中科睿极
REGEN-αGEEK

DASEA Regenbio
Automated 3D Cell Culture Bioreactor

Specifically Designed for Mammalian Cells

Designed for BioProcess

INTRODUCTION

DASEA Regenbio Automated 3D Cell Culture Bioreactor is an independently developed bioreactor, with Digitalized, Automated, Scalable, Enclosed, and Activated (DASEA) features. It is equipped with a human-machine interface (HMI) ecosystem, enabling simplified and efficient operation. The bioreactor utilizes a medium to large scale PLC master control system for precise control and comprehensive functionality, supporting customization. The bioreactor ensures a safe cell culture process with its precise parameter control and powerful data management capabilities, is suitable for large-scale culture of MSC, T, CHO and other cells.

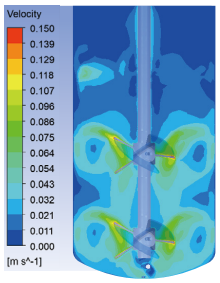
ADVANTAGES

Gentle | Uniform | Steady | Automated

Elephant ear impeller
Low shear force, low cell injury

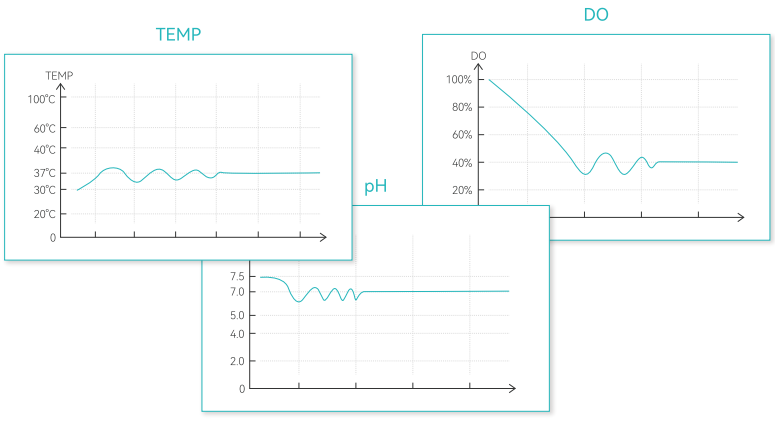
$\approx 10\ s^{-1}$
Mean Shear Rate

$10^{2}\ s^{-1} - 10^{3}\ s^{-1}$
Maximum Shear Rate



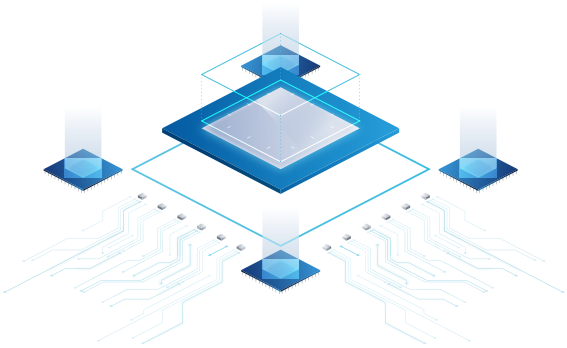
Uniform flow field distribution
No dead zone accumulation
Efficient mass transfer

$10^{-3} - 10^{-2}\ m^{2}/s^{3}$
Turbulent Dissipation Rate



Precise PID control strategy ensures gentle fluctuations in temperature, pH, and DO, bringing the culture environment closer to a steady state.

Independently developed core control system ensures efficient linkage, precise control, and comprehensive functions, supporting customzied needs for cell culture process.



FEATURES

·**Elephant Ear Impeller:** Designed based on CFD fluid simulation, low shearing, low cell injury.

·**Gas Exchange Strategy:** Both surface and internal aeration, fulfill different process requirements.

·**Dedicated Micro Bubbles:** Micro bubble design to increase gas-liquid contact area for efficient mass transfer.

·**Froward and Reverse Stirring:** Meets the needs of various liquid mixing processes, adjustable forward and reverse switching speed and smoothness.

·**Magnetic Coupling Motor:** No mechanical sealing structure, good airtightness, safe and reliable.

·**Expandable Vessel Lid:** Supports customization to meet diverse customer needs.

·**Easy Calibration:** Supports calibration of temperature, pH, and DO sensors, and automatic recording.

·**Power Outage Protection:** Automatically restores data and resumes operation from pre-outage state.

·**Diverse Modes and Recipes:** Multiple modes and control through recipes to achieve varied process requirements.

·**Multi-Level Access Mangement:** Available to setup mutiple level user access.

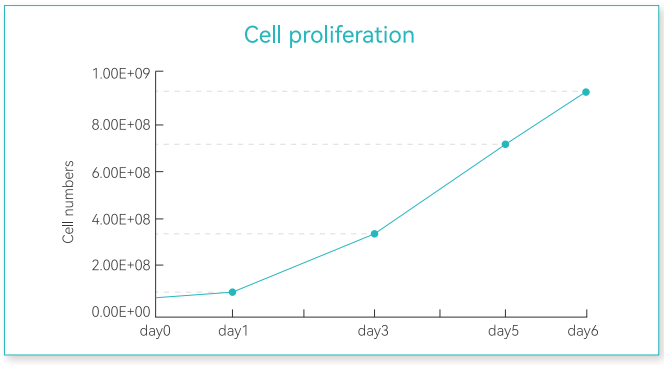
·**Audit Trail:** GMP compliance, ensuring data integrity and traceability.

·**HMI:** Independently developed human-machine interface for easy operation.

PERFORMANCE

hUC-MSC Cell Culture Case Study: For every 1L of culture medium, add 1-2g of microcarriers. Each gram of microcarriers can carry 200-300 million cells.

Results: After 6 days of culture, the expansion rate is > 10 times.



*hUC-MSC Cell Culture in Serum-Free 3D Culture System

SPECIFICATIONS

Controller

Item	Specification
Dimensions (W × H × D):	400mm * 862mm * 490mm
Weight	~44kg
Control System	RSSW-PC001V1.0
HMI	15-inch Color Touchscreen Display, 1024*768 Resolution
Peristaltic Pump	Speed Range: 0-200RPM; Flow Rate Range: 0.1~100mL/min
Stirring Speed	0.4kW; 0-1500RPM; Accuracy: 1RPM
Gas Mass Flow Meter	2L: O_2: 0-40mL/min; CO_2: 0-40mL/min; N_2: Optional; Air: 0-60mL/min 5/10L: O_2: 0-60mL/min; CO_2: 0-60mL/min; N_2: Optional; Air: 0-100mL/min
Heating Blanket	200W
Temperature Sensor	PT100, Range 0-150℃, Measurement Accuracy ±0.05℃, Control Accuracy ±0.1℃
DO	Range: 0-212%, Accuracy ±1%; Special Impedance VP Interface, Anti-Interference
pH	Range: 0-14, Accuracy ±0.01; Special Impedance VP Interface, Anti-Interference

Vessel

Item	Specification
Vessel Material	Glass: Single-walled high borosilicate glass (HBG) Stainless steel: 304 bracket, 316L top cover and fittings
Sterilization	Autoclaved
Overall Volume	3L、7L、13L
Working Volume	2L、5L、10L
Vessel Dimensions（Ø*H）	2L-140mmx255mm, 5L-180mmx345mm, 10L-230mmx381mm
Vessel Weight	2L: 13kg; 5L: 17Kg; 10L: 24kg

Utilities

Item	Specification
Input Power	220V/50HZ
Total Power Consumption	1500W
Gas	AIR, O_2, CO_2, N_2

ORDER INFORMATION

Product	Specifications	P/N
DASEA Regenbio Automated 3D Cell Culture Bioreactor		
DASEA Regenbio Automated 3D Cell Culture Bioreactor	Working volume 2L	aBioR-02-CC
DASEA Regenbio Automated 3D Cell Culture Bioreactor	Working volume 5L	aBioR-05-CC
DASEA Regenbio Automated 3D Cell Culture Bioreactor	Working volume 10L	aBioR-10-CC

Related Products	Specifications	P/N
DASEA Regencarrier® Biomimetic Microcarrier		
Biomimetic Microcarrier	100 mg/vial x 10 vials	RC001LE
Biomimetic Microcarrier	500mg/bottle x 1 bottles	RC002LE
Biomimetic Microcarrier	1g/bottle x 4 bottles	RC003LE
Microcarrier Lysis Solution	150mg/tube x 2 tubes	MC001LS
Microcarrier Residue Detection Kit	50T/kit	MC001RDK
Microcarrier Residue Detection Kit	100T/kit	MC002RDK
Lysis Residue Detection Kit	200T/kit	LS001RDK

Empowering the Cell Manufacturing with DASEA Technology
Make Regeneration Clinically Accessible and Affordable

中科睿极
REGEN-αGEEK

REGEN-αGEEK (Haining) Biotechnology Co., Ltd.
Tel: +860755-26412015
Address: No. 301, Building 6, Juanhu Science and Innovation Park, No. 500, Shuiyue Pavilion East Road, Xiashi Street, Haining City, Jiaxing City, Zhejiang Province, China.

QR Code to learn more about us