, bubble level, temperature sensor, feed interface, large side wide view goggle, security light.



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01

TW-XJD1x4平行生物反应器

TW-XJD1x4 Parallel Bio Reactor



产品介绍 | Description

TW-XJD1x4平行生物反应器，主体结构为多个相同容积的发酵罐联体组成的一套高通量筛选系统，可适合于各种平行试验；设备多种功能，小巧美观，罐内无死角。特别适合于实验室微生物和动植物细胞的生长研究、培养基的优化、克隆筛选、多变量工艺优化研究、小规模蛋白质和抗体表达

技术参数 | Technical parameter:

容积：250ml、500ml、1000ml、1.5L、2L...多种罐体可选；
罐体系统：，罐盖316L优质不锈钢，罐体采用硅硼玻璃，装液系数70%，工艺结构先进，操作简单。
搅拌系统：顶部驱动搅拌控制，可选用多种搅拌桨型：平叶桨、螺旋桨、斜叶桨等
 精确控制pH、DO、转速、温度、微量补料速率、等发酵参数
pH：采用瑞士原装进口梅特勒电极，自动添加酸、碱，精确控制pH；
DO：采用瑞士原装进口梅特勒电极，与转速关联控制；
可扩展功能：
 空气流量、罐压、液位自动检测控制
 尾气O₂/CO₂在线检测
 可增加甲（乙）醇含量在线检测
 可增加补料称重系统

TW-XJD1x4 Parallel bio reactor is a High throughput screening system constituted by some fermentation tank of the same size. It is applicable for many parallel experiments. It is multi-functional and has no dead space in tank. And it is especially applicable for the research of microorganisms, animal and plant cells in the laboratory, the optimization of autoclave, cloning screening, optimization research of multivariate craft as well as small scale protein and antibody expression.

Holding capacity: 250ml, 500ml, 1000ml, 1.5L, 2L... There are many size of tanks to choose.
Tank system: tank lid with 316L high-quality stainless steel. The tank is made by silicon-boron glass with the liquid quotient of 70%, which is advanced in structure and easy for operation.
Stirring system: Top drive stirring control. There are many kinds of impellers to choose from: flat blade propeller, propeller, and inclined blade propeller, etc.
The fermentation parameters such as pH, DO, temperature, the speed of rotation and adding materials are precisely confirmed.
Ph: It adopts the Mettler electrode imported from Swiss. Acid and soda are added automatically so as to confirm the pH precisely.
DO: It adopts the Mettler electrode imported from Swiss, and control with the speed together.
Extensible Functions:
 Airflow, tank pressure, self-detection for height control of the liquid
 Online detection for exhaust O₂/CO₂
 Online detection for content of methanol and ethanol can be added.
 Weight system for materials can be added.

02

TW-XJD10发酵罐

TW-XJD10 Fermentation Tank

产品介绍 | Description

TW-XJD10发酵罐主体结构为不锈钢材质制造，一体化设计，多种功能，小巧美观，罐内无死角。特别适合实验室使用，可独立使用，也可作为种子罐，与其他发酵罐配合使用。可配置导流筒，扩展为气升式发酵。

TW-XJD10 fermentation tank structure is made by Stainless steel, integral design, multi-function, no dead space in tank. Specially applicable for laboratory,; can be used alone or as the seeding tank to be used with other fermentation tank; can equip guide shell expanding to airlift fermentation.

设备特性 | Features

- 1.全容积：5L/7L/10L/15L...
- 2.装料系数：0.65~0.8 最佳0.7
- 3.表面粗糙度：内表面抛光Ra0.4 um（机械抛光或电解抛光）。外表面抛光Ra0.6~0.8 um（亚光处理），或喷砂处理。
- 4.工作罐压：0.01Mpa ~0.05 Mpa。带压力表，手动调节（标配）带压力传感器，比例调节阀及气动阀自动调节（可选项）
- 5.材质：与物料接触的为SUS316L不锈钢，其他为SUS304。
- 6.搅拌方式：上机械搅拌（或下磁力耦合搅拌），采用单端面双机械密封。两组六片搅拌器，三块挡料板，带机械消泡浆。
- 7.温度控制：PID数字化控制，循环泵强制水循环，电磁阀自动控制，PT100温度传感器检测。
- 8.灭菌方式：在位灭菌，或离位高压灭菌锅灭菌。
- 9.温度控制范围：5~65±0.2℃，分辨率0.1℃
- 10.灭菌温度：100~130℃
- 11.搅拌转速：50~1000rpm±5%*最高转速，分辨率1rpm，变频器调节。根据罐的大小及物



- 料要求决定转速。
- 12.PH控制：2~12±0.02PH，分辨率0.01PH。PH、酸与碱 联动控制。蠕动泵自动调节以加酸、加碱。梅特勒PH传感器进行信号传输。
 - 13.DO控制：0~100%±5%，分辨率0.1%，DO与转速联动控制，梅特勒DO传感器进行信号传输。
 - 14.泡沫控制：自动控制与报警，不锈钢电极在线监测，蠕动泵自动添加消泡剂。
 - 15.空气流量：质量流量计，气动阀自动调节。进气过滤器，尾气过滤器，带PALL滤芯，过滤精度0.02 um
 - 16.罐体配置：接种采用酒精灯火焰接种口。
 - 17.取样阀、罐底阀可进行随时灭菌。
 - 18.配标准PH,DO电极侧边接口。配置泡沫液位、温度传感器接口，补料接口，侧面大视角观测视镜。配有安全照明视镜。

02

TW-XJD10发酵罐

TW-XJD10 Fermentation Tank

1. Capacity: 5L/7L/10L/15L...
2. Coefficient of charge: 0.65~0.8, 0.7 best
3. Surface Roughness: Ra0.4 um polished inside (mechanical polishing or electrolytic polishing). Ra0.6~0.8 um polished outside (matte process), or grit-blasting
4. Pressure: 0.01Mpa ~0.05 Mpa. pressure gauge with pressure sensor, hand regulation (standard configuration), automatic adjusted by proportional control Valve or pneumatic valve (option)
5. Material: SS316L contact with material, other part is SS304
6. Stirring type: top Mechanical stirring (or below magnetic coupling mixing), adopt single end and double mechanical seal technology. Two sets six blades blender, three baffle blades, with mechanical defoaming pulp
7. Temperature controller: PID digital control, water forced circulation by circulation pump, auto controlled by magnetic valve, PT100 temperature sensor.
8. Sterilization type: sterilization on site, or sterilization by high pressure autoclave
9. Temperature range: 5~65±0.2℃, resolution 0.1℃
10. Sterilization temperature: 100~130℃
11. Stirring speed: 50~1000rpm±5%* resolution 1rpm, adjusted by convertor. the speed is confirmed according to the tank size and material property.
12. PH control: 2~12±0.02PH, resolution 0.01PH. PH, acid and soda coordinate with each other. The peristaltic pump adds acid or soda by automatic regulation. The signal is transmitted by Mettler PH sensor.
13. DO control: 0~100%±5%, resolution 0.1%. DO and speed coordinate with each other. The signal is transmitted by Mettler DO sensor.
14. Foam control: It can control and alarm automatically. The online monitoring is achieved by stainless steel electrode, and the defoaming substance is added by the peristaltic pump

15. Air flow: Mass flowmeter. The pneumatic valve can regulate automatically. It is equipped with inlet filter, tail gas filter, and PALL filter element with the filtration accuracy of 0.02 um.
16. Tank configuration: The inoculation is achieved through alcohol lamp interface.
17. Fetch valve and tank bottom valve can be sterilized any time.
18. Equipped with standard PH, DO electrode, bubble level, temperature sensor, feed interface, large side wide view goggle, security light.

