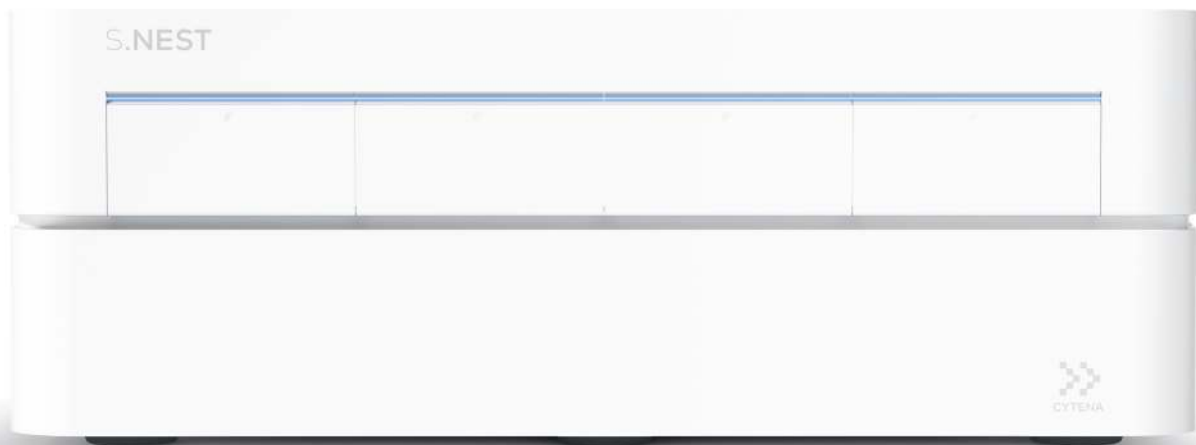


Microbioreactor System

S.NEST™

Next-generation Microbioreactor for Cell Line Development

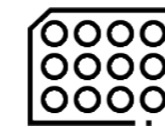




About the S.NEST

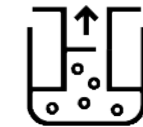
As the biopharmaceutical industry expands, companies are looking for competitive advantages in cell line development. The S.NEST, a high-throughput microbioreactor with CO₂ incubator functions, shortens the process time for cell upscaling, provides a better microscale environment for cell growth, and brings more efficiency to cell line selection.

A powerful, productive, compact system



Culture

High-throughput cultivation that enables the incubation of four 24-well plates at once.



Optimize

Customizable mixing levels thanks to a unique fluid control system that increases cell growth.



Analyze

Intuitive software analytics transform data into insights.



Monitor

Real-time monitoring of pH and dissolved oxygen (DO) values during entire cell culturing process.



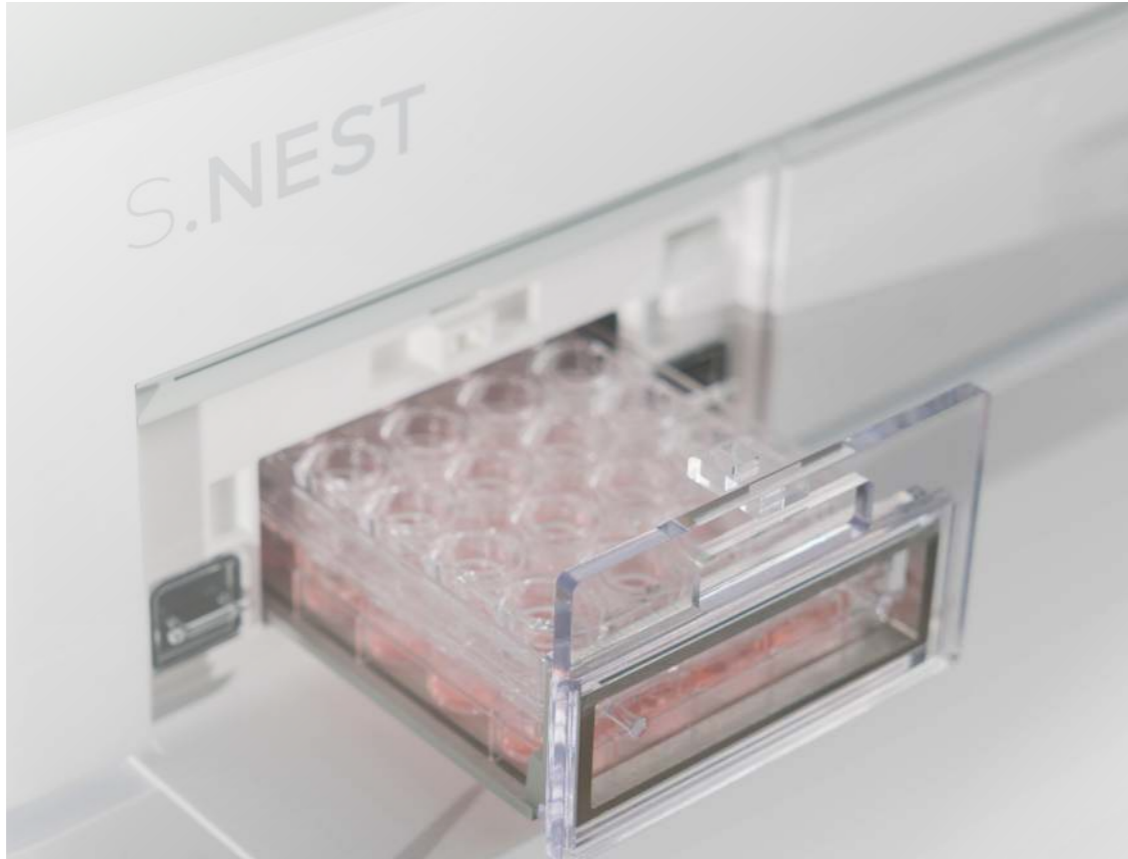
Sterilize

Independent UV light control ensures the sterility of each chamber



Trust

Reliable results allow you to improve your cell culture workflow.

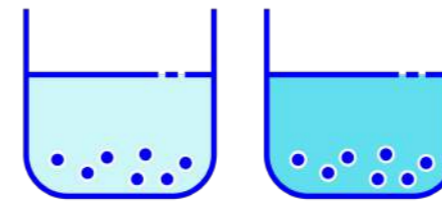


Maximum productivity with minimum effort

The S.NEST introduces suspension culture and late-stage bioreactor conditions to the early-stage cell line development pipeline, providing more growing space and oxygen than static cultures. When using the S.NEST, cells show higher density and viability compared to normal incubation, and weeks of cell expansion are no longer necessary.

The S.NEST increases efficiency and productivity for biologics production, drug screening and functional genomics.

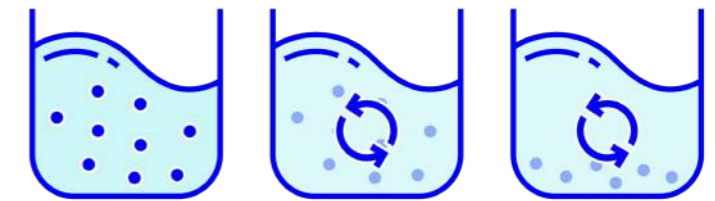
Static culture



Limited 2D Growing Space

Inhomogeneous Medium

Mixing culture



3D Growing Space

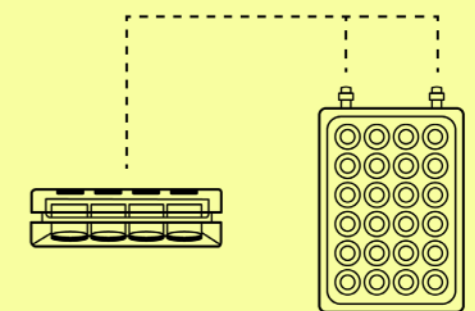
Equal Distribution
Suspension cell lines

Medium Refresh
Adherent cell lines

Increased oxygen transfer

The S.NEST exerts suction or expulsion pressure through the fluidic channels to enable homogenous reciprocating mixing.

Adjustable mixing control minimizes shear rate for different cell lines. The oxygen transfer tubes connecting to the lid offer the cells a continuous oxygen supply to maintain a healthy environment.



* 24-well lid is available for implementing mixing culture

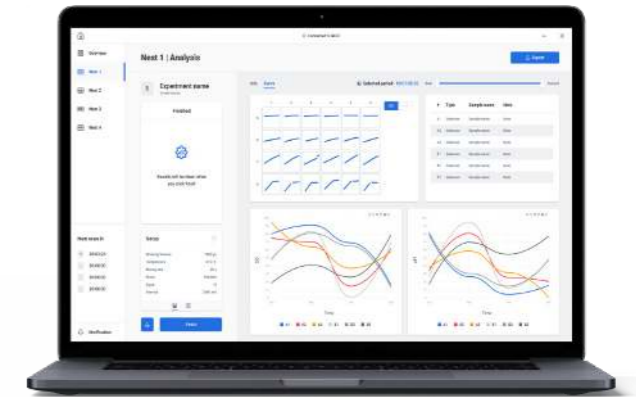


Designed for your needs

The upper section has four incubation chambers, and each includes a thermal module, water tray and air/CO₂ inlet port and sensor. Each chamber also has individual environmental controls and can fit one 24-well culture plate, enabling the cell culturing of as many as 96 wells at once.

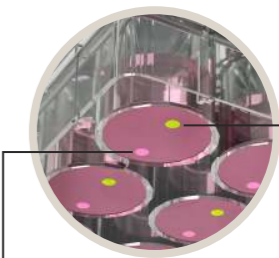
Real-time monitoring

The S.NEST software displays the sensor results and allows users to adjust environmental controls.



S.NEST 24-Well Plate

Optical sensors are attached to the bottom of each well to monitor the pH and DO value of all wells simultaneously.

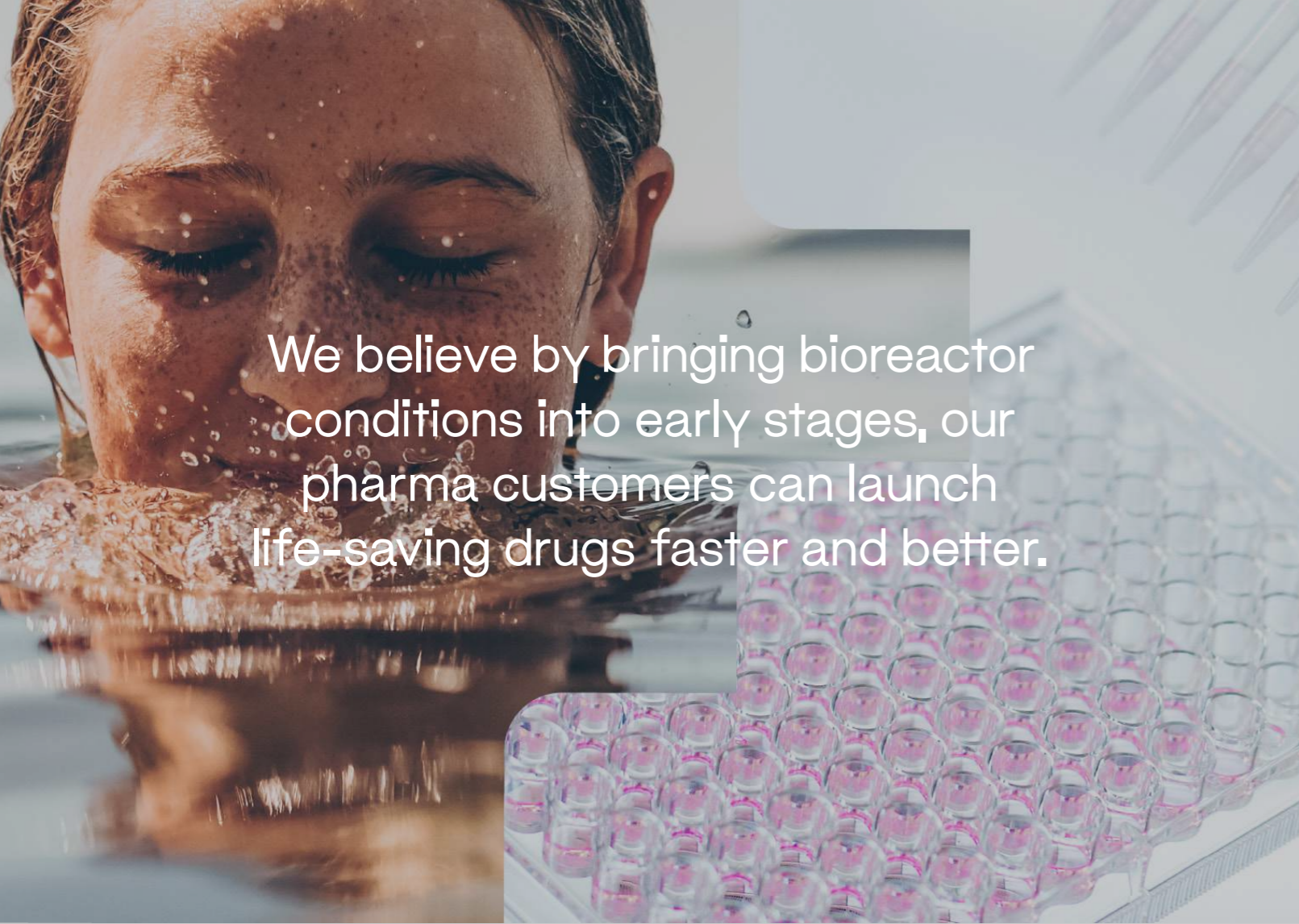


Dissolved oxygen

pH levels

The lower section is a motion camera module that detects the optical signals from the sensors of each plate within 10 minutes and displays real-time monitoring data on the S.NEST software.



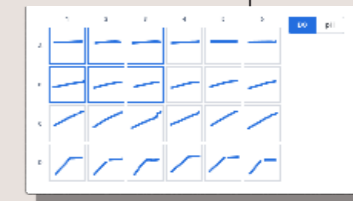
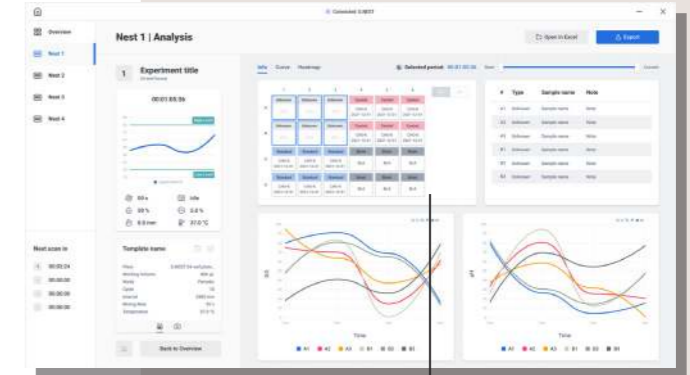


We believe by bringing bioreactor conditions into early stages, our pharma customers can launch life-saving drugs faster and better.

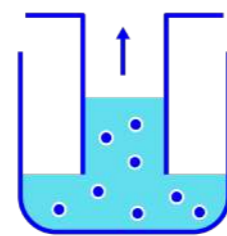
Intuitive software interface

The S.NEST software provides insightful graphs from the pH and DO sensor data:

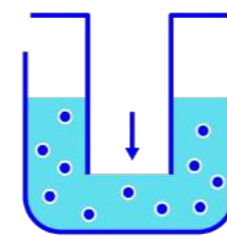
- Measurements for each well at each time interval
- Time curve table of data from selected wells



Consumables for optimal cell culture



Suction pressure

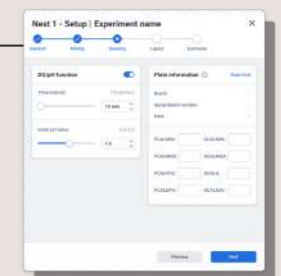
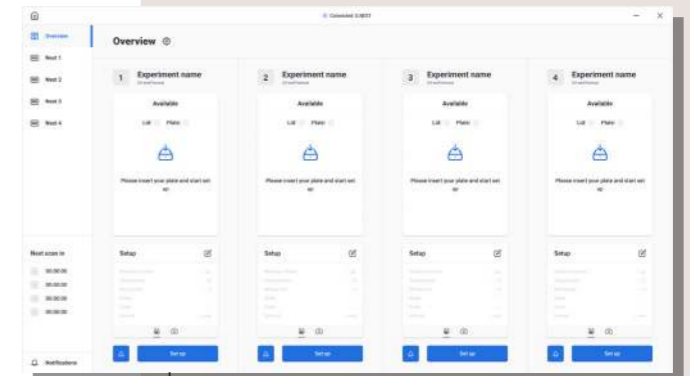


Expulsion pressure

The S.NEST lid comes in 24-lidic-channel format for respective well plates.

The S.NEST software provides intuitive settings for:

- Incubation chamber environment (temperature and CO₂ levels)
- Mixing system (mixing level and mixing mode)
- Motion camera (time interval)



Specifications

General characteristics		
Dimensions		
Width	785	[mm]
Depth	434	[mm]
Height	288	[mm]
Weight	43	[kg]
Electrical characteristics		
Input voltage	100-240	[Vac]
Input voltage net tolerance	±10	[%]
Input voltage frequency	50/60	[Hz]
Max. input current	3.53 - 1.45	[A]
Power mains supply voltage fluctuations	±10	[%]
Installation category	CAT II	-
Input fuse type	250VAC, 16A, time-lag	-
Ambient conditions		
Min. temperature	20	[°C]
Max. temperature	30	[°C]
Min. rel. humidity (non-condensing)	20	[%]
Max. rel. humidity (non-condensing)	60	[%]
Max. altitude above normally zero for operation	2,000	[m]
Indoor use	Yes	-
Outdoor use	No	-
Pollution degree	2	-
Minimum space between the surrounding walls and instrument	100	[mm]
Transportation/storage conditions		
Min. temperature	20	[°C]
Max. temperature	30	[°C]
Min. rel. humidity (non-condensing)	20	[%]
Max. rel. humidity (non-condensing)	60	[%]
Max. altitude above normally zero for operation	2,000	[m]

Basic configuration		
Incubation conditions		
Temperature control	RT+5 – 45 ± 0.2	[°C]
CO ₂ level control	1 – 20 ± 0.3	[%]
Humidity monitoring	0 – 100 ± 5 (at 37°C)	[%]
Culture conditions		
Mixing rate (24-well format)	10 – 50 s ± 5	[%]
Working volume (24-well format)	1,000 – 1,600	[µl]
Sensing conditions		
DO measurement	0 – 100 ± 5**	[%]
pH measurement	6 – 8 ± 0.2	-
Sampling rate	≥ 10	[min]

* Each value above is specified with one standard deviation from its mean (M±1SD)

** The variation of DO at 100% could be +/- 10% if considering the fluctuation of oxygen level in ambient air

Ordering Information

Product No.	Product Name	Information
S.NEST Microbioreactor System		
D16110024202	S.NEST (24-well format)	<ul style="list-style-type: none"> 4 S.NEST 24-well culture chambers DO/pH real-time sensing module S.NEST Software Standard warranty (12 months from date of installation) Installation & training included Origin: Taiwan
Recommended Consumables		
D16110024309	S.NEST Cell Culture Kit- 24-well (10 sets / 1 box)	<ul style="list-style-type: none"> 10 single-packed Greiner CELLSTAR 24-well culture multiwell plates (No. 662102) with DO/pH sensor 10 single-packed S.NEST 24-well lids
Service and Warranty		
D16110024310	1-year extended warranty	<ul style="list-style-type: none"> Replacement parts (for non-negligent damages) 6 hours of technical support
D16110024311	2-year extended warranty	<ul style="list-style-type: none"> Replacement parts (for non-negligent damages) 12 hours of technical support
D16110024312	3-year extended warranty	<ul style="list-style-type: none"> Replacement parts (for non-negligent damages) 20 hours of technical support

Learn more



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