

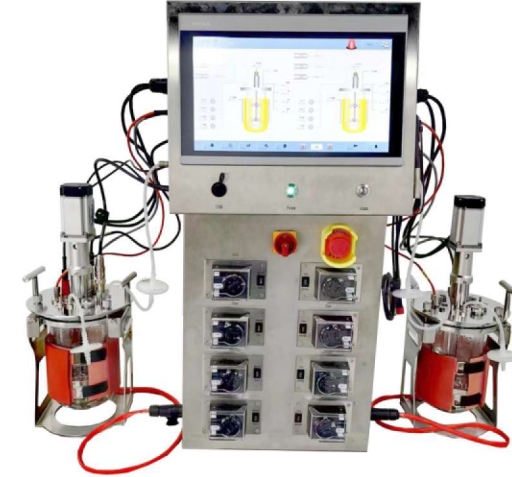
**玻璃生物反应器 GLASS BIOREACTOR**



5L 单壁玻璃生物反应器  
5L Single-wall Glass Bioreactor



5L 双壁玻璃生物反应器  
5L Double-wall Glass Bioreactor



3L 双壁玻璃生物反应器  
3L Double Single-wall Glass Bioreactor



5L 玻璃生物反应器  
5L Glass Bioreactor

Specification Name	1L	2L	3L	5L	7L	10L	15L	20L	30L	40L
Total volume	0.7L	1.4L	2.1L	3.5L	4.9L	7L	10.5L	14L	21L	28L
Working Volume	0.7L	1.4L	2.1L	3.5L	4.9L	7L	10.5L	14L	21L	28L
Bioreactor diameter d1(mm)	90	120	140	160	190	214	214	256	282	342
Bioreactor height h1(mm)	155	228	240	265	318	325	423	432	520	454
h/d1	1.7	1.9	2	1.65	1.67	1.5	1.97	1.68	1.84	1.3
Filling height hL(mm)	116	171	180	200	238.5	244	317	304	358	323
Filling liquid volume										
d2.3 Paddle(mm)	50	60	70	85	95	108	108	128	141	171
d2.6 Paddle(mm)	/	/	/	/	/	/	/	/	/	/
h3(mm)	40	65	42	62	62	76	80	80	102	113
Δz=1.3*Δd2 (3-blade segment)	/	78	91	110	124	140	140	166	183	222

**不锈钢生物反应器 STAINLESS STEEL BIOREACTOR**



30L 不锈钢自动发酵系统  
30L Stainless Steel Automatic Fermentation System



50L 不锈钢生物反应器  
50L Stainless Steel Bioreactor

类型	5L/10L/15L/20L/30L/50L/100L/300L/500L/800L/1000L/10KL/20KL/50KL/100KL/200KL/500KL-AUTOC
总体积	5L/10L/15L/20L/30L/50L/100L/300L/500L/800L/1000L/L/10KL/20KL/50KL/100KL/200KL/500KL
材质	316L 不锈钢
基础参数	自动控制 pH/DO/温度/消泡/搅拌/压力, 进气(手动/自动), 在位灭菌, 在位清洗
可选择的参数	远程控制, 质量流量计, 进气 (氧气/氮气/二氧化碳/氢气/一氧化碳), 废气 (O2/CO2/CH4/H2) 分析, 液位传感器, 浊度 (OD) 传感器, ORP 传感器, 葡萄糖检测, 称重系统 (发酵罐/投料), 活细胞传感器 (生物量), 变速泵, 比例控制阀 (排气), 15 英寸彩色触摸屏, 西门子显示屏, 工艺配方选择等, 可接受定制。
Model	5L/10L/15L/20L/30L/50L/100L/300L/500L/800L/1000L/10KL/20KL/50KL/100KL/200KL/500KL-AUTO
Total volume	5L/10L/15L/20L/30L/50L/100L/300L/500L/800L/1000L/L/10KL/20KL/50KL/100KL/200KL/500KL
Material	316L stainless steel
Basic configuration	Auto control pH/DO/Temperature/foam/agitation/pressure, airflow(manual/auto), SIP, CIP
Configuration can be optional	Remote control, Mass flow meter, Gas inlet (O2/N2/CO2/H2/CO), Exhaust gas (O2/CO2/CH4/H2) analysis, Level sensor, Turbidity(OD) sensor, ORP sensor, Glucose detection, Weight system (fermentation tank/feeding), Live cell sensor(Biomass), Variable speed pump, Proportional control valve(exhaust), 15" color touch screen, Siemens screen, Process formula selection, etc, accept customize.



500L 不锈钢乳化罐  
500L stainless steel bioreactor with emulsification

1000L 不锈钢生物反应器  
1000L Stainless Steel Bioreactor

**一次性生物反应器 SINGLE USE BIOREACTOR**



一次性生物反应器袋子  
Single-use Bioreactor Bag



液流式生物反应器  
Wave Bioreactor



一次性生物反应器  
Single-use Bioreactor

Tray size	5L	10L	20L	50L	100L
Total volume	5L	10L	20L	50L	100L
Working volume	5L	10L	20L	50L	100L
Max. working volume	5L	10L	20L	50L	100L
Control system	Siemens PLC, 15 inch color touch screen, Ethernet interface, USB interface				
Temperature control	Heating/cooling, PID automatic control, accuracy: ±0.2°C, Temperature control range: 5-40°C above				
Reactor speed	1-1000 rpm				
Tilt angle	0-15°				
Gas in	3 thermal mass flow controllers (Air/O2/CO2), 1 thermal mass flow controller with 3 gas mixer optional				
Exhaust air	Exhaust condenser, exhaust filter, water optional				
Exhaust analysis	O2/CO2/CH4/H2				
Pressure detection	Range: 100kPa-1000kPa, 0.1% accuracy, stop air intake when it is exceeded				
pH	Single-use pH probe, control range: 6-8, accuracy: ±0.05pH, PID control, cascaded by gas flow, peristaltic				
DO	Single-use DO probe, control range: 0-200%, accuracy: ±1%, PID control, cascaded by motor speed, MPC, etc.				
Pump	Variable speed peristaltic pump, customized feeding and feeding rate, feeding, etc., 20-1000ml or 1000ml variable speed optional				
Load cell	Load 100kg, accuracy: ±0.001%, 1% loading sampling lag, cascaded by pump				
Utilities	Air/CO2/CO2 pressure: 15-20PSIG				
Signal interface	Optional				
Power supply	AC 220V/50/60Hz/10A				

Main Functions	Specification
Control system	19 inch high sensitivity touch screen, self-developed control platform, integrated with local control and data Acquisition functions, with three-level authority management, audit tracking, data export and other related functions
TCU	Siemens VCT3000HV
Load Cell	Mettler Toledo, loadcell
pH Control	Hamilton pH Cascade control/PID optimized, Hamilton ARC sensor
DO Control	Hamilton DO Cascade control/PID optimized, Hamilton ARC sensor
Temp Control	Jumo, Wika, PT 100 Temp sensor, Jacket vessel
Pressure Control	Pressure sensor, Hamilton
Gassing	Yoggin MFCs, InAir/InO2/InH2/InCO2 for Sparger, InAir for overvent
Pumps	Watson Marlow, 2x14, 2x314



实验室摇床  
Laboratory Shaker



哺乳动物细胞培养不锈钢生物反应器  
Mammalian Cell Culture Stainless Steel Bioreactor



玻璃光照生物反应器  
Glass Photobioreactor



下游设备: 碟式离心机/管式离心机  
Downstream Equipment: Disc Centrifuge/Tubular Centrifuge



公用系统: 蒸汽发生器/空压机/冷水机  
Utility System: Steam Generator/ Air Compressor /Chiller

高品质发酵生物学整体解决方案提供商

High-Quality Producer of Fermentation Biology Overall Solution

**GMP生物制药生物反应器 BIOLOGICAL SPECIALTY DRUGS GMP**



疫苗生产生物反应器  
Vaccine Production Process

**工业级生物反应器项目 INDUSTRY ENGINEERING PROJECT**



**其他系统 OTHER SYSTEMS**



搅拌罐  
Mixing Tank



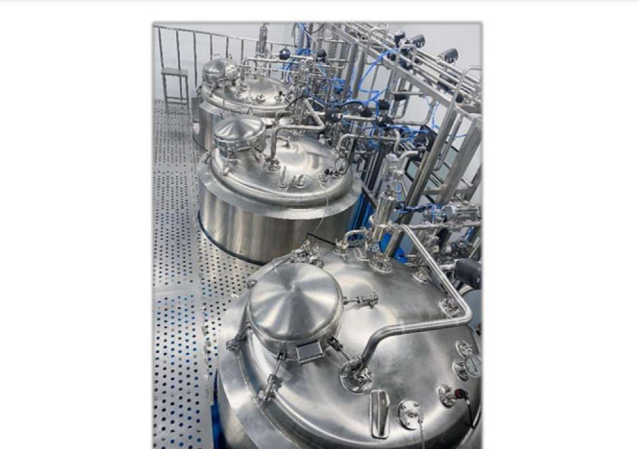
配液系统  
Liquid Distribution System



废水灭活系统  
Wastewater Inactivation System



CIP 系统  
CIP Process



乳化系统  
Emulsification System

Mixing Tank Main Parameters						
Total Volume	100L	200L	300L	500L	1KL	2KL 5KL
Agitation	50-600 rpm					
Material	316L/304					
Steam	SIP on site					
Clean	CIP by spray					
Voltage	220/380/440V					



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高品质发酵生物学整体解决方案提供商

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