N-BIOTEK

Leading Life Science

BIOTECHNOLOGY & BIOMEDICAL EQUIPMENT CATALOGUE

Vol.18

- CO_2 INCUBATORS
- IR CONCENTRATORS
- LIVE CELL STATIONS
- SHAKERS & WATER BATHS
- BIO SAFETY CABINET
- STEM-CELL WORK STATION
- OTHERS
- BIOLOGICAL CLEAN ROOM

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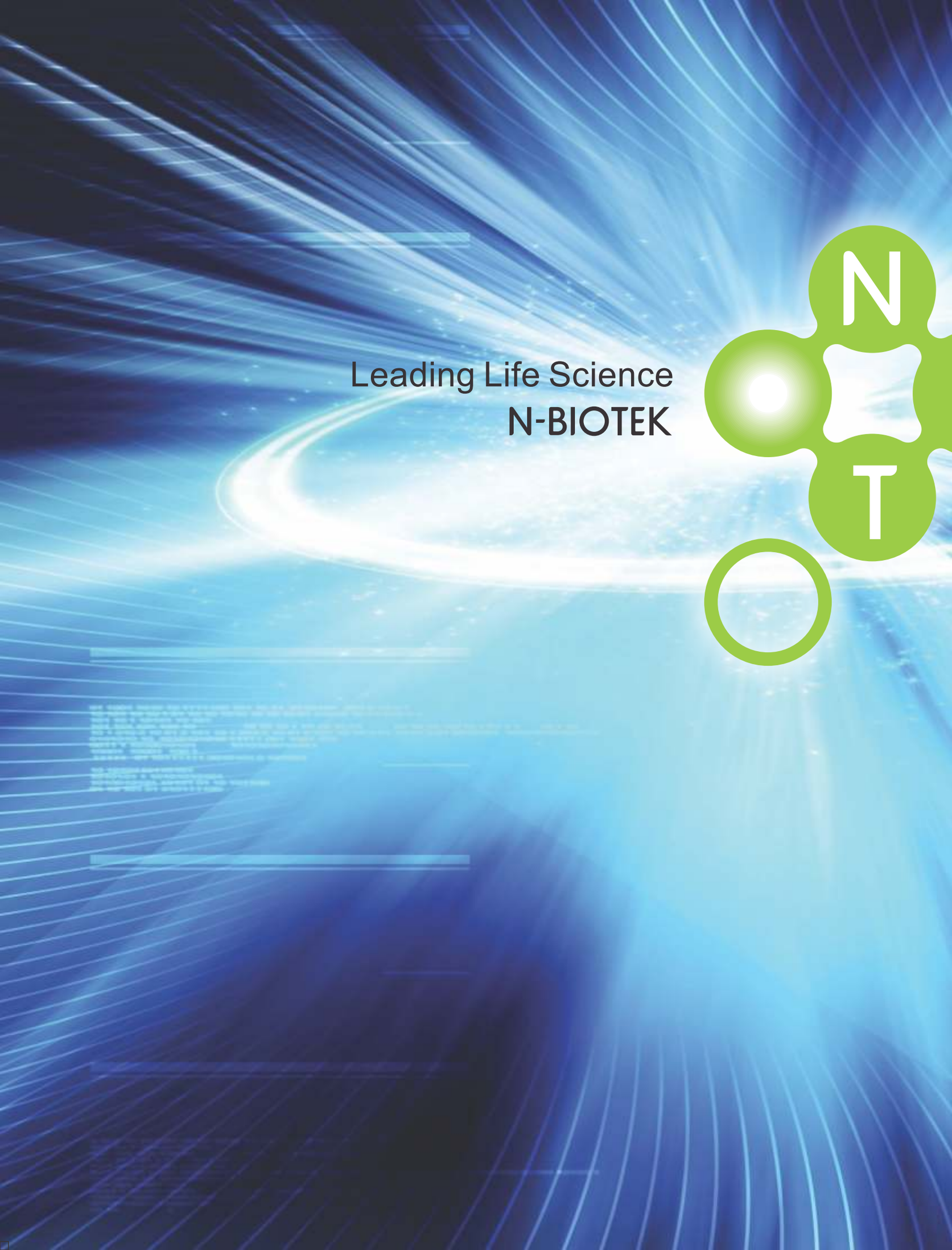
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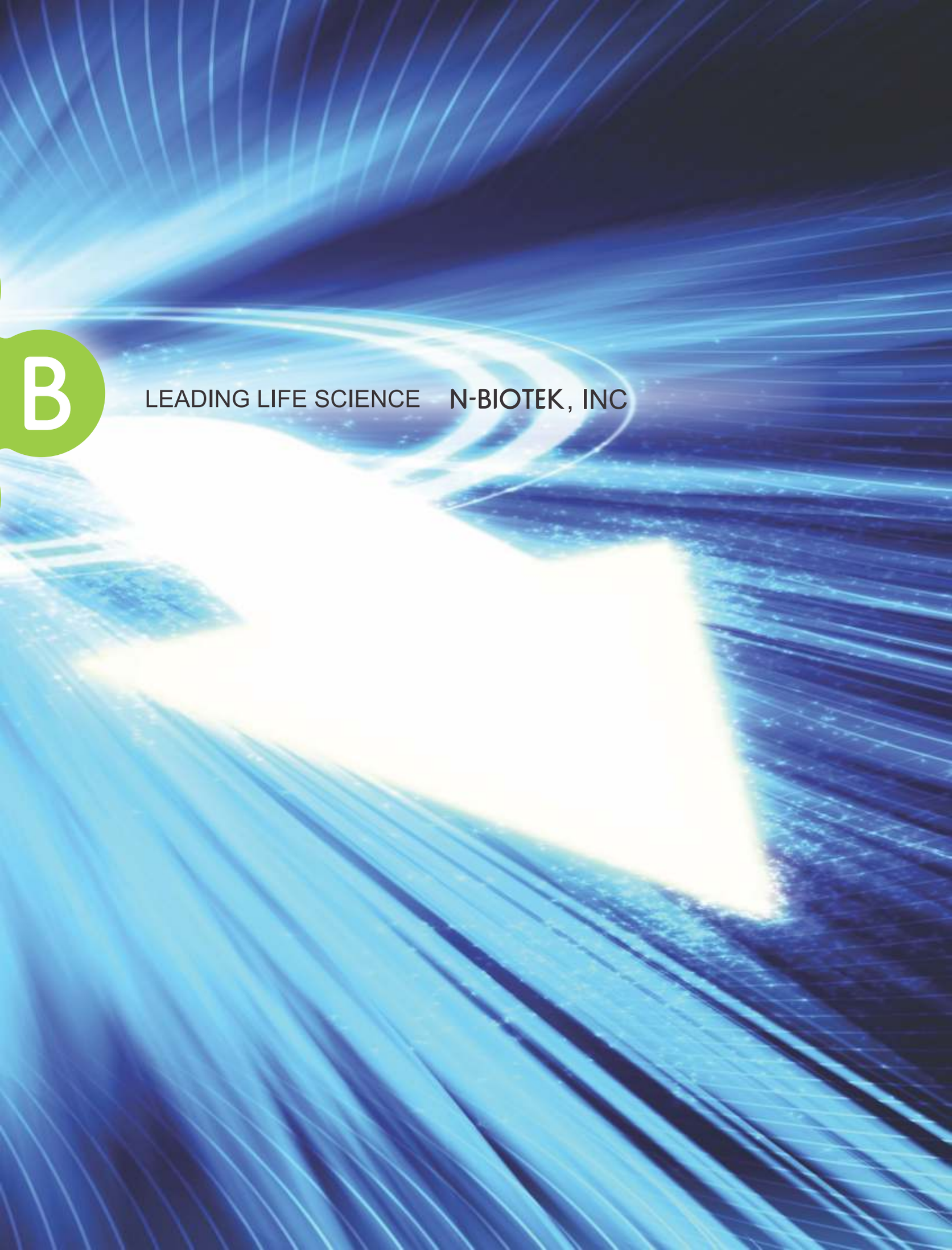
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TRUST MANAGEMENT

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N-BIOTEK

Leading Life Science

INTRODUCTION

Since 1982, N-BIOTEK has become the main manufacturer of biomedical and lab equipment in the world through its own creative technique. We have been striving for the establishment of the Personal Lab by developing compact and customized products to realize our key concept - Handy Lab. Our products are renowned for their attractive designs, unique features, outstanding quality, and competitive price. Our products also have many patents and international standards such as CE, ETL, ISO, and GMP and we offer real-time monitoring through grafting the IT technology.

Since 2010, we have expanded and started new businesses such as constructing a stem cell processing system and biological clean room, GMP consulting, validation service, and the health care service for foreign customers, in order to be the leader in the life science field.

TOTAL SOLUTION PROVIDER FOR STEM CELL BUSINESS

N-BIOTEK is the only company that builds the whole stem cell processing system for partners willing to begin the stem cell business. We meet all needs for a stem cell business perfectly in a brief space of time, including biological clean room construction, all equipment installation, and stem cell processing technology consulting. Our stem cell laboratory manages stem cell processing technology for numerous companies in South Korea, China, Japan and Vietnam.
N-BIOTEK is the leader of the stem cell industry, providing the total solution for an emerging stem cell business.

LICENSE & CERTIFICATION

Thanks to the long devotion for R&D,
N-BIOTEK has acquired various certificates such as Patent, TUV, CE and GMP.

PATENT FOR OBSERVATION OF CELL EXPERIMENT.

IR PATENT

REGISTRATION OF UTILITY MODEL

GMP CERTIFICATION

TUV CERTIFICATION

ISO CERTIFICATION

PRIME MINISTER AWARD

PROMISING EXPORT FIRM

VERIFICATION OF INNOVATIVE COMPANY

CONTENTS

BIOTECHNOLOGY EQUIPMENT

A CONFIRMATION OF A VENTURE BUSINESS

INCUBATORS

BIOTECHNOLOGY & BIOMEDICAL EQUIPMENT CATALOGUE

- CO_2 INCUBATORS
- IR CONCENTRATORS
- LIVE CELL STATIONS
- SHAKERS & WATER BATHS
- BIO SAFETY CABINET
- STEM-CELL WORK STATION
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- BIOLOGICAL CLEAN ROOM

CO_2 SHAKING INCUBATOR ANICELL

NB-206CXL / NB-206CXXL

PORTABLE MINI CO_2 INCUBATOR

NB-203M

N-BIOTEK

SMALL CO_2 INCUBATOR

NB-203/ NB-203C

MEDIUM CO_2 INCUBATOR

NB-203XL

LARGE CO_2 INCUBATOR

NB-203XXL

CO_2 INCUBATOR WITH BUILT-IN ROLLER OR SHAKER

NB-203QR/ NB-203QS

GENERAL INCUBATOR WITH BUILT-IN ROLLER OR SHAKER

NB-205Q/ NB-205QR

STACKABLE INCUBATOR SHAKER

NB-205QM/NB-205QMC

REFRIGERATED INCUBATOR WITH BUILT-IN SHAKER

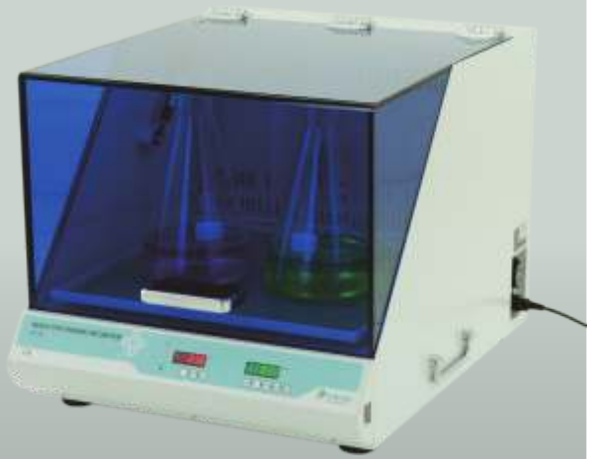
NB-205QF/NB-205VQ

MINI SHAKING INCUBATOR

NB-205

LARGE BENCHTOP SHAKING INCUBATOR

NB-205L / NB-205LF



REFRIGERATED INCUBATOR (Vertical type)

NB-205V/ NB-205VL

GENERAL INCUBATOR

NB-201/ NB-201C/ NB-201L

HYBRIDIZATION INCUBATOR

NB-202R/NB-202

INCUBATORS

CO_2 SHAKING INCUBATOR
CO_2 INCUBATOR
SHAKER & INCUBATOR
REFRIGERATED INCUBATOR (VERTICAL TYPE)
MINI SHAKING INCUBATOR
SHAKING INCUBATOR
GENERAL INCUBATOR
HYBRIDIZATION INCUBATOR

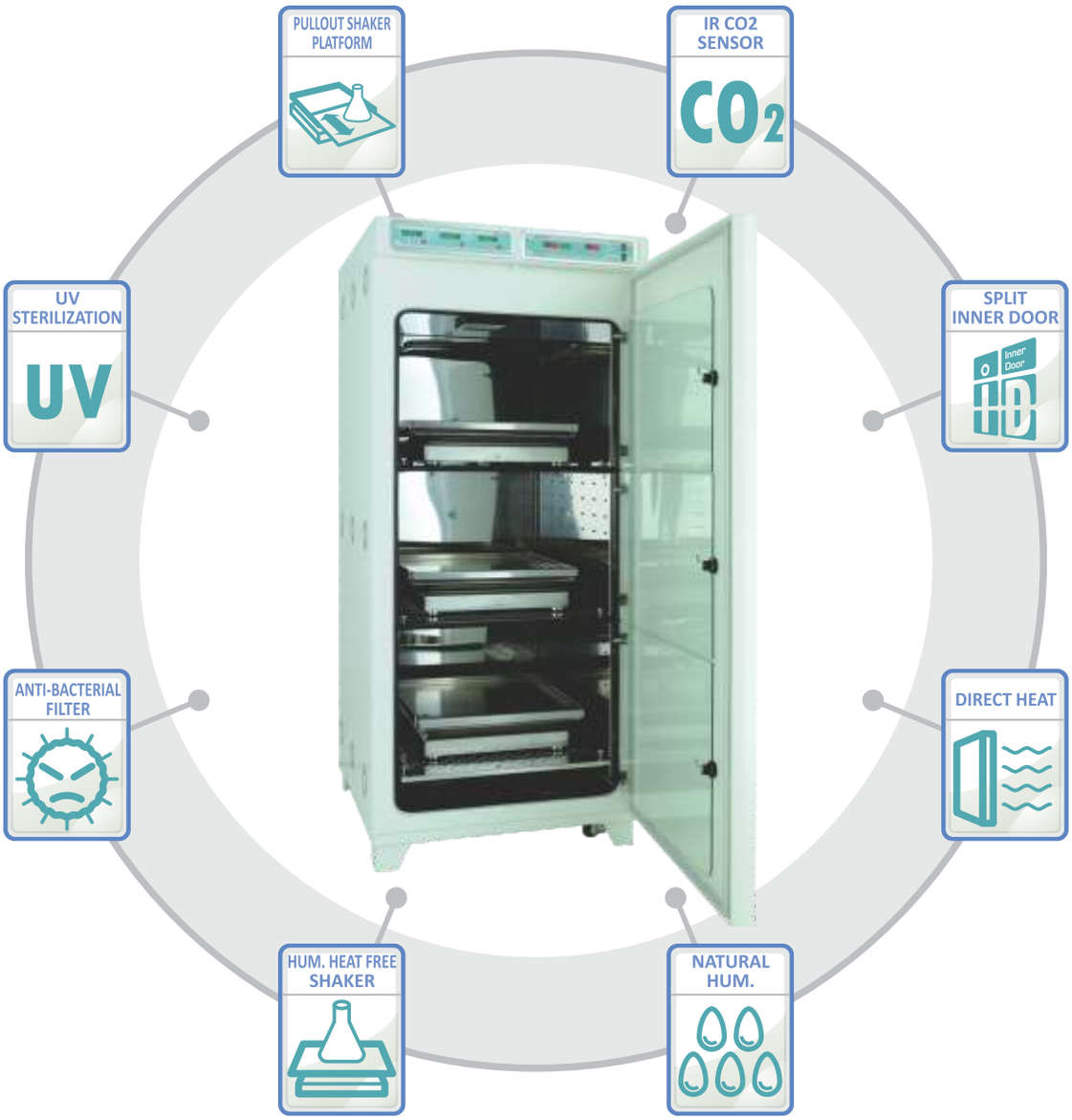
CO_2 SHAKING INCUBATOR aniCell™

- The Anicell shaking CO_2 incubator is ideal for use in the fields of bio similar production, proteomics, crystallography, genomics, cell biology and new drug development. A large capacity CO_2 incubator with separable long life shakers provide the optimum solution for cell culture in suspension
- The Anicell's internal chamber is subdivided into 3 compartments each holding a separable orbital shaker which can hold Erlenmeyer, cylindrical flasks or deepwell blocks. Dual beam Infra Red sensor provides precise CO_2 control while the six side heating system ensures excellent temperature control and recovery and humidity. An outstanding Air Circulation System ensures temperature uniformity within all compartments.
- The unique patented orbital shakers are constructed with stainless steel to minimize contamination and aid cleaning. Brushless magnetic plate induction design allows these shakers to be used in highly humid environments and operate vibration free without generating particulates. Noise free these powerful shakers can be used for many years with reliability guaranteed.

Outer door Open

Inner doors Open

Slide Out Platform



Optimum and Superior Solution for Various Cell Culture

Features & Benefits

GROWING CELL SUSPENSION
The Anicell is designed to culture eukaryotic cells such as CHO, HEK, Hela etc. in suspension but can also be used as a static incubator if required.

INFRA RED SENSOR
Industry Standard Dual Beam Infra Red Sensor is used to maintain control of CO_2 density.

PULLOUT SHAKER PLATFORM
Platform of each shakers can be pulled out for loading flasks on each shakers efficiently.

STICKY MAT & VARIOUS HOLDERS
The orbital shakers can be used with sticky mats or dedicated flask holder trays or universal flask/tube holder plate.

INDIVIDUAL SHAKER CONTROL
Each orbital shaker can be individually controlled by an external control panel.

EXCELLENT TEMPERATURE CONTROL
All 6 sides are directly heated and combined with P. I. D control to ensure that temperatures are reached quickly and uniformity is maintained. Further the system combines forced air and natural convection to maintain the best temperature uniformity at al times.

HIGH NATURAL HUMIDIFICATION
A deep and wide humidity tray allows a high and natural humidity to be generated.

SPLIT INNER GLASS DOORS
The internal chamber is separated into three compartments each with its own shelve, shaker and glass door. This design prevents excessive loss of heat and CO_2 when removing flasks etc.

HUMIDITY DISPLAY
LED display of actual humidity in the chambers informs the user of time to supplement the water in the humidity tray.

AUTO RESTART FUNCTION
Each shaker has an autostart function such that if the glass inner door to each compartment is opened the shaker in that compartment stops and starts again when the door is closed. Auto start is also enabled if there is a power cut.

UV LAMP
A UV lamp sited next to the circulation fan works to sterilize the air in the incubator even during cell culturing. The UV lamp can be turned on or off by a switch on the front panel.

STAIN RESISTANT INTERIOR
The inner chamber and all orbital shakers are constructed with stainless steel SUS304 which is designed for use in GMP facility and is resistant to rust formation in high humidity conditions.

ANTI-BACTERIAL FILTER
A HEPA filter, located in post circulation fan, traps microbes and helps to maintain a sterile environment.

REMOVABLE SHELVES
Larger growth vessels like 5 or 10 liter flasks can be accommodated by completely removing the shelves.

aniCell™

Specifications

Specifications

INCUBATOR	NB-206CXL	NB-206CXXL
Temp. range	Ambient +5℃ to 60℃	Ambient +5℃ to 60℃
Temp. accuracy	±1℃ at 37℃	±1℃ at 37℃
Humidity	≥70% at 37℃	≥70% at 37℃
CO2 range	0% to 20%	0% to 20%
CO2 accuracy	±0.3% at 5% at 37℃	±0.3% at 5% at 37℃
CO2 sensor	IR CO2 sensor	IR CO2 sensor
CO2 inlet pressure	0.7 ~ 1 bar	0.7 ~ 1 bar
Outer door	Silicon packing magnet door	Silicon packing magnet door
Inner door	Each inner door of 3 Shelves	Each inner door of 3 Shelves
Display	LED Display	LED Display
Jacket type	Air jacket type (6 sides heating)	Air jacket type (6 sides heating)
Filter	Anti-Bacterial Hepa filter	Anti-Bacterial Hepa filter
Sterilization	U.V 4Wx1ea	U.V 4Wx1ea
Chamber volume	650 liter	850 liter
Shelves	3ea	3ea
Chamber dimensions	700(W)x650(D)x1430(H)mm	700(W)x800(D)x1530(H) mm
Each compartment dimension	Compartment 1(Bottom): 700(W)x650(D)x430(H) mm Compartment 2, 3 (Middle, Top): 700(W)x650(D)x380(H) mm	700(W)x800(D)x410(H) mm
Overall dimensions	820(W)x780(D)x1740(H) mm	820(W)x920(D)x1840(H) mm
Weight	323kg	393kg
Power	110/220V, 50/60Hz	110/220V, 50/60Hz
SHAKER		
Shaking motion	Orbital	Orbital
Speed range	30 to 200 rpm	30 to 250 rpm
Speed accuracy	±1rpm	±1rpm
Speed increment	1rpm	1rpm
Time range	Continuous or up to 47h 59mins	Continuous or up to 47h 59mins
Time accuracy	±1%	±1%
Time increment	1 minute	1 minute
Motor	Plate type BL/DC Motor	Plate type BL/DC Motor
Drive system	Beltless direct drive	Beltless direct drive
Orbit diameter	25mm	25mm
Platform size	520(W)x520(D) mm	520(W)x520(D) mm
Dimension	465(W)x540(D)x125(H) mm	465(W)x540(D)x125(H) mm

Maximum allowance for flask capacity

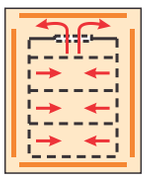
FLASK CAPACITY	NB-206CXL	NB-206CXXL
125ml Flask	MAX. 156 EA	MAX. 156 EA
250ml Flask	MAX. 90 EA	MAX. 90 EA
500ml Flask	MAX. 60 EA	MAX. 60 EA
1000ml Flask	MAX. 48 EA	MAX. 48 EA
2000ml Flask	MAX. 9 EA	MAX. 27 EA

*Optimum performance for maximum allowance can be obtained at 150rpm.

CO_2 SHAKING INCUBATOR WITH 2 BUILT-IN SHAKER (NB-206CL)

- NB-206CL is small and economical version of Anicell. This 179Liter Direct Heat CO_2 incubator is equipped with built-in two detachable mini shakers on 2 shelves. This is ideal for small capacity of suspension cell culture. It is also available to be used as typical CO_2 incubator if shakers are taken out from shelve.
- Temperature, CO_2 %, RPM of 2 shakers, Humidity are respectively displayed. Humidity is naturally formed by water pan located floor of chamber. Built-in shaker is run by BLDC Magnetic Induction Drive having advantage such as low noise, low vibration, low particle or heat occurrence.
- Much Smaller Foot Print and Economical Price than Anicell. This Smaller chamber than Large Anicell is better to provide more stable temperature, CO_2 control, faster recovery time.

*Incubator Design is Same with NB-203XL.



Natural Air and Moisture Convection
Air and Moisture in chamber are distributed naturally by 6 side heating, air circulation fan.

Plate type Brushless DC MOTOR provides Low Vibration, Low Dust & Low Noise.

Accessories

Detail about accessories are written at the end of the section.

						
GAS Regulator	CO_2 Analyzer	Spring Rack	Microplate Rack	100ml x 16ea	250ml x 9ea	500ml x 5ea

Features

- Economical and Small volume CO_2 Incubator Shaker.
- 179Liter CO_2 Incubator with built-in two Mini Shakers
- Low Noise and Vibration Using small BLDC motor Shaker
- Excellent uniformity of CO_2, Temperature, Humidity in small 179Liter Chamber.
- Shaker is detachable and it can be used for adherent cell culture in that case.
- Non Slip Rubber Pad (standard) and Sticky mat is available (Optional)
- Various Platforms (Flasks 100ml, 250ml, 500ml, 1000ml, Tube Rack, 96-Well Micro Plate Rack)
- Natural Humidification using water tray on the bottom of Chamber heated.
- Controlling each shakers in control at out of chamber
- View RPM and Temperature, Humidity on LED display.

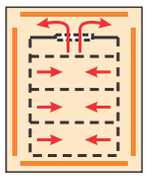
Specification

Items	Unit	NB-206CL
INCUBATOR		**CO_2 INCUBATOR**
Temp. range		Ambient +5℃ to 50℃
Temp. accuracy		±0.25℃ at 37℃
Controller		Microprocessor Digital PID Control
Humidity		≥70% at 37℃
CO_2 range		0% to 20%
CO_2 accuracy		±0.1% at 5% at 37℃
CO_2 increment		0.1%
CO_2 sensor		IR CO_2 Sensor
Outer door		Silicon Packing Magnet Door
Inner door		Tempered Safety Glass Door
Display		LED Display
Jacket type		Dry wall type (6 sides direct heating type)
Capacity		179Liter
Shelves		2ea
Chamber dimension		473(W)x528(D)x710(H)mm
Overall dimension		560(W)x665(D)x945(H)mm
Power		110/220V, 50/60Hz
SHAKER		**Built-in Shaker**
Motion		Orbital
Speed range		30 to 200 Rpm
Speed accuracy		±1 rpm
Speed increment		1 rpm
Time range		Continuous or up to 47hours 59min
Time increment		1 min
Motor		Plate type BL/DC motor
Drive System		Beltless direct drive
Orbit diameter		22mm
Platform size		300(W)x330(D)mm
Shaker Dimensions		305(W)x350(D)x75(H)mm

CO_2 INCUBATOR (NB-203/NB-203XL/NB-203XXL)

The incubator is ideal for the experiments involving cultivation of animal cells, sperm/ovum, anaerobic cells, all types of microbe cells, hatching/germinating and special tissues.

Special Features

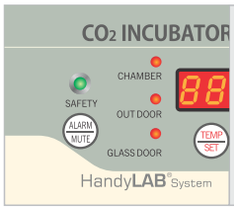


Natural Air and Moisture Convection
Air and Moisture in chamber are distributed naturally by 6 side heating, air circulation fan.

Perforated Shelves are good for natural air flows and are made of stainless steel which are resistant against rust and contamination.

Rounded Conner allows easy cleaning. Entire chamber is made of stainless steel(SUS304)

Access Port(Optional) for additional device used in chamber.



Alarm System
Buzzer to alarm low or high deviation of CO_2, Temperature.

Over Heating Limit. Heating is automatically cut by safety device when temperature control failed or there is excessive heating over set point.

Features

Fast Heat-Up, Fast-Recovery, Stable Control

- **6 Sides Direct Heating System**
  Electric Heating wire is covered on all sides of chamber which makes stable uniformity and provides fast heat-up & temperature recovery.
  3 parts of heating section are controlled and calibrated individually by 3 temperature sensors.
- **Dry Wall and Air Jacket**
  Warm Air from heating wire is preserved in space between chamber and insulation. It helps temperature recovered faster and minimize heat loss.
  Dry wall with insulation is not required to regular maintenance.
- **DUAL BEAM IR CO_2 Sensor**
  Fast & Precise Detection for CO_2 gas regardless of temperature and humidity.
- **Natural Humidification using Water Tray**
  The heater on bottom side warm the water in tray and it makes humidification. Circulation fan deliver the moisture formed from the water in entire chamber.
- **No Condensation**
  Heating by front door heater & frame heater prevent condensation in chamber and on glass door.
- **Microprocessor PID Control**
  Intelligence Control for CO_2 density, Temperature, Alarm, Automatic Decontamination(Optional).
- **HEPA filtration of gas supply inlets**
- **Various Option**
  Refer to page 21, various option such as decontamination, Oxygen Control is available in CO_2 incubators.
- **Customization**
  Whenever user wants to have customized function and design, feel free to contact international sales dept. We will give the user best customization solution.

Stacked NB-203 Stacked NB-203XL

Inside

Chamber inside NB-203

Chamber inside NB-203XXL

Chamber inside NB-203XL

Options

Customize your incubator with these options

ACCESS PORT

25mm Access Port is available at left side.
(Upon ordering and additional charge)

MULTI GAS CONTROL

O_2

O_2 control
Multi Gas Supply(N_2& O_2) is available for all CO_2 incubators. But, NB-203 is recommendable due to High Gas consumption when performing Hypoxia or Hyproxia.

UV STERILIZE

UV

UV sterilization
4W UV is placed up of chamber ceiling and beside of circulation fan. The UV light is not reached to sample and sterilization is operated during culturing.

HOT AIR DECON

120℃

Maximum 125℃ Dry Hot Air in NB-203, NB-203XL
Maximum 100℃ Dry Hot Air in NB-203XXL.
No need to remove IR CO2 sensor

COOLING CONTROL

Peltier is applicable in NB-203 & NB-203XL. -5℃ from room temperature but maximum lowest temperature is up to 20℃.

MONITORING SYSTEM

Monitoring System
Using Internet network, Monitoring system has been designed to observe the status of equipments in real time even in the far distance.

COPPER CHAMBER

NBIOTEK customize chamber with oxidizing copper/copper-plated chamber for enhanced contamination protection.

SPLIT INNER DOOR

Inner Door

Lower Gas Consumption
Lower Heat Loss
Faster Recovery
Easy Classification for Various samples.
5 Split Door for NB-203
6 Split Door for NB-203XL

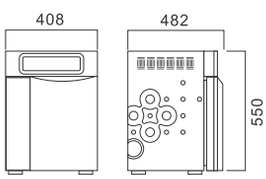
SPLIT INNER DOOR

CO_2 INCUBATORS

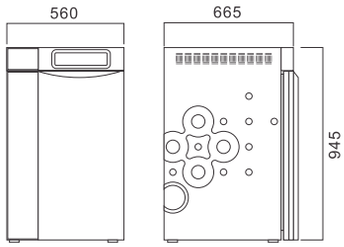


Specification

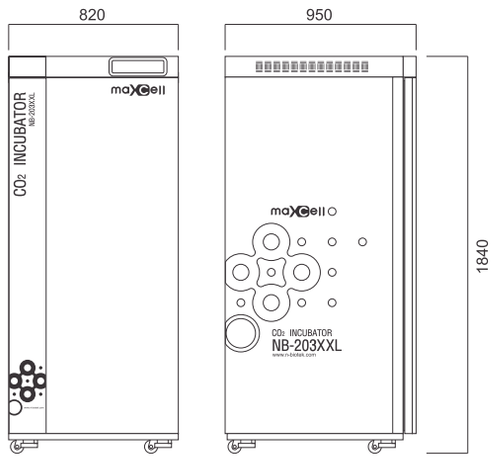
Items	Unit	NB-203	NB-203XL	NB-203XXL
Temperature				
range	℃	Ambient +5℃ to 60℃	Ambient +5℃ to 60℃	Ambient +5℃ to 60℃
accuracy	℃	±0.25℃ at 37℃	±0.25℃ at 37℃	±0.5℃ at 37℃
increment	℃	0.1℃	0.1℃	0.1℃
control		Microprocessor Digital PID	Microprocessor Digital PID	Microprocessor Digital PID
CO_2				
range	℃	0% to 20%	0% to 20%	0% to 20%
accuracy		±0.1% at 5% at 37℃	±0.1% at 5% at 37℃	±0.1% at 5% at 37℃
increment		0.1%	0.1%	0.1%
sensor		IR CO2 Sensor	IR CO2 Sensor	IR CO2 Sensor
control		Microprocessor	Microprocessor	Microprocessor
inlet pressure range		0.3~0.5bar	0.6~0.7bar	0.9~1.0bar
Door				
out door		Silicon Packing Magnet Door	Silicon Packing Magnet Door	Silicon Packing Magnet Door
inner door		Tempered Glass Door	Tempered Glass Door	Tempered Glass Door
Operating panel		Individual 2 Channel Touch Button	Individual 2 Channel Touch Button	Individual 2 Channel Touch Button
Display		LED Display	LED Display	LED Display
Jacket type		Dry Wall Type (6 sides heat)	Dry Wall Type (6 sides Heat)	Dry Wall Type (6 sides Heat)
Chamber material		Stainless Steel (304)	Stainless Steel (304)	Stainless Steel (304)
Chamber volume	liter	42 liter	179 liter	850 liter
Number of shelves		2ea (Max shelves 4ea)	3ea (Max Shelves 8ea)	3ea (Max Shelves 15ea)
Chamber dimension	mm	320(W)x350(D)x370(H)mm	473(W)x528(D)x710(H)mm	698(W)x799(D)x1528(H)mm
Overall dimension	mm	408(W)x482(D)x550(H)mm	560(W)x665(D)x945(H)mm	820(W)x950(D)x1840(H)mm
Power	V/Hz	110/220V,50/60Hz,400W	110/220V,50/60Hz,600W	110/220V,50/60Hz,1.2kW
Weight	kg	35kg	78kg	266kg



NB-203



NB-203XL



NB-203XXL

Option specification

Items	Unit	U.V DECONTAMINAATION
Length	Nanometer	253.7nm
Power(Watt)	W	4GW/1ea

Items	Unit	DRY HOT AIR DECONTAMINATION
Temperature		
range		Max 125℃ for NB-203, NB-203XL / Max 100℃ for NB-203XXL Time 8 Hours Programmed Decontamination 3~4 Hours Recovery Time to re-set at 37℃ and 5%
control		Safety Door Lock during Decontamination

Items	Unit	OXYGEN CONTROL (Hypoxia or Hyproxia)
Available in NB-203 and NB-203XL		
range		0.5~19% or 20~99%
sensor		Zirconium Dioxide Oxygen Sensor

Accessories

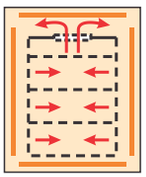
				
GAS Regulator	CO_2 Analyzer	SHELVES	ROLLER BASE	STACKING KIT
NB-203 NB-203XL NB-203XXL	NB-203 NB-203XL NB-203XXL	NB-203 NB-203XL NB-203XXL	NB-203 NB-203XL	NB-203 NB-203XL

CO_2 INCUBATOR WITH BUILT-IN ROLLER OR SHAKER (NB-203QR/NB-203QS)

Roller apparatus or Shaker is mountable on the bottom of chamber. Adherent and Suspension Cell culture are simultaneously conducted at an incubator. All operation for built-in apparatus is controlled at external control panel.

NB-203QR


NB-203QR Inside



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Perforated Shelves are good for natural air flows as well stainless are resistant against rust and contamination.

Rounded Conner allows easy cleaning. Entire chamber is made of stainless steel(SUS304)

Over Heating Limit. Heating is automatically cut by safety device when temperature control failed or excessive heating over set point.

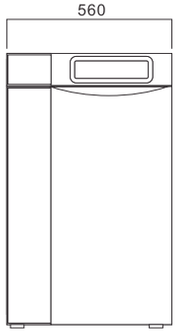
Accessories

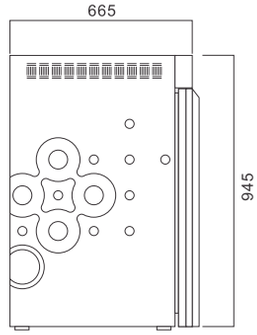
Detail about accessories is written at the end of section.


GAS Regulator


CO_2 Analyzer


SHELVES





Features

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- **Dry Wall and Air Jacket**
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- **DUAL BEAM IR CO_2 Sensor**
  Fast & Precise Detection for CO_2 gas regardless temperature and humidity.
- **Natural Humidification using Water Tray**
  The heater on bottom side warm the water in tray and it makes humidification. Circulation fan deliver the moisture formed from the water in entire chamber.
- **No Condensation**
  Heating by front door heater & frame heater prevent condensation in chamber and on glass door.
- **Microprocessor PID Control**
  Intelligence Control for CO_2 density, Temperature, Alarm, Automatic Decontamination(Optional).
- **Roller Apparatus in CO_2 incubator(NB-203QR)**
  Standard - 4 Bottles (ϕ 100mm ~ 120mm) Customization-Contact N-BIOTEK sales team.
- **Built-in Shaker for mammalian cell culture with suspension**
  Mini Shaker(NB-101S) is placed on bottom of chamber. 100 ~ 1000ml flasks available.
  BLDC motor allows incubator no vibration, no particle occurrence, no noise which are ideal for dual cell culture(adherent and suspension) in one incubator at one time.
- **Controlling internal shaker and roller at outside**
  Using cable, no need to open the door to set built-in apparatus.

Specification

Items	Unit	NB-203QR	NB-203QS
Temperature			
Range	℃	Ambient +5℃ to 60℃	Ambient +5℃ to 60℃
Accuracy	℃	±0.25℃ at 37℃	±0.25℃ at 37℃
Increment	℃	0.1℃	0.1℃
CO_2			
Range	%	0% to 20%	0% to 20%
Accuracy	%	±0.1% at 5%/37℃	±0.1% at 5%/37℃
Increment	%	0.1%	0.1%
Control		Microprocessor digital	Microprocessor digital
Built-in Apparatus		Roller apparatus	Shaker
Speed			
Range	rpm	0.2rpm to 5rpm	30rpm to 300rpm
Accuracy	rpm	±0.1rpm	±1rpm
Increment	rpm	0.1rpm	1rpm
Control		Microprocessor digital	Microprocessor digital
Time			
Range	hr	Continuous or up to 99h 59min	Continuous or up to 47h 59min
Memory(running)	hr	Remainning Time	
Door			
Outer		Silicon packing magnet door	Silicon packing magnet door
Inner		Tempered glass door	Tempered safety glass door
Display		LED Display	LED Display
Jacket Type		Dry wall type (6 sides heat)	Dry wall type (6 sides heat)
Chamber Material		Stainless steel(304)	Stainless steel(304)
Chamber Volume	liter	179 liters	179 liters
Number Of Shelves		2 layer Roller Rack+1 Shelve (2 Bottles for each layer)	1 Shaker+1 Shelve
Chamber Dimension	mm	473(W)x528(D)x710(H)mm	473(W)x528(D)x710(H)mm
Overall Dimension	mm	560(W)x665(D)x945(H)mm	560(W)x665(D)x945(H)mm
Power	V/Hz	110/220V, 50/60Hz, 600W	110/220V, 50/60Hz, 550W

PORTABLE MINI CO_2 INCUBATOR (NB-203M)

Compact & Economical Mini CO2 Incubator

NB-203M

MINICell™

Features

- 15.2Liter Chamber
- 6.8 kg Light Weight to carry
- Portable Use with carrying handle(Car Plug available)
- Economical Price & Compact Design for Personal Use
- Available size to use in work station or Clean bench
- Digital Set-Up for Temperature & CO_2
- Forced Air Circulation by Fan
- Excellent Temperature Uniformity
- Quick recovery & Precise CO_2 control by IR Sensor
- Cooling with very low noise
  - −Two Stainless Steel Shelves (Standard)
  - −Natural Humidification by Water Pan
- Cooling & Heating by peltier
- Stainless steel Water Tray
- Power Plug & Car Jack

NB-203M Inside

Accessories

Detail about accessories are written at the end of the section.

Car Jack

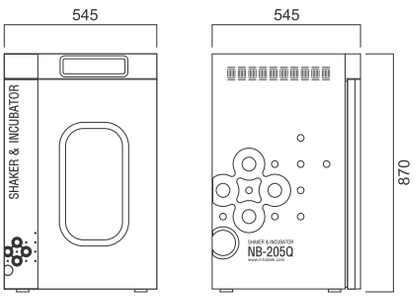
Specification

Items	Unit	NB-203M
Temperature		
Range		15℃ ~ 45℃ at Ambient 25℃
Accuracy		±0.25℃ at 37℃
Control		Micom
CO_2		
Range		0 ~ 20%
Sensor		Dual Beam IR Sensor
Accuracy		±0.1% at 5%
Humidity		Up to 80%
Gas Pressure		1Bar
Display		LED Display
Cooling & Heating		By Peltier (thermoelectric elements)
Internal Fan		Yes
Shelf		2, Stainless steel(standard) /Max(3ea)
Chamber Volume		15.2 liter
In & Outside Material		ABS resin
Dimension		
Inside		224(W)x200(D)x340(H)mm
Outside		292(W)x333(D)x433(H)mm
Weight		6.8kg
Power / Frequency		DC 12V, AC110V ~ 220V , 50~60Hz
Power Consumption		DC-COLD : 46W, HOT : 48W AC-COLD : 63W, HOT : 63W
Options		
203M-Hole		⌀12mm(Dia) Access Port with stopper
203M-SHELF		Additional Stainless steel Shelf
203M-SMPS		Free Volt(100V~240V)

GENERAL INCUBATOR WITH BUILT-IN ROLLER OR SHAKER (NB-205Q/NB-205QR)

NB-205QR is the general incubator with built-in Roller Apparatus.
NB-205Q is the incubator with built-in shaker.

NB-205QR

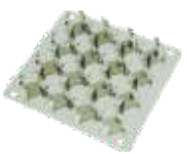


NB-205Q (Inner view)

NB-205QR (Inner view)

Accessories

Detail about accessories are written at the end of the section.

					
Spring Rack	Microplate Rack	100ml x 16ea	250ml x 9ea	500ml x 5ea	SHELVES

Features

- **Dual Function**
  Shaking or Rolling is conducted with general incubation on shelves at one time.
- **Microprocessor PID control**
  Control temperature and timer as well as function such as shaking or rolling.
- **BLDC motor system in NB-205Q**
  Blush Less DC motor installed in shaker of NB-205Q allows no vibration, no particle occurrence, no noise which enhance stable running of shaker or roller.
- **Automatic Stop when opening door**
  The shaker or roller automatically stops if the door is opened.
- **Window on outer door**
  User can observe sample or working status of shaker or roller in chamber through the window at center of door.

Specification

Items	Unit	NB-205Q	NB-205QR
Temperature			
range		Ambient +5℃ to 60℃	Ambient +5℃ to 60℃
accuracy		±0.25℃ at 37℃	±0.25℃ at 37℃
increment		0.1℃	0.1℃
control		Microprocessor digital PID	Microprocessor digital PID
Speed			
range		30rpm to 300rpm	0.2rpm to 5rpm
accuracy		±1rpm	±0.1rpm
increment		1rpm	0.1rpm
control		Microprocessor Digital PID	Microprocessor Digital PID
Time			
range		Continuous or up to 47h 59min	Continuous or up to 99h 59min
accuracy		0.1%	0.1%
increment		1 minute	1 minute
memory			Running time
Door		Silicon Packing Magnet Door	Silicon Packing Magnet Door
Operating panel		Individual 2 Channel Touch Button	Individual 2 Channel Touch Button
Display		LED Display	LED Display
Jacket type		Dry Wall (Direct Heating)	Dry Wall (Direct Heating)
Chamber material		Stainless Steel (304)	Stainless Steel (304)
Chamber volume		142 liter	142 liter
Number of shelves		1 Shaker + 2 Shelves	2 layer Roller Rack+1Shelve (2 Bottles for each layer)
Chamber dimension		480(W)x435(D)x694(H)mm	480(W)x435(D)x694(H)mm
Overall dimension		545(W)x545(D)x870(H)mm	545(W)x545(D)x870(H)mm
Power		110/220V, 50/60Hz, 400W	110/220V, 50/60Hz, 400W
Weight		65kg	70kg

STACKABLE INCUBATOR SHAKER (NB-205QM/NB−205QMC)

70L capacity constant temperature incubator with one built-in shaker is designed for table top use or for double–deck stacking. With bulit-in shaker, this incubator is widely used for suspension cell cutlure in microbiology, molecular biology. Stacking incubator is easy to install and save your lab space.

Stacking

BLDC

Reversible Shaking Motion Platform(option)

Stacking Kit

Features

- Suitable size for table top and double deck stcking.
- Easy-Simple-Safe Stacking Kit allow 2 deck stacking in short time easily.
- Stable Shaking and Low noise by BLDC Magnetic Induction Drive Motor
- One shaker is built-in and loading cacpcity is up to 1ea x 2L flask.
- Effective Pelteir Cooling(NB-205QMC only) down to 15℃ at 25℃(RT)
- Reversible door enable to switch open position of door
- Tempered pair glass window and inside LED lamp hlep to view inside clearly
- Effective Forced Air Circulation by internal fan
- Stainless Steel Chamber for easy cleaning and low contamination.
- Audiable Alarm upon event of error in Temp, Shaker, Door.
- Automtic shaker stop and internal lamp lighting when door open.
- Safety Thermostat prevents over heating.
- Reversible Shaker Mode Platform(Optional) enable reciprocating motion.
- Various Holders, Tube Rack, Micro Plate Rack avilable(Separate purchase)
  All accessories of NB-101S shaker is avilable in this shaker.

Specification

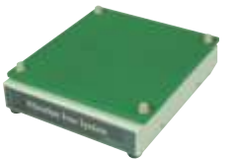
Items	Unit	NB-205QM	NB-205QMC
Temperature Range		RT+5°C - +60°C at 25°C RT	15°C ~ +60°C at 25°C RT
Temp. Control Accuracy		±0.5°C (*1)	±0.5°C(*1)
Heating / Cooling		Heater (300W), Cooling Not Avilable	Peltier device (72W x 3)
Circulation Fan		2ea(at back of chamber)	1 ea (at center back of chamber)
Temperature Safety		Safety Themostat(Accuracy ±5°C)	Safety Themostat(Accuracy ±5℃)
Internal Lamp		4W LED	4W LED
Operating temperature		+5°C - +35°C	+5°C - +35°C
Display		digital display, 5 Digit LED	digital display, 5 Digit LED
Shaker		One shaker built in	One Shaker Built in
Shaking Motion		Orbital	Orbital
Shaking Speed		30 - 300rpm (Upper stacked incubator up to 200rpm)	30 - 300rpm (Upper stacked Incubator up to 200rpm)
Orbit Size		22mm (≒1inch)	22mm (≒1inch)
Dimension of Platform		300 x 330mm(inside height: 330mm)	300 x 330mm(inside height: 330mm)
Loading Capacity		approx. 4.5kg (1L flask x 4ea, 2L x 1ea)	approx. 4.5kg (1L flask x 4ea, 2L x 1ea)
Timer of Shaker		range: 00h00min - 47h59min]	00h00min - 47h59min]
Door		Reversible one door with glass window	Reversible one door with glass window
Alarm		Temperature, Door, Shaker Audiable and Indicator Lamp	Temperature, Door Open, Shaker Audiable and Indicator Lamp
Electric Safety device		Fuse (built in with one spare)	Fuse (built in with one spare)
Dimensions		430W x 600D x 550Hmm	430W x 600D x 550Hmm
Weight		approx. 54.25kg	approx. 49kg
Power Supply		110 or 230V / 50/60Hz	110 or 230V / 50/60Hz
Standard Plate		Base Plate with non-slip rubber mat on shaker	Base Plate with non-slip rubber mat on shaker

REFRIGERATED INCUBATOR WITH BUILT-IN SHAKER (NB-205QF/ NB-205VQ)

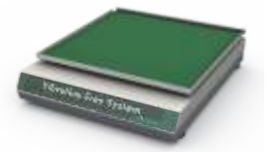
These incubators have built-in shaker for suspension cell culture as well as shelves for adherent cell culture. Optimized cooling function provides wide range of temperature.

NB-205VQ（230Liter with Medium Shaker)

NB-205QF（134Liter with Mini Shaker)



NB-101S in NB-205QF



NB-101M in NB-205VQ

PLATFORMS

NB-101S placed in NB-205QF		NB-101M placed in NB-205VQ	
101SPL	Platform	101MPL	Platform
101SH10	100ml Flask Holder x 16ea with Platform	101MH10	100ml Flask Holder x 36ea with Platform
101SH25	250ml Flask Holder x 9ea with Platform	101MH25	250ml Flask Holder x 23ea with Platform
101SH50	500ml Flask Holder x 5ea with Platform	101MH50	500ml Flask Holder x 16ea with Platform
101SH100	1000ml Flask Holder x 4ea with Platform	101MH100	1000ml Flask Holder x 9ea with Platform
101SS	Spring Rack with Platform	101MH200	2000ml Flask Holder x 4ea with Platform
101SM	Microplate Rack x 6ea with Platform	101MS	Spring Rack with Platform
		101MM	Microplate rack x 8ea with platform

Test Tube Rack available in both shakers.	
101STR14	Tube Rack <14mm> : 10ml tube x 56holes
101STR16	Tube Rack <16mm> : 15ml tube x 32holes
101STR19	Tube Rack <19mm> : 15ml x 32holes
101STR50	Tube Rack <30mm> : 50ml x 10holes

Features

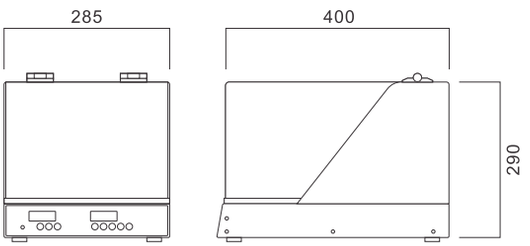
- **Dual Function in one incubator**
  Suspension cell culture is conducted on built in shaker with adherent cell culture on shelve in one incubator at one time. User can enjoy dual function while using one incubator.
- **Microprocessor PID control**
  Intelligence MICOM controls temperature and timer, built-in shaker.
- **Controlling Built-in shaker at outside**
  User doesn't need to open the door to operate internal devices. All control is available at external control panel.
- **BLDC motor system**
  Blush Less DC motor installed in shaker of NB-205Q allows no vibration, no particle occurrence, no noise which enhance stable running of shaker. Its flat construction minimizes vibration.
- **Automatic Stop when opening door**
  The shaker automatically stops if the door is opened.
- **Full Inner glass door**
  User can clearly observe sample or working status of shaker in chamber through full tempered inner glass door without temperature loss.
- **Low Temperature Range**
  The temperature is available up to 5℃. Built-in shaker works fine in this range.
- **Easy-Placing of vessel rack or platform**
  Without any bolts fastening accessory platform, the platform is placed easily on shakers as well as works even in high RPM.

Specification

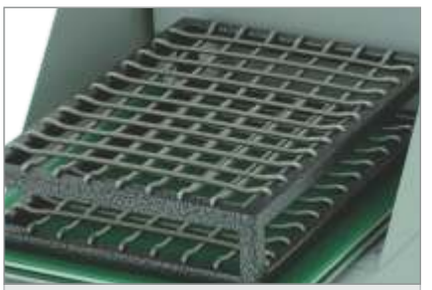
Items	Unit	NB-205QF	NB-205VQ
Temperature			
range		5℃ to 60℃	5℃ to 60℃
accuracy		±0.25℃ at 37℃	±0.25℃ at 37℃
increment		0.1℃	0.1℃
control		Microprocessor digital PID	Microprocessor digital PID
Speed			
range		30rpm to 300rpm	30rpm to 300rpm
accuracy		±1rpm	±1rpm
increment		1 rpm	1 rpm
control		Microprocessor digital PID	Microprocessor digital PID
Time For Shaker			
accuracy		0.1%	0.1%
increment		1 minute	1 minute
Door			
out door		Silicon Packing Magnet Door	Silicon Packing Magnet Door
inner door		Tempered Safety Glass Door	Tempered Safety Glass Door
Operating panel		Individual 2 Channel Touch Button	Individual 2 Channel Touch Button
Display		LED Display	LED Display
Jacket type		Dry Wall Type	Dry Wall Type
Chamber material		Stainless Steel (304)	Stainless Steel (304)
Cooling		Compressor 1/8 HP	Compressor 1/4 HP
Chamber volume		134 liter	230 liter
Number of shelves		1 Platform+2 Shelves	1 Platform+2 Shelves
Chamber dimension		473(W)x400(D)x710(H)mm	520(W)x520(D)x850(H)mm
Overall dimension		560(W)x660(D)x1250(H)mm	585(W)x740(D)x1335(H)mm
Power		110/220V, 50/60Hz, 1.1kW	110/220V, 50/60Hz, 1.5kW
Weight		115kg	153kg

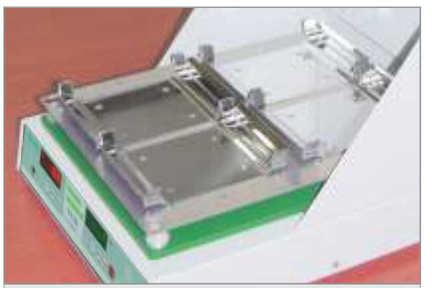
MINI SHAKING INCUBATOR (NB-205)

This is compact size shaking incubator while it has powerful shaking and large work space for various vessel platforms. With benefit of small foot print, it allows stable shaking and precise temperature control.




Flask Holder Rack


Spring Rack


Microplate Rack(96 Well plate)

Accessories

Detail about accessories are written at the end of the section.

					
Spring Rack	Microplate Rack	100ml x 12ea	250ml x 8ea	500ml x 5ea	Holders

Features

Compact but, Powerful

- **Microprocessor PID control**
  Intelligence PID controls temperature and timer, built-in shaker.
- **Excellent Temperature Uniformity**
  Due to small chamber and efficient air flow system, temperature uniformity is ideal.
- **Small Foot Print & Light Weight**
  Compact & Light make it used widely at various space.
- **Easy-Placing of vessel rack or platform**
  Without any bolts fastening on accessory platform, the platform is placed easily on shakers as well as works even in high RPM.
- **Automatic Stop when opening door**
  The shaker automatically stops if the door is opened.
- **BLDC motor system**
  Brushless DC motor installed in shaker of NB-205 allows no vibration, no particle occurrence, no noise which enhance stable running of shaker. Its flat construction minimizes vibration.

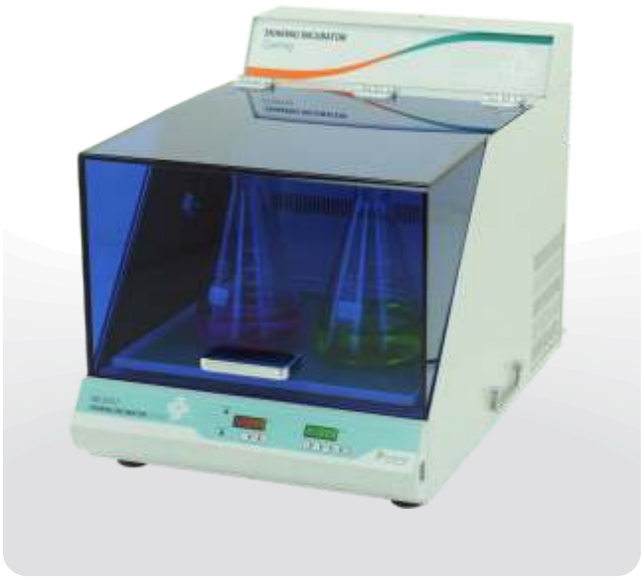
Specification

Items	Unit	NB-205
Temperature		
range	℃	Ambient +5℃ to 60℃
accuracy	℃	±0.25℃ at 37℃
increment	℃	±0.1℃
control		Microprocessor digital PID
Speed		
range	rpm	30 to 300rpm
accuracy	rpm	±1rpm
increment	rpm	±1rpm
Time		
range		Continuous or up to 47h 59min
accuracy		±1min
Motor		Plate Type Brushless DC Motor
Temp. Controller		Microprocessor Digital PID
Drive system		Beltless Direct Drive
Orbit Diameter	mm	22mm
Operating panel		Touch Button
Platform size	mm	250(W)x310(D)mm
Dimensions	mm	285(W)x400(D)x290(H)mm
Power	V/Hz	110/220V, 50/60Hz, 250W
Weight	kg	13kg

LARGE BENCHTOP SHAKING INCUBATOR (NB-205L/NB-205LF)

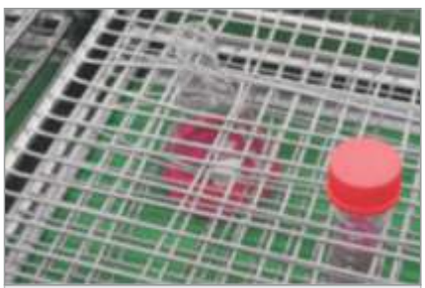
With precise temperature control, NB-205L is used for thermophile culture, the experiment of ferment catalyst, microbe/plant cell culture and extraction.

NB-205L



NB-205LF
Refrigeration

Door Open



Spring Rack

Comparison With NB-205

Accessories

Detail about accessories are written at the end of the section.

					
100ml x 36ea	250ml x 23ea	500ml x 16ea	1000ml x 9ea	2000ml x 5ea	Spring Rack

Features

Compact but, Powerful

- **Artificial Intelligence system**
  Artificial Intelligence system maintains precise temperature by using MICOM.
- **Suitable for bench space**
  Simple & convenient structure for experiment can be placed on testing bench.
- **Precise temperature control**
  Special design for convection allows precise temperature control.
- **Automatic stop function**
  When the cover is opened, it automatically stops for safety and convenience.
- **Once-piece construction with acrylic cover**
  Trans-parent acrylic cover provides wide observation during experiment.
  Brushless DC motor provides low nosie and no vibration.
- **Easy to change various accessory platforms**
  Various accessories(100ml~2000ml, spring rack and micro-plate rack) can be placed and replaced easily.
- **Watch dog function**
  Unexpected stop occurred by power failure or somebody is shown to the users.
- **Refrigeration Model (NB-205LF)**
  -Compact Size but, refrigeration available up to 4℃ (at less than 16℃ RT)
  -Size of Chamber and Platform same with NB-205L but, overall size is bigger due to compressor
  -Stable Low Temperature Control for long time by using natural defrosting system.

Specification

Items	Unit	NB-205L	NB-205LF
Temperature			
range	℃	Ambient +5℃ to 60℃	12℃ Below Ambient to 60℃
accuracy	℃	±0.25℃ at 37℃	±1.0℃ at 37℃
increment	℃	±0.1℃	±0.1℃
control		Microprocessor digital PID	Microprocessor digital PID
SPEED			
range	rpm	30 to 300rpm	
accuracy	rpm	±1rpm	
increment	rpm	1rpm	
Time			
range		Continuous or up to 47h 59min	
accuracy		±1%	
Motor		Plate Type Brushless DC Motor	
Drive system		Beltless Direct Drive	
Orbit Diameter		22mm	
Operating panel		Touch Button	
Platform size	mm	450(W)x450(D)mm	
Platform capacity		100mlx36ea, 250mlx23ea, 500mlx16ea, 1000mlx9ea, 2000mlx5ea, spring rack, Microplate Rack	
Chamber Dimensions	mm	510(W)x500(D)x330(H)mm	
Overall Dimensions	mm	510(W)x600(D)x470(H)mm	550(W) x790(D)x555(H)mm
Power	V/Hz	110/220V, 50/60Hz, 450W	110/220V, 50/60Hz, 700W (Max. 2kW)
Weight	kg	56kg	78kg

REFRIGERATED SHAKING INCUBATOR(Vertical type) (NB-205V/NB-205VL)

This Chest Type Shaking Incubator allows user easy access to sample and large temperature range for various cell cultures.

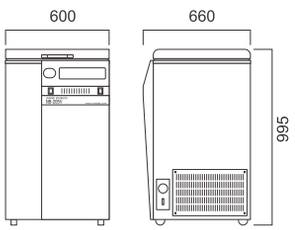
NB-205VL

Proper height of platform <63cm> makes it convenient and easy to reach the sample without too much bending.

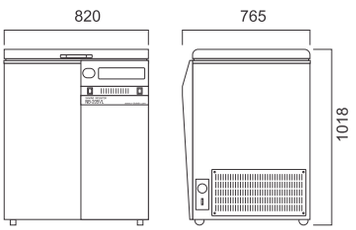
Filter on the condenser is equipped to protect compressor from dusts.

Plate type Brushless DC MOTOR provides low noise and no vibration.

Large Spring Rack for universal use of culture vessel

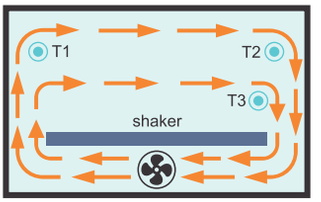


NB-205V

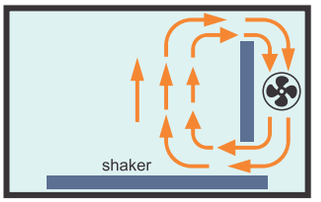


NB-205VL

Air circulation through all sides of inner chamber provides the precise control and uniformity of temperature.



N-BIOTEK (NB-205V)



Typcal Shaking Incubator

Accessories

Detail about accessories are written at the end of the section.

				
Platform (Tube Rack & Holder)	Spring rack	250ml x 23ea	2000ml x 4ea	Holders

Features

Wide Range of Temperature & Proper Height

- **Wide Range of Temperature(4℃ ~ 60℃)**
  Powerful compressor produces lowest temperature compare to its competitors.
- **Proper Height for easy access to sample**
- **BLDC motor system**
  Brushless DC motor installed in shaker of NB-205Q allows no vibration, no particle occurrence, no noise which enhance stable running of shaker. Its flat construction minimizes vibration.
- **Automatic Stop when opening door**
  The shaker automatically stops if the door is opened.
- **Window on the door**
  User can fully observe sample or working status of shaker in chamber through the window at the center of door without opening door.
- **Easy-Placing of vessel rack or platform**
  Without any bolts fastening accessory platform, the platform is placed easily on shakers as well as works comfortably even in high RPM.
- **Illumination System(Option)**
  Upon user's request, fluorescent lamp or UV Lamp is installable to be fit with user's desired lux. This option is provided with Automatic on & off 24 hours Timer.

NB-205VL Open (option)

Specification

Items	Unit	NB-205V	NB-205VL
Temperature			
range	℃	4℃ to 60℃	4℃ to 60℃
accuracy	℃	±0.25℃ at 37℃	±0.25℃ at 37℃
increment	℃	0.1℃	0.1℃
control		Microprocessor digital PID	Microprocessor digital PID
SPEED			
range	rpm	30 to 300rpm	30 to 300rpm
accuracy	rpm	±1 rpm	±1rpm
increment	rpm	1rpm	1rpm
Time			
range		Continuous or up to 47h 59min	Continuous or up to 47h 59min
accuracy		±1%	±1%
Door safety		Auto-stop when door is open	Auto-stop when door is open
Motor		Plate Type Brushless DC Motor	Plate Type Brushless DC Motor
Orbit Diameter	mm	22mm	22mm
Operating panel		Touch Button	Touch Button
Cooling		1/4HP Compressor	1/4HP Compressor
Platform size	mm	450(W)x450(D)mm	720(W)x610(D)mm
Dust filter		Attached side filter	Attached side filter
Dimensions	mm	600(W)x660(D)x995(H)mm	820(W)x765(D)x1018(H)mm
Power	V/Hz	110/220V, 50/60Hz, 1.5kW	110/220V, 50/60Hz, 1.7kW
Weight	kg	106kg	150kg
Optional		Internal illumination	Internal illumination

GENERAL INCUBATOR (NB-201/NB-201C/NB-201L)

It is useful to incubate or germinate for all kind of microbes, cells, bacteria and germs. Microprocessor controller set for temperature accuracy and reproducibility. Especially, NB-201C makes it possible to cultivate cells under ambient temperature by Peltier element.

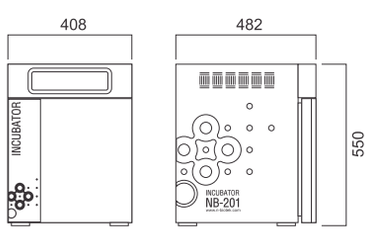
NB-201/NB-201C

NB-201L

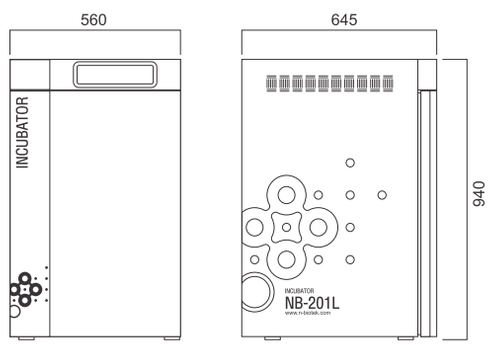
Accessories

Detail about accessories are written at the end of the section.

SHELVES



NB-201



NB-201L

Features

- **Artificial intelligence system (NB-TAC SYS)**
  Temperature uniformity is maintained precisely even in the natural convection by intelligent adjustment equipment (NB-TAC SYS).
- **Microprocessor controller**
  Temperature accuracy and reproducibility are excellent by using Microprocessor controller.
- **Safety switch**
  Safety switch is equipped to prevent overheating.
- **Inner glass door**
  Inner glass door allows the observation without opening the door.
- **Peltier (NB-201C)**
  Cooling system allows the experiment in lower temperature than ambient temperature

NB-201 Inside

Specification

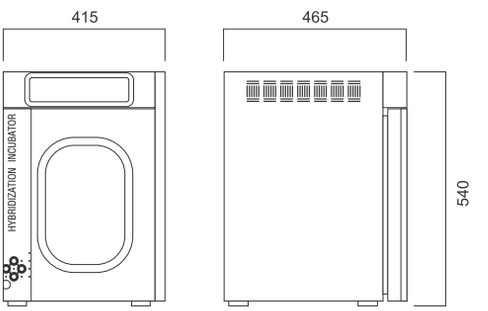
* In case of Peltier Incubator, the lowest set-up temperature is 17℃ at less than 20℃ ambient

Items	Unit	NB-201	NB-201C	NB-201L
Temperature				
range		Ambient +5℃ to 60℃	5℃ Below Ambient to 60℃	Ambient +5℃ to 60℃
accuracy		±0.3℃ at 37℃	±0.3℃ at 37℃	±0.3℃ at 37℃
increment		0.1℃	0.1℃	0.1℃
cooling			Peltier	
control		Microprocessor digital PID	Microprocessor digital PID	Microprocessor digital PID
Door				
out door		Silicon Packing Magnet Door	Silicon Packing Magnet Door	Silicon Packing Magnet Door
inner door		Tempered Safety Glass Door	Tempered Safety Glass Door	Tempered Safety Glass Door
Operating panel		Touch Button	Touch Button	Touch Button
Display		LED Display	LED Display	LED Display
Air flow		Forced Air convection	Direct Heating	Forced Air convection
Chamber material		Stainless Steel (430)	Stainless Steel (430)	Stainless Steel (430)
Chamber volume		42 liter	42 liter	179 liter
Shelves material		Stainless Steel (430)	Stainless Steel (430)	Stainless Steel (430)
Number of shelves		2ea	2ea	3ea
Chamber dimension		320(W)x350(D)x370(H)mm	320(W)x350(D)x370(H)mm	475(W)x530(D)x713(H)mm
Overall dimension		408(W)x482(D)x550(H)mm	385(W)x488(D)x535(H)mm	560(W)x645(D)x940(H)mm
Power		110/220V, 50/60Hz, 350W	110/220V, 50/60Hz, 400W	110/220V, 50/60Hz, 400W
Weight		30kg	30kg	68kg

HYBRIDIZATION INCUBATOR (NB-202/ NB-202R)

Designed to provide only Hybridization or with Rocking in one incubator. Fast Heat-Up and Precise Temperature Control helps efficient sample mixture, Hybridization, incubation.

Inside of NB-202R
● Bottle rack + Rocker



Accessories

Bottle rack

Bottles

Rocker platform

Features

- **Safety hybridization procedures**
  Stable and safe hybridization provides very efficient results.
- **Microprocessor control**
  Microprocessor control allows the precise control of temperature.
- **Stabilized rotation**
  Keep stable working and low noise by stable rotation.
- **Outer glass door**
  Outer glass door allows the observation without opening the door.
- **Safety switch**
  Safety switch is equipped to prevent overheating.
- **Easy-to-change bottle rack**
  Bottle rack can be replaced very easily to modify bottle holders.
- **Simultaneous use of rotator and rocker (NB-202R)**
  Users can rotate and rock the samples simultaneously.
  Rocker is installable in incubator(cat.no NB-202R) like the photo.

Specification

Items	Unit	NB-202	NB-202R
Temperature			
range	℃	Ambient +5℃ to 80℃	Ambient +5℃ to 80℃
accuracy	℃	±0.3℃ at +37℃	±0.3℃ at +37℃
safety		Over temperature protector S/W	Over temperature protector S/W
control		Microprocessor digital PID	Microprocessor digital PID
Display		LED Display	LED Display
Speed range	rpm	Variable 2 to 35rpm	Variable 2 to 35rpm
Rack capacity	mm, ea	40(Ø)x200(D)mmx8ea 40(Ø)x120(D)mmx8ea	40(Ø)x200(D)mmx8ea 40(Ø)x120(D)mmx8ea
Rocker platform	mm		300x250(mm)
Chamber dimension	mm	320(W)x350(D)x370(H)mm	320(W)x350(D)x370(H)mm
Overall dimension	mm	415(W)x465(D)x540(H)mm	415(W)x465(D)x540(H)mm
Power	V/ Hz	110/220V, 50/60Hz, 400W	110/220V, 50/60Hz, 400W

Accessorys

GAS Regulator

CO2 Analyzer

SHELVES

Bottle rack

Application Model: NB-202

NB-202R

Bottles

200 x 45 ϕ

120 x 450 ϕ

Application Model: NB-202 Bottle

Rocker platform

Application Model: NB-104 Plate

NB-202R

Spring Rack

Application Model: NB-205

Spring rack

Application Model: NB-205V

NB-205VL

Holder Platform

100ml x 16

Application Model: NB-203QS

NB-205Q, NB-205QF

Holder Platform

250ml x 9

Application Model: NB-203QS

NB-205Q, NB-205QF

Holder Platform

500ml x 5

Application Model: NB-203QS

NB-205Q, NB-205QF

Holder Platform

100ml x 12

Application Model: NB-205

Holder Platform

250ml x 8

Application Model: NB-205

Holder Platform

500ml x 5

Application Model: NB-205

Holder Platform

250ml x 23

Application Model: NB-205L

NB-205V, NB-205VQ

Holder Platform

2000ml x 4

Application Model: NB-205V

NB-205VQ

Platform

Tube Rack & Holder

Holders

100ml, 250ml, 500ml, 1000ml

Microplate Rack

Application Model: NB-205

Microplate Rack

Application Model: NB-203QS

NB-205Q, NB-205QF

Illumination

Fluorescent lamp

IR CONCENTRATOR

BIOTECHNOLOGY & BIOMEDICAL EQUIPMENT CATALOGUE

- CO_2 INCUBATORS
- IR CONCENTRATORS
- LIVE CELL STATIONS
- SHAKERS & WATER BATHS
- BIO SAFETY CABINET
- STEM-CELL WORK STATION
- OTHERS
- BIOLOGICAL CLEAN ROOM

MICRO-CENVAC

NB-503CIR

DNA-VAC

NB-502CIR

N-BIOTEK

MAX-UP

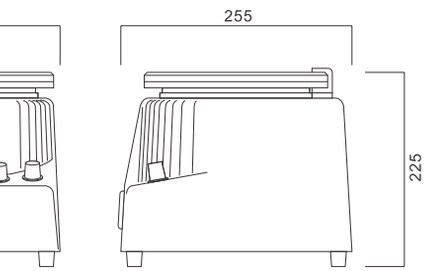
NB-504CIR

GAS BLOWING CONCENTRATOR

NB-503GB

MICRO-CENVAC (NB-503CIR)

Most Compact Vacuum Centrifugal Concentrator in its class. Special Infrared Glass Lid spread Heat & IR to accelerate evaporation of liquid faster in vacuumed chamber. This compact equipment is ideal in molecular biology(especially DNA), proteomics, genomics, genetics, cell biology and drug discovery labs.



Special Lid Heater with IR radiation.
With Infrared radiation, the Lid directly heat to Sample which helps evaporation even faster.

Real Scope(Standard)
Easy view of sample volume while it is spinning fast. It looks like sample tube is not spinning.

Built in Diaphragm vacuum pump
High performance pump (NB-503CIR: MAX 100 mbar
Connectable with other booster pump for higher vacuum rate.

Vacuum port
Vacuuming port (Exhalation hole) is on center of shaft for low contamination.

Accessories

RO-1.5/24

RO-30/08

RO-15/12

RO-10/16

Real Scope

Features

- **Compact but, All built-in**
  Despite smallest footprint, vacuum pump and glass trap are all built-in.
- **Fast Evaporation Time**
  With using special infrared lid heater, liquid in sample is heated faster even in vacuumed chamber.
- **Stable Spinning and Quiet Operation**
  Using Blush Less DC motor, the spinning sample is conducted stably and quiet.
- **Easy Sample Check**
  Real Scope allows user to view sample or its volume remaining in tubes without stopping spin.
- **Teflon-Coated chamber & Diaphragm pump**
  Minimize corrosion by acid solvent and the pump is oil-free
- **Selectable RPM**
  Selectable a RPM mode among 1700 or 2500 or 5000 RPM even while it's spinning
- **LED Display**
  Shows Temperature & Timer count.
- **CE Marked & ROHS compliance**
- **Cold Trap(Optional)**
  2Liter capacity cold trap or Peltier Trap(-20℃) for small Glass Trap available with Micro Cenvac.

Specification

Items	Unit	NB-503CIR
Temperature		
range	℃	35℃ to 65℃
control		Microprocessor digital PID
increment	℃	0.1℃
standby		Pre-heat
Operating panel		Touch button
Heat mode		IR, IR & Heat, Heat
Display		LED Display
Timer		99Hour 59Min
Capacity	ml,ea	1.5mlx24ea, 10mlx16ea, 0.5mlx50ea, 15mlx12ea, 30mlx8ea
Speed		
range	rpm	1700, 2500 and 5000rpm
control		Selector
Vacuum		
pump	mbar	Diaphragm Vacuum Pump (PTFE Coating)
ultimate		100mbars/abs
oper. pressure		1.5bar/g
atm. pressure		6.5lit/min
Dimensions	mm	213(W)x255(D)x225(H)mm
Power	V/Hz	110/220V, 50/60Hz, 210W
Weight	kg	9.5kg

DNA-VAC (NB-502CIR)

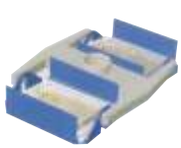
DNA-VAC can be used in various experiment for micro-protein or molecular structure.
The required substances are extracted by concentrating DNA or RNA, Amino acids, Hormones, Enzymes, Protein in a short time by using vacuum pump and Infrared ray.
DNA Pellet is collected into the top of tube evenly in the experiment to blend Ethanol with the samples in Microgram units in a very short time.

Vacuum port is on the center of rotor to make contamination to be minimized.

Special Lid Heater with IR radiation.
With Infrared radiation, the Lid directly heat to Sample which helps evaporation even faster.

Chemical-proof Diaphragm vacuum pump is built in the equipment

Accessories



RO-96 WELL

RO-1.5/60

RO-1.5/132

RO-15/12

RO-50/08

Features

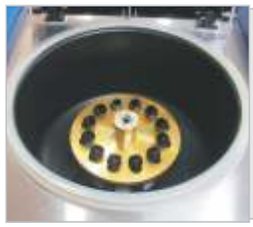
- **New IR-emitting plate Glass Lid**
  With the use of infrared ray, the sample can be concentrated efficiently in a vacuumed chamber in a short time. The special glass has the endurance against chemicals.
- **Brushless D.C motor**
  Induction motor makes almost no noise & vibration. Also, maintenance is not required because it is not necessary to replace brush.
- **No cross-contamination, No sample loss**
  The contamination and sample loss is minimized because the exhalation hole for vacuum is located on the top of the shaft.
- **Wide selection of rotor**
  Few micro-liters up to 50ml tube hold at once and plate rotor holds two 96 well micro-titer plate, simply interchangeable.
- **Compact, bench-top model**
  Built-in chemical free diaphragm vacuum pump is suitable for individual researchers with limited space.
- **Intergrated Evaporation System**
  (8Mbar Diaphragm Vacuum Pump & -20℃ Cold Trap & Chamber & Lid Heater)

Specification

Items	Unit	DNA-VAC (NB-502CIR)
Temperature		
range	℃	+35℃ to 80℃
control		Microprocessor digital PID
increment	℃	0.1℃
standby		Pre-heat
Operating panel		Touch button
Heating mode		Selectable 3 mode IR/IR & Heat/Heat
Display		LED Display
Timer		99Hour 59Min
Capacity	ml,ea	1.5ml micro-tubex132ea 15ml tubex12ea, 50ml tubex8ea, 96 well micro-titer platex2ea
Speed		
range	rpm	Max. up to 1,500rpm
Vacuum		
pump		Chemical resistant PTFE coated Diaphragm pump
ultimate pressure	mbar	8mbar
gauge		Analog vacuum gauge
Dimensions	mm	670(W)x685(D)x480(H)mm
Power	V/Hz	110/220V, 50/60Hz, 400W

MAX-UP (NB-504CIR)

IR CONCENTRATOR is high efficient concentration equipment to study micro-protein or molecular structure, extracted DNA or RNA.
The required samples are extracted by concentrating DNA or RNA, Amino acids, Hormones, Enzymes, Protein in a short time by using vacuum pump and far Infrared ray.



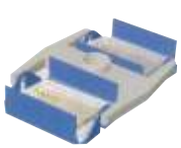
Vacuum port is located at the center of rotor for minimal contamination.

Special Lid Heater with IR radiation.
With Infrared radiation, the Lid directly heat to Sample which helps evaporation even faster.

-20°c Cold Trap & 2 Liter Bottle

Chemical-proof Diaphragm vacuum pump is built in the equipment.

Accessories


RO-96 WELL


RO-1.5/60


RO-1.5/132


RO-15/12


RO-50/08


RO-250/04

Features

- **IR-emitting Plate Glass lid (Patent No.10-0616063)**
  With the use of infrared ray, the sample can be concentrated efficiently in a vacuumed chamber in a short time.
- **Designed for heat-sensitive sample**
  It is available for the wide range of heat sensitive materials such as proteins and other organic substances.
- **Two-point Temperature Sensors**
  Two temperature sensors in the chamber and bucket provide efficient concentration.
- **Detector to check unbalance of rotor**
  The detector checks the unbalance of rotor caused by the different quantities of remaining samples during concentrating. The function ensures the environment of experiment is in a safety.
- **Pre-heating mode**
  Pre-heating function allows to shorten experiment time by setting the temperature prion to use.
- **No cross-contamination, No sample loss**
  The contamination and sample loss is minimized because the exhalation hole for the vacuum is located on the center of the shaft.
- **Compact & Mobile System**
  Chemical free diaphragm vacuum pump and Cold trap is built-in the equipment.
  It's suitable for individual researchers with limited space.

Specification

Items	Unit	MAX-UP (NB-504CIR)
Temperature		
range	℃	+4℃ to 80℃
control		Microprocessor digital PID
increment	℃	0.1℃
standby		Pre-heat
Operating panel		Touch button
Heating mode		Selectable 3 mode IR/IR & Heat/Heat
Display		LED Display
Capacity	ml,ea	1.5ml micro-tubex132ea 15ml tubex12ea, 50ml tubex8ea, 250ml tubex4ea 96 well micro platex2ea
Speed		
range	rpm	Max. up to 1,500rpm
Vacuum		
pump		Chemical resistant PTFE coated Diaphragm pump
ultimate pressure	mbar	2 mbar
gauge		Analogue vacuum gauge
Cold trap		-20℃ , 2 liter Trap
Dimensions	mm	600(W)x630(D)x1085(H)mm
Power	V/Hz	110/220V, 50/60Hz
Weight	kg	138kg

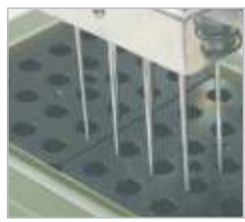
GAS BLOWING CONCENTRATOR (NB-503GB)

GAS blowing system allows the experimenters to get the required materials from the mixed samples having different boiling points.
Efficient evaporation is done by simultaneous or separate delivery of non-reactive pressurized gas to samples. Nitrogen gas provides better concentration without oxidation.

STAND
Individual nozzle is adjustable by stop-screw and pinion motion stand.

GAS INLET
Hole to input GAS to Manifold

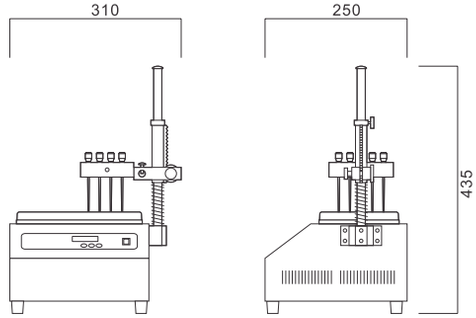
MANIFOLD & KNOB
To adjust the amount of GAS



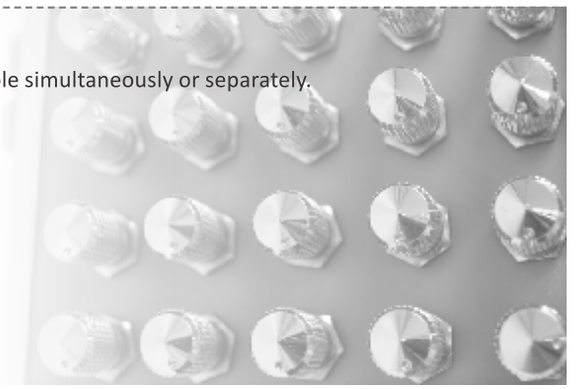
MANIFOLD GAS OUTLET
Nozzle to discharge the exhausted gas

Accessories

			
BL-1.5/20	BL-10/20	BL-15/20	



Features



- **Adjustable blowing GAS**
  Each nozzle can be adjusted to blow the adequate amount of Nitrogen to sample simultaneously or separately.
- **Precision temperature stability**
  Temperature is controlled precisely by Microprocessor PID control
- **Wide range of modular blocks**
  Various Modular blocks for 1.5ml micro-tube and 13mm in diameter tube.

Tube size	Holes	Diameter of hole
1.5㎖ micro-tube	20	11㎜
10㎖ tube	20	13㎜
15㎖ tube	20	16.5㎜

Specification

Items	Unit	NB-503GB
Temperature		
range	℃	Ambient +5℃ to 120℃
control		Microprocessor digital PID
increment	℃	0.1℃
Temperature method		Heater
Operating panel		Touch button
Display		LED Display
Manifold size		130(W)x110(D)x30(H)mm
Nozzle		Each nozzle control (20ea) flow rate
Stand		Pinion motion stand
Block		
dimensions	mm	110(W)x90(D)x45(H)mmx2
capacity		2 Blocks(BLx2ea)
Connecting port		Flow control valve
Overall dimensions		310(W)x250(D)x435(H)mm
Power	V/Hz	110/220V, 50/60Hz, 125W
Weight	kg	6kg
Exhaust system		Contamination free (Each nozzle)

Accessorys

RO-1.5/24

1.5㎖ micro-tube x 24

Application Model: NB-503CIR

RO-1.5/60

1.5㎖ micro-tube x 60

Application Model: NB-502CIR

NB-504CIR

RO-1.5/132

1.5㎖ micro-tube x 132

Application Model: NB-504CIR

NB-502CIR

RO-30/08

30㎖ (Ø30 x 73㎜) tube x 08

Application Model: NB-503CIR

RO-15/12

15㎖ (Ø20 x70㎜) tube x 12

Application Model: NB-503CIR

RO-10/16

10㎖ (Ø18 x65㎜) tube x 16

Application Model: NB-503CIR

RO-15/12

15㎖ (Ø20 x 87㎜) tube x 12

Application Model: NB-504CIR

NB-502CIR

RO-50/08

50㎖ (Ø34 x 75㎜) tube x 8

Application Model: NB-504CIR

NB-502CIR

RO-250/04

250㎖ (Ø 65 x 100㎜) tube x 4

Application Model: NB-504CIR

Gas blowing Block

1.5㎖ x 20 hole

10㎖ x 20 hole

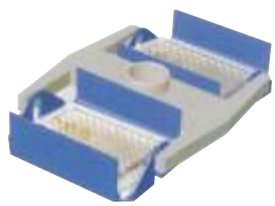
15㎖ x 20 hole

Application Model: NB-503GB

Real Scope

Application Model: NB-503CIR

RO-96 WELL



96 well plate x 2

Application Model: NB-504CIR

N-BIOTEK

We lead Biotechnology

LIVE CELL STATIONS

BIOTECHNOLOGY & BIOMEDICAL EQUIPMENT CATALOGUE

- CO_2 INCUBATORS
- IR CONCENTRATORS
- LIVE CELL STATIONS
- SHAKERS & WATER BATHS
- BIO SAFETY CABINET
- STEM-CELL WORK STATION
- OTHERS
- BIOLOGICAL CLEAN ROOM

N-BIOTEK

LIVE CELL ENGINEERING STATION

LICES

BEAUTY CELL

NB-803MS/NB-803MSF

LED CELL ACTIVATOR

NB-306LCA

LICES CO_2 Incubator And Clean Bench

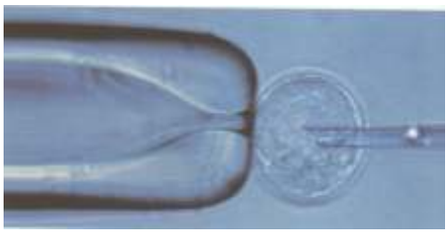
LICES is Ideal multi-functional work station for Lives Cell Imaging or some applications in IVF. This HEPA filtered Clean bench is equipped with CO2 incubation function such as Temperature, CO2, Humidity control which provide optimal environment for Cell culture in this station. Its special designed front door allows a Microscope installed in bench or it is customized on demand to be fit for a particular microscope. Small microscope stage CO2 incubator gives an advantage incubating Cells on Microscope during microscopy.

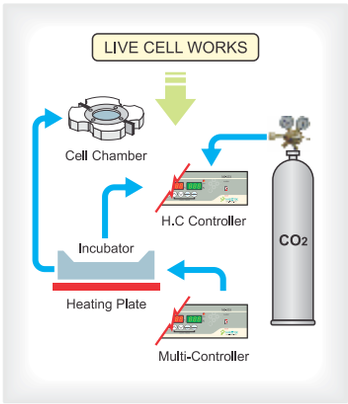
LICES
Live Cell Engineering Station

Features

- **Integrated Clean bench chamber combined with CO_2 Incubation, Micro Scope**
  In HEPA filtered Clean Bench, temperature/CO_2/Humidity are controlled to provide optimum environment for cell culture. Front door is designed to build with your Microscope. It is also equipped with Hand Access Holes. On demand, the front door may be customized.
- **Excellent Temperature Control in Large and Mini chamber**
  Using 5 side heating(heating from all side except front door) in large chamber, the large chamber have excellent temperature control which provides optimal environment for cell culture also, no condensation on lens of Micro scope during live cell imaging. Mini chamber is also equipped with heater inside.
- **Effective Vertical Air Flow System by low noise & low vibration blower motor**
  Blower motor is placed above of HEPA filter and makes vertical Air Flow through HEPA. Air curtain which is formed right behind of front door by blower motor minimizes air flow from outside when hand access port open.
- **Precise CO_2 control and appropriate humidity control**
  With two dual beam IR sensors, CO_2 is controlled precisely in large and mini chamber respectively. Humidity in large chamber is controllable by ultrasonic humidifier up to 70%. Mini chamber is also humidified naturally 70~80% by heated water bottle.
- **Respective Control for each functions**
  Humidity, Temperature, CO_2 in Mini-Chamber and Large Chamber are controlled individually.
- **Built-in Fluorescent light and UV Light**
- **Stainless steel (SUS304) interior chamber**
- **2 Access Port for additional devices use in chamber**
- **Easy Lift-up by hands grip at bottom and side of bench**
- **Various Customization Options available on request**

EASY - TO - USE,
THE MOST VERSATILE
FOR LIVE CELL WORKS





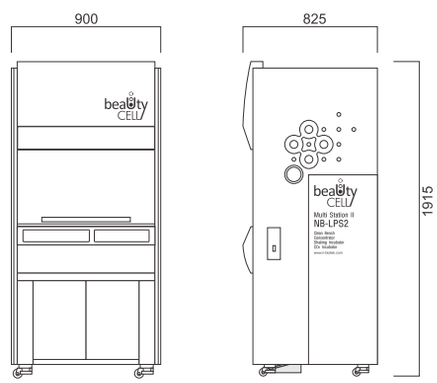
Specification

Items	Unit	LICES (NB-801LCS)
Work Station (Clean Bench)		
HEPA Filter		99.99% efficiency on particles of 0.3㎛
HEPA Filter Dimension	mm	660(W)x380(D)x70(H)mm
Fluorescent Lamp		36W x 1
UV Lamp (Behind Of Filter)		8W x 1
Air Flow		Up To Down Flow (Internal Circulation Only)
Door Open		Open To Front
Work Mode (Incubation Mode)		3 SELECTION MODE 1. Large chamber (Incubation in work station only) 2. Full (Incubation in both large and mini chamber) 3. Mini chamber (Incubation in mini chamber only)
Large Chamber Incubation		
CO_2 Sensor		Dual Beam IR Sensor
CO_2 Concentration Range		0% to 20%
CO_2 Accuracy	℃	±0.1% at 5% 37℃
Humidity Operation Range		0~60% (Adjustable)
Jacket		Direct wall with air jacket
Temperature Range	℃	Ambient +5℃ to +60℃
Accuracy	℃	±0.1℃ at 37℃
Heating		5 Side Direct Heating
Control		Microprocessor Digital PID
Internal Dimension	mm	635(W)x480(TOP), 670(Bottom)(D)x720(H)mm
Overall Dimensions	mm	712(W)x698(D)x1087(H)mm
Mini Chamber (For Incubation On The Stage Of Micro Scope)		
CO_2 Sensor		Dual Beam IR Sensor
CO_2 Range		0% to 20%
CO_2 Accuracy	℃	±0.1% at 5% 37℃
Temperature Range	℃	Ambient +5℃ to +60℃
Accuracy	℃	±0.1℃ at 37℃
Heating		5 Side Heating
Humidification		Natural humidification from water bottle
Humidity Range	mm	RH 62 ~ 67% at 20% RH (in work zone) RH 78 ~ 83% at 60% RH (in work zone)
Dimensions		185(W) x 115(D) x 40(H)mm
Power	V/Hz	110/220V, 50/60Hz, 460W
Weight	kg	99kg

BEAUTY CELL (NB-803MS/NB-803MSF)

Multi Functional Bio-work station with built-in centrifuge, shaking incubator.
Stem Cell Isolation or Cell Handling is ideally conducted in clean environment.

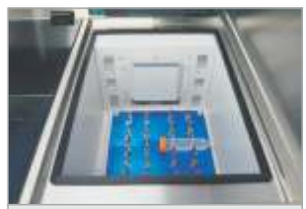
NB-803MS

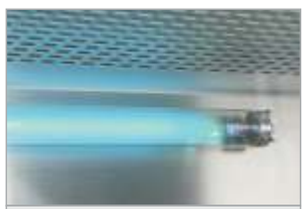



Clean bench


Wide Work Table


Centrifuge


Shaking Incubator


UV Lamp


HEPA Filter


Pressure Gauge

Features

- **General Centrifuge, Cooling centrifuge (for NB-803MSF)**
  It's designed for multi-purpose such as isolating cell or blood.
  24 ea of standard tubes (15ml) can be rotated at one time.
- **Shaking Incubator**
  Shaking incubator is used to mix or incubate sample with medium after centrifugation.
  Temperature & RPM can be adjusted through the waterproof control panel.
- **Bio-Work Station**
  99.99% HEPA Filter and UV sterilization provide pure environment.
  Air circulation can be regulated to be strong or weak.
  The air convection is laminar flow type (Air curtain) to cut it off from the external environment.
- **Foot Switch**
  It is designed to start & stop Centrifuge and Shaking Incubator by foot
- **Hepa Filter**
  It's equipped to filter 99.99% of particles over the size of 0.3 ㎛.
- **Pressure Gauge**
  By checking the pressure gauge which indicates internal air pressure, it allows you to notice the filter defects as well as the timing of replacing the filter.
- **Customization Option**
  Customize your Multi Station with your desired device to be inserted in this work station.

Specification

Items	Unit	NB–803MS	NB–803MSF
Main Filter		HEPA filter 99.99% efficiency on particles of 0.3㎛	HEPA filter 99.99% efficiency on particles of 0.3㎛
Exhaust Filter		HEPA filter 99.99% efficiency on particles of 0.3㎛	HEPA filter 99.99% efficiency on particles of 0.3㎛
Sterilization lamp		U.V 20Wx2ea	U.V 20Wx2ea
CENTRIFUGE			
Max RPM		5,000rpm	5,500rpm
Max Force		4,612xg	5,580xg
Max Capacity	ml	480ml, 15mlx32Tubes(Swing rotor)	480ml, 15mlx32Tubes(Swing rotor)
Temp. range	℃		−5℃~60℃
Main Controller		Digital PID controller	Digital PID controller
Drive system		Inverter Motor Drive	Inverter Motor Drive
Timer		99hrs 59min & hold run	99hrs 59min & hold run
SHAKING INCUBATOR			
Temp range	℃	Ambient +5℃~60℃	Ambient +5℃~60℃
Speed Range	rpm	30~300 rpm	30~300 rpm
Plate size	mm	250x310mm	250x310mm
Time Range		Continuous or up to 47h 59min	Continuous or up to 47h 59min
Display		LED Display	LED Display
Controller		Digital PID controller	Digital PID controller
DIMENSION			
Work space	mm	900x640x620(H)mm	1200x600x620(H)mm
Overall	mm	900x790x1920(H)mm	1200x825x1920(H)mm
Power	V/Hz	110/220V, 50/60Hz, 800W	110/220V, 50/60Hz, 1.2kW

LED CELL ACTIVATOR (NB-306LCA)

LED CELL ACTIVATOR is effective for activating cell or growth factor before using.

Features

- Selective wavelength according to the purpose of treatment.
- RED : to help cell's growth, collagen synthesis
- BLUE : to help cell's self-purification, to restrain lipolysis
- GREEN : to help cellular immunity increase.
- YELLOW : to stimulate cell's activation.
- N-BIOTEK'S Patent product.

Specification

Items	Unit	NB-306LCA
LED Light		Red/Yellow/Green/Blue
Time		
range		Continuous or up to 47h 59min.
accuracy		± 1%
increment		1 Minute
Control		Microprocessor digital PID
Display		LED Display
Operating Panel		Touch Button
Block Material		Solid anodized aluminum
Block Capacity		50ml Conical Tube 1Holex2ea
Dimension (in)		30 ø x100mmx2ea
(out)	mm	250(W)x250(D)x175(H)mm
Power	V/Hz	110/220V, 50/60Hz, 30W
Weight	kg	5kg

N-BIOTEK

We Pursue Customer Succes

SHAKERS & WATER BATH

BIOTECHNOLOGY & BIOMEDICAL EQUIPMENT CATALOGUE

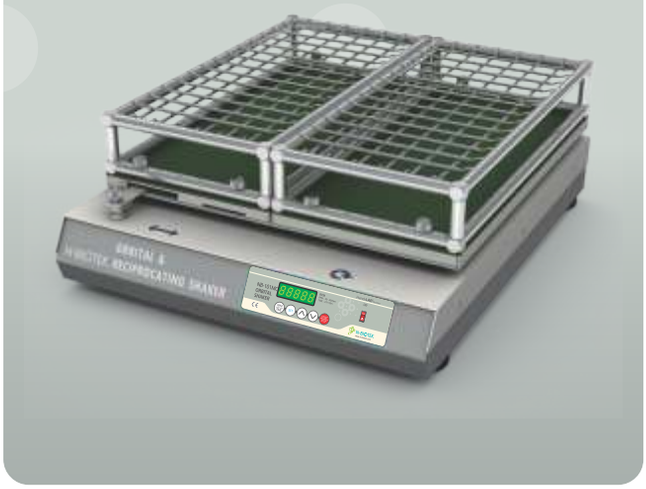
- CO_2 INCUBATORS
- IR CONCENTRATORS
- LIVE CELL STATIONS
- SHAKERS & WATER BATHS
- BIO SAFETY CABINET
- STEM-CELL WORK STATION
- OTHERS
- BIOLOGICAL CLEAN ROOM

STACKABLE SHAKERS

NB-M4S

COMBINATION SHAKER

NB-101MC



N-BIOTEK

MEDIUM SHAKER

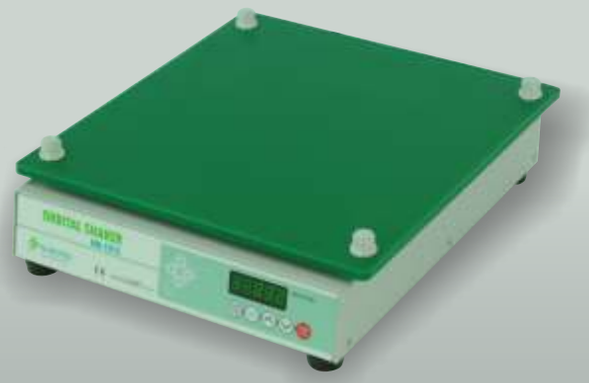
NB-101M

MULTI SHAKER

NB-101MT

MINI SHAKER

NB-101S



REMOTE SHAKER

NB-101S RC
NB-101M RC

ROCKER

NB-104

VORTEX MIXER

NB-105V

GENERAL WATER BATH

NB-301/ NB-301L

NB-301

NB-301L

STIRRER WATER BATH

NB-302/ NB-302L

NB-302

NB-302L

SHAKING WATER BATH

NB-303

SHAKING WATER BATH

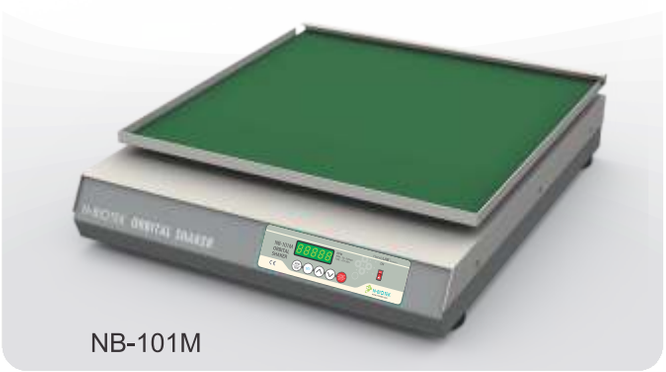
NB-304

HEATING & COOLING BLOCKS

NB-305CB/ NB-305TB

MEDIUM SHAKER (NB-101M/NB-101MT/NB-101MC)

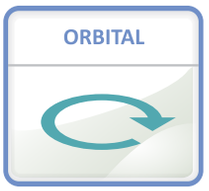
Magnetic Induction Drive & Brush Less DC Motor provide ideal shaking function for cell culture, sample mixtures, suspension, micro biology, chemistry. Enjoy its stable shaking and quite operation along with small foot print.



NB-101M

MEDIUM SHAKER

Medium Shakers are used for the experiment of the pathology clinics, cells/microbes cultivation and extractions, planet tissue section mounting.



Shaking Type

NB-101MT

MULTI SHAKER

Multi-shaker provides dual function choosing either orbital motion or reciprocating motion which is used in Mixing reagent, physical clinic, shaking culture, cell culture.

Shaking Type

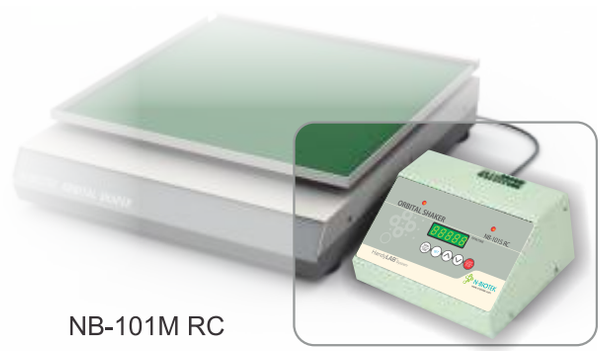
NB-101MC

COMBINATION SHAKER

Using two separate platforms, both orbital and reciprocating shaking motion are available in one shaker. Also, both platforms can be combined like one platform and run in orbital motion.

Using two separate platforms, both orbital and reciprocating shaking motion are available in one shaker. Also, both platforms can be combined like one platform and run in orbital motion.

Shaking Type



NB-101M RC

SHAKER REMOTE CONTROLLER

Ane into Incubator Shaker used to facilitate the adjustment controls were isolated from the outside.

*Applicable to all of shakers.

Special Features

Plate type Brushless
DC MOTOR provides
Low Vibration, Low Dust & Low
Noise.

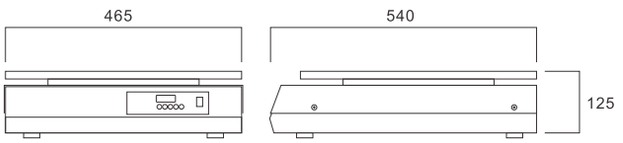
Magnetic Induction Drive.

Epoxy coated coil plate for
Moisture-Proof.

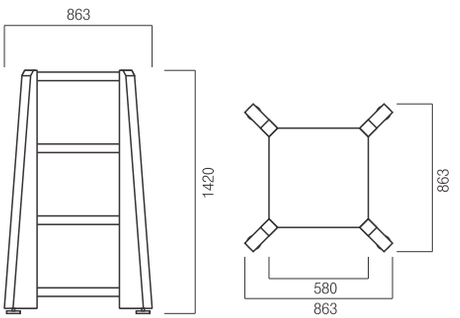
Selection Lever for NB-101MC

Features

- Plate Type Brushless DC motor provides low noise, low vibration and maintenance free system.
- Artificial intelligence system which maintains precise speed and adjust time controlled by MICOM.
- LED indicates temperature, speed, time and state of power failure.
- Possible to operate up to 400rpm despite large, stroke 30mm
- Possible to operate in Cold Chamber and Incubators (4℃~60℃)
- Easy to change accessory platform.

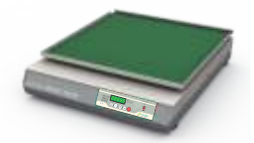


NB-101M



NB-M4S

*Height can be changed by accessories.



Specification

Items	Unit	NB-101M	NB-101MT	NB-101MC
Motion		Orbital	Orbital or Reciprocating	Orbital & Reciprocating
Speed				
range	rpm	30 to 300 rpm (up to 400rpm:high speed type)	30 to 300 rpm	30 to 300 rpm
accuracy	rpm	±1rpm	±1rpm	±1rpm
increment	rpm	1 rpm	1 rpm	1 rpm
Time				
range	min	Continuous or up to 47h 59min	Continuous or up to 47h 59min	Continuous or up to 47h 59min
accuracy	%	±1%	±1%	±1%
increment	min	1 minute	1 minute	1 minute
Control		Microprocessor Digital	Microprocessor Digital	Microprocessor Digital
Mortion control		–	Lever Operate	Lever Operate
Operating panel		Touch Button	Touch Button	Touch Button
Display		LED Display	LED Display	LED Display
Motor		Plate Type BL/DC Motor	Plate Type BL/DC Motor	Plate Type BL/DC Motor
Drive system		Beltless Direct Drive	Beltless Direct Drive	Beltless Direct Drive
Orbit Diameter	mm	22mm	22mm	22mm
Platform size	mm,ea	460(W)x455(D)mm with Rubber Pad	460(W)x455(D)mm with Rubber Pad	220(W)x455(D)mmx2
Dimmensions	mm	465(W)x540(D)x125(H)mm	465(W)x540(D)x145(H)mm	465(W)x540(D)x195(H)mm
Holder/Rack		Rubber Pad	Rubber Pad	Spring Rack
Weight	kg	29kg	35kg	38kg
Power	V/Hz	110/220V, 50/60Hz, 20W	110/220V, 50/60Hz, 30W	110/220V, 50/60Hz, 30W

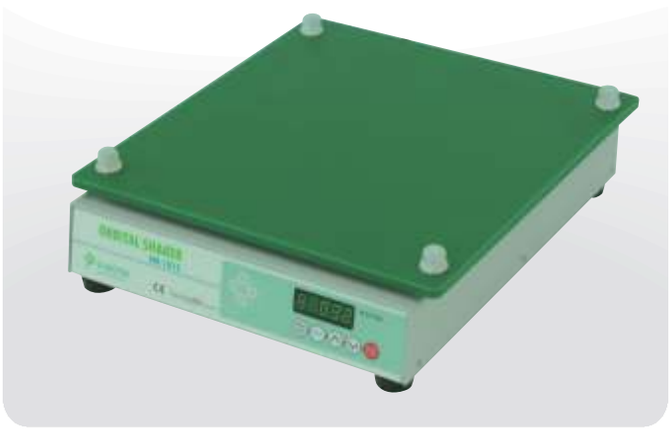
Accessories

Detail about accessories are written at the end of the section.

					
Platform (Tube Rack & Holder)	Spring rack	250ml x 23ea	2000ml x 4ea	2 Stairs	Holders
NB-101M NB-101MT	NB-101M NB-101MT	NB-101M NB-101MT	NB-101M NB-101MT	NB-101M NB-101MT	NB-101M NB-101MT

MINI SHAKER (NB-101S)

This is Compact Size Shaker with benefits such as small foot print, easy to move. Built-in Plate Type BLDC motor provides low noise, low vibration. Despite compact size, shaking is powerful and work place is large to load various vessels.



NB-101S

Accessories

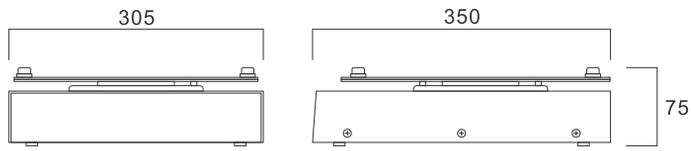
Detail about accessories are written at the end of the section.

			
Spring Rack	Microplate Rack	2 STAIRS	Tube Rack
			
100ml x 16ea	250ml x 9ea	500ml x 5ea	Holders

Features

- Plate Type Brushless DC motor provides low noise, low vibration and maintenance free system.
- Artificial intelligence system which maintains precise speed and adjust time controlled by MICOM.
- LED indicates temperature, speed, time and state of power failure.
- Possible to operate up to 300rpm even though stroke is 25mm
- Easy-moveable using, Possible to operate in Cold Chamber and Incubators(4℃~60℃)
- Easy to change accessory platform.
- Excellent resistance to High Humidity
- The shaker motor(NB-101 SRC) is covered with expoxy to protect electic part from high moisture.

Plate type Blushless
DC MOTOR provides
Low noise, Low vibration.



Specification

Items	Unit	NB-101S
Motion		Orbital
Speed		
range	rpm	30 to 300 rpm
increment	rpm	±1rpm
Time		
range		Continuous or up to 47h 59min
accuracy		±1%
increment		1 minute
Control		Microprocessor Digital PID
Orbit Diameter	mm	22mm
Motor		Plate Type Brushless DC Motor/Direct Drive
Operating panel		Touch Button
Display		LED Display
Platform size	mm	300(W)x330(D)mm with Silicon Rubber Pad
Dimmensions		305(W)x350(D)x75(H)mm
Weight	kg	5Kg
Power		110/220V, 50/60Hz, 15W

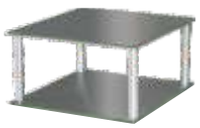
REMOTE SHAKER (NB-101SRC/NB-101MRC)

This is Compact Size Shaker with benefits such as small foot print, easy to move. Built-in Plate Type BLDC motor provides low noise, low vibration. Despite compact size, shaking is powerful and work place is large to load various vessels.

NB-101SRC

Accessories

Detail about accessories are written at the end of the section.

			
Spring Rack	Microplate Rack	2 STAIRS	Tube Rack
			
100ml x 16ea	250ml x 9ea	500ml x 5ea	Holders

Features

- **Extremly Low Heat Releae from Shaker**
  The BLDC motor of shaker is powerd by very low watt electricity so heat from shaker motor is very low. This is ideal for the shaker to use inside incubator or chamber where uniform tempeature maintanace is required.
- **Moisture Resisant Structure**
  Electric Coil and some electric part of shaker motor are coated with expoxy which protectect electric parts from high humidity. In deed, other electric parts such as main board, LED display are installed in remote box to be away from high humidity, CO_2 or extreme environment like high or low temperature.
- **Wire Remote Control Box**
  This allows user to control the shaker out of incubator. It display show shaker status clarly so user don't need to open incubator door to check. This saves time and minimizes energy loss caused by opening incubator door.
- **Thin Wire Cable connection beteween shaker and control box**
  Very thin wire cable enable to pass through sealing part of inner glass door although no access port is in your incuabtor.
- **Placing remote box with Magnet or Hanger or just standing**
  Depending on meterial type ofincubtor or situation of lab, placing remote box is avilable with 3 options such as mangnet attachment, hanging with strap hanger, or just standing on top of incubator(or on table near incubator).

Magnetic Attachment

Plastic Strap Hanger

Specification

Items	Unit	NB-101SRC	NB-101MRC
Motion		Orbital	
Speed range		30~300rpm(No Load)	
Accuracy	rpm	±1rpm	
Orbital diameter	mm	22mm	
Time Range		Continuous or up to 47hours 59min	
Time Increment		1 minute	
Control		Microprocessor Digital	
Motor		Brushless DC Motor	
Drive System		Magnetic Drive	
Display		LED display	
Control box Size / weight	mm	190Wx50Lx140(H)mm/2kg	
Shaker size		305x350x85(H)mm	465x540x125(H)mm
Platform Size	mm	300x330mm	460x455mm
Weight		7.5kg	35kg
Power		110/220V	50/60Hz
Load Capacity		NB101SRC	NB101MRC
100ml		16ea	36ea
250m		9ea	23ea
500ml		5ea	16ea
1000ml		4ea	9ea
2000ml		1ea	4ea

ROCKER (NB-104)

Features

- No vibration, No malfunction
- Safe using for Petri-dish, culture bottle and flask
- Using 2 ~ 35 rpm, setting up to 3hour

Specification

Items	Unit	NB-104
Speed range	rpm	2 to 35rpm
Angle range	°	±7° from horizontal
Time range	hour	Up to 3 hours or continuous
Platform size	mm	290(W)x200(D)mm
Capacity		96 well micro-platex4ea
Dimensions	mm	305(W)x255(D)x165(H)mm
Power	V/Hz	110/220V, 50/60Hz, 35W
Weight	kg	6kg

VORTEX MIXER (NB-105V)

Optional Accessory

NB-105V01	Mixing Cup
NB-105V02	Platform Head
NB-105V03	Micro plate Kit
NB-105V04	Multi sample plate Kit

Features

- Automatic start when vortex is touched on the mixing cup.
- Constant on after starting
- Adjustable RPM up to 3000rpm
- Wide option for accessories
- High quality design for safety
- CE marked

Specification

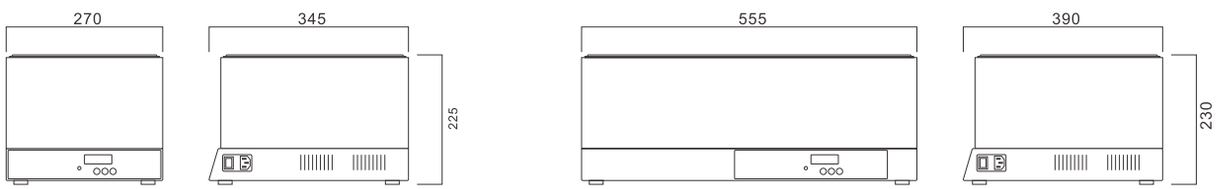
Items	Unit	NB-105V
Speed range	rpm	0 to 3000rpm
Operation Mode		Touch On & Constant On
Material		Aluminum Die-casting & ABS
Head	mm	Rubber Mixing Cup
Dimensions	kg	130(W)x155(D)x155(H)mm 3Kg
Power	V/Hz	AC220V, 0.14A, 60Hz

GENERAL WATER BATH (NB-301/ NB-301L)

By maintaining constant temperature, water bath is suitable for fat examining, cell incubating, ferment reaction, solvent extraction engaged in clinic, medical technology, pharmacy, micro-biology.

NB-301

NB-301L



Features

- Artificial intelligence system (NB TAC Sys) which maintains precise thermostatic condition is controlled by MICOM.
- High Temperature humanity and details by intelligent thermostat even though in the case of no water circulation.
- The heater for chamber is located outside bottom of water chamber, not inside chamber.
- LED indicates temperature, speed, time and state of power failure.
- Convenient adjustment of water level with engraved level scale in chamber.

Tray

Uniform temperature distribution

Bath Cover

Specification

Items	Unit	NB-301	NB-301L
Temperature			
range	℃	Ambient +5℃ to 99℃	Ambient +5℃ to 99℃
accuracy	℃	±0.5℃ at 37℃	±0.5℃ at 37℃
controller	℃	Microprocessor Digital PID	Microprocessor Digital PID
Bath capacity	liter	Max 10 liter Level 6.5 liter	Max 20 liter Level 13 liter
Dimensions	mm		
in	mm	240(W)x300(D)x150(H)mm	500(W)x290(D)x150(H)mm
out	V/Hz	270(W)x345(D)x225(H)mm	555(W)x390(D)x230(H)mm
Power	kg	110/220V, 50/60Hz, 300W	110/220V, 50/60Hz, 600W
Weight		7kg	14kg

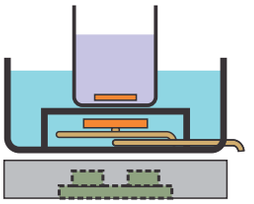
STIRRER WATER BATH (NB-302/ NB-302L)

By maintaining constant temperature, water bath is used for fat examining, cell incubating, ferment reaction, solvent extraction in the field such as clinic, medical technology, pharmacy, micro-biology.

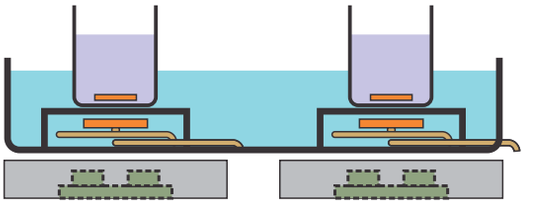
NB-302

NB-302L

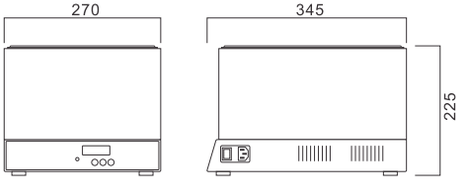
Shaking Type



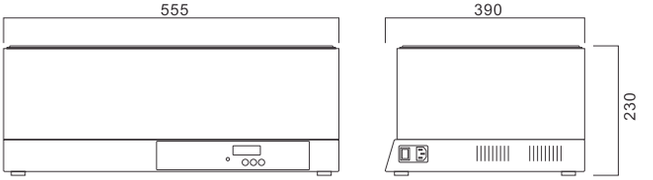
NB-302



NB-302L



NB-302



NB-302L

Features

- Artificial intelligence system (NB TAC Sys)which maintains precise thermostatic condition is controlled by MICOM
- Built in magnetic stirrer located at bottom of water tank.
- The heater for chamber is located at outside bottom of water chamber, not inside chamber.
- LED indicates temperature, speed, time and state of power failure.
- Convenient adjustment of water level with engraved level scale in chamber.
- Possible to control RPM and Temperature.
- By circulating water in chamber, stirring sample is conducted under precise temperature.

Tray

Possible to use two stirrer (Oniy NB-302L)

Bath Cover

Specification

Items	Unit	NB-302	NB-302L
Temperature			
range	℃	Ambient +5℃ to 99℃	Ambient +5℃ to 99℃
accuracy	℃	±0.3℃ at 37℃	±0.3℃ at 37℃
controller	℃	Microprocessor Digital PID	Microprocessor Digital PID
Speed			
range	rpm	60 to 1000rpm	60 to 1000rpm
controller		Solid State Control	Solid State Control
Bath capacity	liter	Max 10 liter Level 6.5 liter	Max 20 liter Level 13 liter
Dimensions			
in	mm	240(W)x300(D)x150(H)mm	500(W)x290(D)x150(H)mm
out	mm	270(W)x345(D)x225(H)mm	555(W)x390(D)x230(H)mm
Power	V/Hz	110/220V, 50/60Hz, 750W	110/220V, 50/60Hz, 1kW
Weight	kg	7kg	14kg

SHAKING WATER BATH (NB-303 / NB-304)

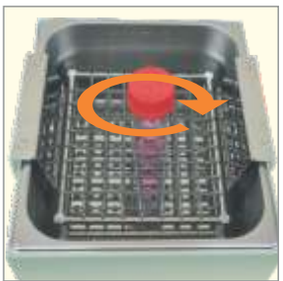
By maintaining constant temperature and using orbital shaking, water bath is used for fat examining, cell incubating, ferment reaction, solvent extraction.

NB-303

NB-304

- Spring rack is basically equipped
- Additional option for Bath Cover on using bath at high temperature

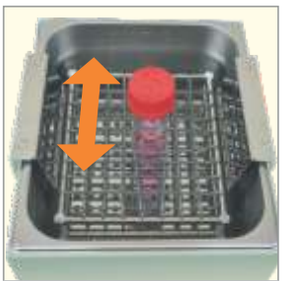
Shaking Type



Round Concussion

Bath Cover(option)

Shaking Type

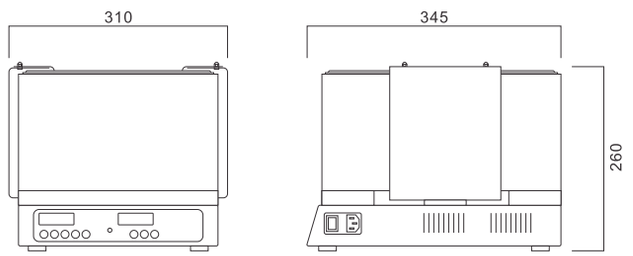


Reciprocating

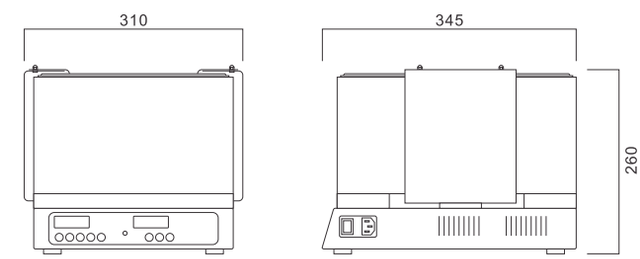
Bath Cover(option)

Features

- Artificial intelligence system (NB-Tac Sys) which maintains precise thermostatic condition is controlled by using MICOM.
- The heating element is located under the bath, not chamber inside.
- Brushless DC motor provides low noise and low vibration.
- LED indicates temperature, speed, time and state of power failure.



NB-303



NB-304

Specification

Items	Unit	NB-303	NB-304
Motion		Orbital	Reciprocating
Temp. range	℃	Ambient +5℃ to 80℃	Ambient +5℃ to 80℃
Temp. accuracy	℃	±0.3℃ at 37℃	±0.3℃ at 37℃
Motor		Plate Type Brushless DC Motor	Plate Type Brushless DC Motor
Orbit Diameter	mm	25mm	25mm
Speed range	rpm	30 to 200rpm	30 to 200rpm
Time range		Continuous or up to 47h 59min	Continuous or up to 47h 59min
Controller		Microprocessor Digital PID	Microprocessor Digital PID
Bath capacity	liter	Max 10 liter, Level 6.5 liter	Max 10 liter, Level 6.5 liter
Dimensions	mm	310(W)x345(D)x260(H)mm	310(W)x345(D)x260(H)mm
Power	V/Hz	110/220V, 50/60Hz, 300W	110/220V, 50/60Hz, 300W
Weight	kg	14kg	14kg
Optional acc.		Lid for high temperature	Lid for high temperature

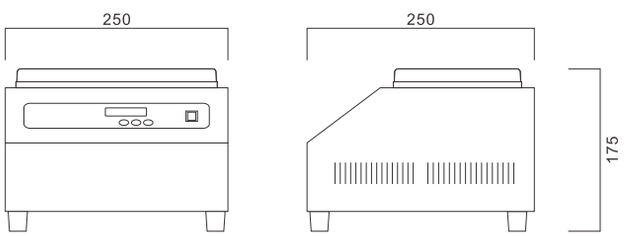
HEATING & COOLING BLOCK (NB-305CB / NB-305TB)

Thermal Blocks are used in the experiment for ferment reaction & analysis, solvent extraction, cell incubation, heat treatment in test tube as well as used like concentrator, disintegrator, reaction bath by quick and uniformity heating.

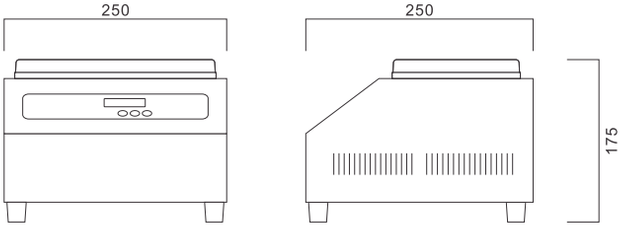
Possible to use two blocks at same time (NB-305TB)

NB-305CB

NB-305TB



NB-305CB



NB-305TB

Features

- Hinged transparent lid provides thermal stability and allows easy viewing samples.
- Models hold 1-2 interchangeable blocks to accommodate variety of tubes. (NB-305TB)
- Microprocessor digital control of temperature from - 4°C to + 80°C (NB-305CB)

Accessories

Detail about accessories are written at the end of the section.

				
BL-0.5/42 BS-0.5/18	BL-1.5/30 BS-1.5/15	BL-10/20 BS-10/08	BL-15/20 BS-15/08	

Specification

Items	Unit	NB-305CB	NB-305TB
Temperature			
range	℃	−4℃ to 80℃	Ambient +5℃ to 120℃
accuracy	℃	±0.5℃	±0.5℃
method		Peltier	Heater
control		Microprocessor Digital PID	Microprocessor Digital PID
Operating Panel		Touch Button	Touch Button
Display		LED Display	LED Display
Block material		Solid anodized aluminum	Solid anodized aluminum
Block Capacity		BLx1ea, BSx2ea	BLx2ea, BSx4ea
Dimensions	mm	250(W)x250(D)x175(H)mm	250(W)x250(D)x175(H)mm
Power	V, Hz	110/220V, 50/60Hz, 100W	110/220V, 50/60Hz, 125W
Weight	kg	5kg	5kg

OTHERS

BIOTECHNOLOGY & BIOMEDICAL EQUIPMENT CATALOGUE

- CO_2 INCUBATORS
- IR CONCENTRATORS
- LIVE CELL STATIONS
- SHAKERS & WATER BATHS
- BIO SAFETY CABINET
- STEM-CELL WORK STATION
- OTHERS
- BIOLOGICAL CLEAN ROOM

BIOLOGICAL SAFETY CABINET

NB-602WS / NB-602WSL

VERTICAL AUTOCLAVE

NB-1045/NB-1060/NB-1080/NB-1100

HIGH PRESSURE STEAM STERILIZER

NB-SS105/NB-SS210/NB-SS305

TABLE-TOP BIO WORK STATION

NB-601WS

PCR WORKSTATION

NB-603WS

TABLE TOP VACUUM CLAVE

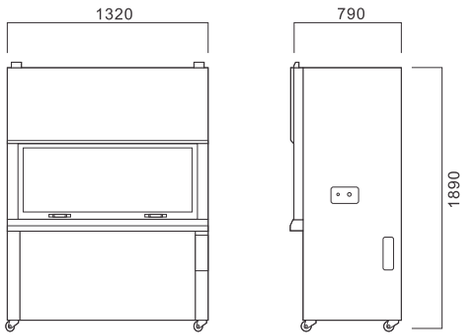
NB-SS25/NB-SS50/NB-SS65

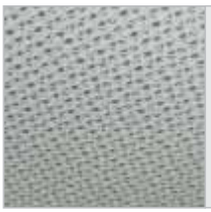
DRYING OVEN

NB-901M/NB-901S/NB-902N

BIOLOGICAL SAFETY CABINET (NB-602WS/NB-602WSL)

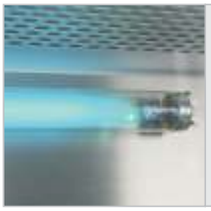
The primary purpose is to serve as the primary means to protect the laboratory worker and the surrounding environment from pathogens. All exhaust air is HEPA-filtered as it exits the bio safety cabinet, removing harmful bacteria and viruses.





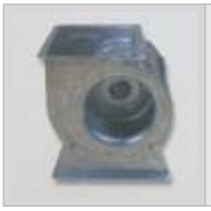
Filter
Filter built in work station is used by two sort of it. One of the filters, called PRE Filter is located at air intake removes dust, The other filter, called HEPA is high profile to remove over 99.99% particle (0.3micron) over 99.99%.

Working Table
Working table is manufactured by SU304 H.L in order to be doing well sterilization and cleaning but also Stopper installed at bottom helps work-station keep level and fixed during working.
For using microprocessor, totally no vibration type work station is possible to be manufactured by separating table from the instrument.



U.V Lamp
Two U.V Lamp are installed in Clean Bench, which sterilize a germ in the air and protect against contamination inside work station. 1set of Lamp is located at above filter to sterilize a germ in the air and the other set of Lamp is located at upper side in chamber to sterilize whole chamber.

Pressure Gauge
By checking the pressure gauge which indicates internal air pressure, it allows you to notice the filter defects as well as the timing of replacing the filter.



Low Noise Blower
Clean Bench should be low noise and vibration but also required to uniform wind velocity.
Design with high efficiency Blower and double dustproof structure ensure efficient performance and no noise.

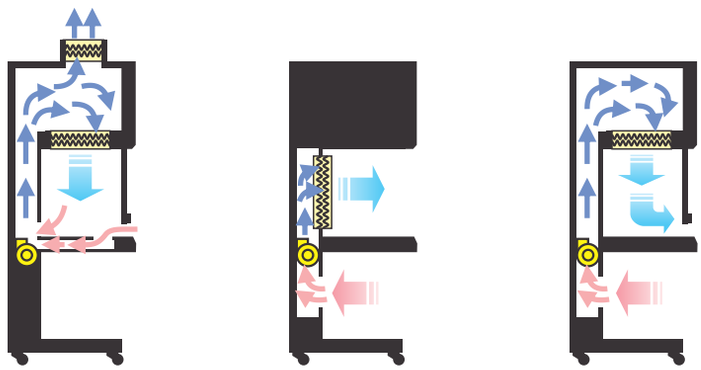
Gas Valve, Vacuum Cock

Optional Outlet
Convenient using with equipped with 110V/220V wall socket

Features

- High efficiency HEPA filters.(Main filter, Pre-filter)
- LCD information display for filter life remaining program in numeral.
- UV lamp minimizes contamination of work-environment, of viruses in the air.
- Low noise, high efficiency blower motor circulate air in cabinet.
- Smart software can allow to manage 9 step of wind speed control.

Air Flow Diagram(※Except Standard Air flow type(Bio Hazard Safety), please contact us for other type air flow.)



Bio-Hazard Safety　　Horizontal Air Flow　　Vertical Air Flow

Specification

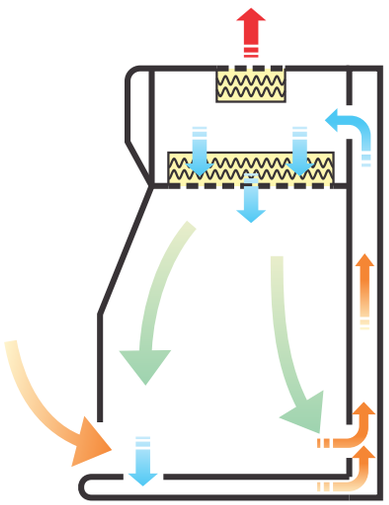
Items	Unit	NB-602WS	NB-602WSL
Chamber dimensions	mm	840(W)x600(D)x710(H)mm	1200(W)x600(D)x710(H)mm
Overall dimensions	mm	960(W)x790(D)x1920(H)mm	1320(W)x790(D)x1920(H)mm
Illumination	W	F.L 20Wx2ea	F.L 30Wx2ea
Sterilization	W	U.V 20Wx2ea	U.V 30Wx2ea
Blower	HP	1/4HP	1/3HP
Main filter		HEPA Filter(0.3㎛ 99.99%)	HEPA Filter(0.3㎛ 99.99%)
Pre filter		Nylon Filter	Nylon Filter
Exhaust filter		HEPA Filter(0.3㎛ 99.99%)	HEPA Filter(0.3㎛ 99.99%)
Clean liness		Class 100	Class 100
Wind velocity		0.3~0.45m/sec	0.3~0.45m/sec
Flow rate		Exhaust 30%, Recirculation 70%	Exhaust 30%, Recirculation 70%
Door type		Balance weight type	Balance weight type
Material			
inner		Stainless steel(SUS304)	Stainless steel(SUS304)
outer		SCP-1 with Powder coating	SCP-1 with Powder coating
door		Sliding Door Tempered Glass	Sliding Door Tempered Glass
Noise	db	Less Than 65	Less Than 65
Utility		Electric outlet, Gas Cock, Vaccum Cock	Electric outlet, Gas Cock, Vaccum Cock
Power	V,Hz	110/220V, 50/60Hz	110/220V, 50/60Hz
	W	400W	500W

TABLE-TOP BIO WORK STATION (NB-601WS)

NB-601WS is Bench top Bio Safety Cabinet. This CLASS II, B1TYPE BSC is simple and economical but, Essential functions such as HEPA filtering, Air Circulation are good enough to make clean and protective environment.

Features

- CLASS II, B1 Type, Vertical Air Flow Circulation, 30% Exhaust / 70% Recirculated.
- Stainless Steel Interior Chamber(SUS304) Epoxy powder coated exterior body.
- Built-in Gas Valve, Vacuum Cock, U.V Lamp, Fluorescent light, Power Consent in chamber.
- Mash Guard protecting main HEPA filter.
- Low Noise and Low Vibration Blower Motor.
- Simple and easy Analogue Operation.
  U.V, FL light, Air Velocity(Weak –Medium-Strong), Each functions are operated manually by Switch button without no indication digitally.
  Option: Hour Meter To count used time of filter which is helpful to assume the replacement time for HEPA filter.



Specification

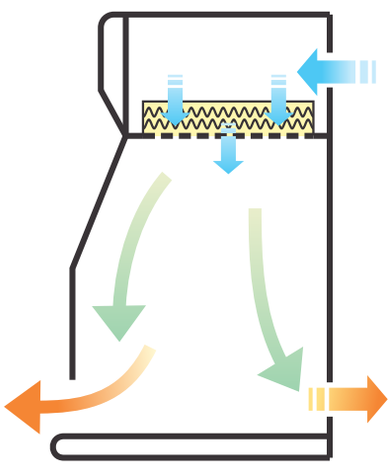
Items	NB-601WS
Chamber dimensions	1080(W)×880(D)×1275(H)mm
Working area dimension	900(W)×750(D)×550(H)mm
Illumination	F.L 55W×1ea
Sterilization	U.V 20W×2ea
Blow fan type	Sirocco Fan (Single Injection)
Main filter	HEPA filter(0.3㎛ 99.99%)
Exhaust filter	HEPA filter(0.3㎛ 99.99%)
Flow type/rate	Vertical/Exhaust 30% Recirculation 70%
Clean liness	Class 100
Door type	Sliding glass door
Material	
inner	Stainless steel (SUS304)
outer	SCP–1 with Power coating
Noise	Less Than 60 db
Power	110/220V, 50/60Hz, 320W
Weight	145kg

PCR WORK STATION (NB-603WS)

NB-603WS is HEPA filtered clean bench and UV PCR workstation. The workstation is bench-top type, made of metal framework, polycarbonate walls and a working surface made of stainless steel. With open UV lamps and horizontal air circulation through HEPA filter, this bench is used during operation with DNA/RNA sample especially, for PCR work.

Features

- CLASS 100 Environment with HEPA filter.
- Vertical Lamina Air flow without re-circulation.
- Polycarbonate side walls and full open door with foldable hand access (17cm from bottom).
- Long Life Time UV Lamp (Average 4000 hours)
- Ozone free high-density UV decontamination.
- Simple Analogue Operation with S/W button.
- Stainless Steel Work Surface.
- Low Noise Blower Motor (Cross flow Fan)
- Manually Selectable Exhaust Holes in chamber.
  (At Back of Chamber, there is Slide Cover in front of exhaust holes. It makes hole blocked or open).



Specification

Items	NB-603WS
Chamber dimensions	700(W)×600(D)×960(H)mm
Working area dimension	675(W)×580(D)×650(H)mm
Illumination	F.L 36W×1ea
Sterilization	U.V 10W×1ea
Blow fan type	Cross Flow Fan
Main filter	HEPA filter(0.3㎛ 99.99%)
Exhaust filter	None
Flow type/rate	Vertical Laminar Flow(Only) /Exhaust(Without Filtering)
Clean liness	Class 100
Door type	Lift-Up Open
Material	
inner	Stainless steel (SUS304)
outer	White polycarbonate
Noise	Less Than 60db
Power	110/220V, 50/60Hz, 150W
Weight	75kg

VERTICAL AUTOCLAVE (NB-1045/NB-1060/NB-1080/NB-1100)

High pressure autoclave is suitable for general lab

Features

- Designed to suit for performance in general lab.
- Fully automatic autoclave-heatup, exhaust, sterilize, pressure.
- Safety valve for discharging pressure.
- Chamber made of SUS304 for resistance to decomposition.
- precise electronic timer.
- Microprocessor PID control for temperature.

Specification

Items	Unit	NB-1045	NB-1060	NB-1080	NB-1100
Use Temp.		121℃(Standard), 132℃(Option)			
Temp. Accuracy		±0.5℃ At 121℃			
Operating Pressure		0.1~0.21 Mpa			
Temp. Control		Digital P.I.D Controller			
Timer		Electronic Type. 0~99h 59min.			
Pressure Gauge		Mechanical Gauge 0~0.3 Mpa			
Air Exhaust		Adjustable Valve			
Safety Device		Over Temp. limit By Controller Over Heat Limit By Safety S/w Over Pressure Limit By Protector Valve Water Level Sensor Protector			
Monitor Unit		Audible & Visible Device			
Basket		Mesh Type, Standard / 2ea			
Dimension (in) (out)		300ø x630mm 670x470x1080(h)mm	350ø x630mm 670x470x1080(h)mm	400ø x630mm 810x630x1150(h)mm	450ø x630mm 810x630x1150(h)mm
Capacity		45Liter	60Liter	80Liter	100Liter
Heater		2Kw×1EA	3Kw×1EA	4Kw(2Kw×2EA)	4Kw(2Kw×2EA)
Weight		71Kg	73Kg	120Kg	125Kg
Power		220V,50/60Hz (Standard), 110V,50/60Hz(Option)			

HIGH PRESSURE STEAM STERILIZER (NB-SS105/NB-SS210/NB-SS305)

Large Capacity Horizontal Autoclave

Features

- Precision control of the chamber and jacket pressure using a digital pressure sensor and microprocessor.
- Easy operation with 7” full touch LCD and user program can be set through user mode functions.
- The safety of user is considered as a top priority through built-in error and alarm, safety pressure valve etc.
- A self-diagnosis function can always maintain the best condition
- The most secure door lock with radial shape lever system
- Maintenance of constant sterilization temperature through automatic precision control of temperature based microprocessor
- A continuous use can be available and the thermal effect in the chamber get larger through internal steam generation unit. (generatorequipped)
- Full automatic sterilization cycle of a simple structure.

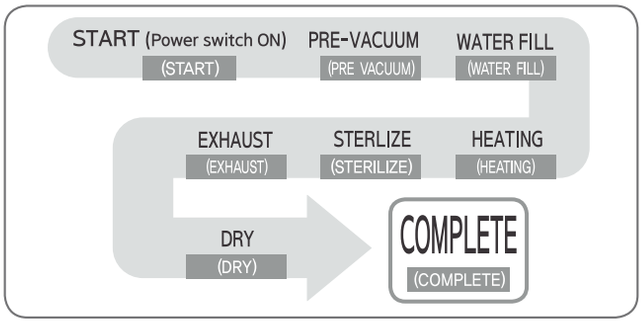
Specification

Items	Unit	NB-SS105	NB-SS210	NB-SS305
Overall Size		685(W)x1300(D)x1480(H)mm	740(W)x1400(D)x1600(H)mm	800(W)x1400(D)x1650(H)mm
Chamber Size		Ø420(Diameter)x760(D)mm	Ø520(Diameter)x1000(D)mm	500(W)x1000(D)x610(H)mm
Chamber Volume		105Liter	210Liter	305Liter
Chamber Material		SUS316L	SUS316L	SUS316L
Shelf Size		210(W)x720(D)mm, 1ea	240(W)x960(D)mm, 1ea	460(W0x900(D)mm, 2ea
Temperature Range		110℃ ~ 135℃		
Control System		Micro Processor		
Dry System		Vacuum Pump or Steam Ejecter		
Operating System		Pre-Vacuum System		
Power Consumption		Single AC220V and 9kW 3P AC220V/380V, 50/60Hz	Single AC220V and 11kW 3P AC220V/380V, 50/60Hz	AC220V,3ph,50/60Hz,18kW or AC380V,3ph,4wire,50/60Hz
Weight		320kg	460kg	710kg
Accessories(Option)			Thermal Printer (Option)	

TABLE TOP VACUUM CLAVE (NB-SS25/NB-SS50/NB-SS65)

High Pressured Stem Autoclave is the most effective equipment for physical sterilization to remove pathogenic bacteria and germs on variety of instruments and wares in biological research or medical field by using high pressure (1kgf/cm²) and high temperature steam (110℃ ~ 135℃). Sterilizing Steam has excellent permeability that can easily penetrate porous structured materials like cottons and it is very effective to perfectly sterilize variety materials such as gloves, protection wares, some tools, and vessels used in Medical and Bio-Research Filed.

• Sterilization Cycle



• Course Cycle

Course	Sterilization Temperature	Sterilization Time	Dry Time
Instrument	132℃	15M	20M
Package	132℃	20M	30M
Glove	121℃	20M	30M
Gravity	121℃	30M	0M

NB-SS65

NB-SS50

Features

- Precise control by built-in sensors which control temperature and pressures.
- One tocuch prograamed sterilization cycle
- User mode for customized program set-up (temperature, time, pressures)
- Manual pressure exahust device is installed for user's safety in case of power failure or incomplete finish of sterilization cycle.
- Vacuum system prevents imperfect sterilization and provides superior dry function through pre-vacuum water supply and after vacuum dry process.
- Excellet dry by vacuum after exhaust of steamed air inside.
- Special heating & water supply system allows fast heating & quick water supply.
- 12 types of error codes alert of any malfunction
- 128x64 graphic LCD indicates the status of all phases of the process clearly.
- Durable magnetic gasket ensures perfect sealing, long life time, effective vacuum.
- Themral printer or rs-232port(option) for analyzing, recording and monitoring the sterilization process and results

NB-SS25

Specification

Items	Unit	NB-SS25	NB-SS50	NB-SS65
Overall Size		524(W)x630(D)x380(H)mm	636(W)X670(D)X468(H)mm	557(W)x924(D)x600(H)mm
Chamber				
size		240(W)x440(D)x240(H)mm	330(W)x460(D)x330(H)mm	360(W)Øx640(D)mm
capacity		25Liter	50Liter	65Liter
type		Rectangular	Rectangular	Drum
material		SUS304	SUS304	SUS304
Reservoir Capacity		4.5Liter	6 Liter	8 Liter
Tray		2 EA	2 EA	1EA
Sterilization				
temperature		121℃/135℃	121℃/135℃	121℃ ~ 134℃
pressure		1.2bar ~ 2.16bar	1bar ~ 2.1bar	1.2bar ~ 2.1bar
mode		5 Types (I,P,P,G,U)	5 Types (I,P,P,G,U)	5 Types (I,P,P,G,U)
Printer (Option)		Thermal Dot Matrix 40 Characters per line		
Control System		8 bit Microprocessor		
Dry System		Vacuum Pump (Piston Oil-less Pump)		
Power Consumption		AC220V,50/60Hz 1700W	AC220V,50/60Hz 2200W	AC.220V,50/60Hz 2700W
Display		128x64 LCD (EL Back-light)	128x64 LCD (EL Back-light)	128x64 LCD (EL Back-light)
Weight		60 Kg	80 Kg	98kg
Accessories (Option)		Cart 570(W)x640(D)x825(H)mm	Cart 570(W)x640(D)x825(H)mm	Cart 800(W)x680(D)x960(H)mm

DRYING OVEN (NB-901M/NB-901S/NB-902N)

Drying oven is mainly used for drying and sterilizing sample as well as experimenting is high experiment.

Features

- Digital PID Controller
- Auto-tuning function
- Secure safety device
- Simple operation
- Glass door to observe inside of the chamber
- 10 step Programmable Controller(Option)
- Fast drying and precise warm-air flow type (NB-901M)
- Natural air flow type(NB-902N) is suitable for optimum drying
- Compact size to save space and energy (NB-901S)

Specification

Items	Unit	NB-901M	NB-901S	NB-902N
Type		Mechanical Convection	Mechanical Convection	Natural Convection
Temp. Range		Ambient +5℃ to 220℃	Ambient +5℃ to 220℃	Ambient +5℃ to 200℃
Temp. Accuracy		±1℃ at 150℃	±1℃ at 150℃	±2℃ at 150℃
Circulation Fan		20W Blower Fan	20W Blower Fan	None
Dimension(in)		550x520x600(H)mm	380x310x410(H)mm	510x500x600(H)mm
(out)		710x725x920(H)mm	540x565x710(H)mm	685x650x1000(H)mm
Capacity		172 Liter	48 Liter	150 Liter
Power		220V, 6.9A, 1.6kW, 60Hz	220V, 4A, 1kW, 60Hz	220V, 4.5A, 1kW, 60Hz
Temp. Controller		Digital P.I.D. controller		
PID Setting		Auto Tuning		
Display		LED Display		
Material(in)		Stainless steel		
(out)		Steel plate with powder coating		
Door		Silicon packing door with Window		
Shelves		3EA, Stainless Plate		
Safety device		Exclusive over temp. protector		

N-BIOTEK

We Value Life above Money

BIOLOGICAL CLEAN ROOM

BIOTECHNOLOGY & BIOMEDICAL EQUIPMENT CATALOGUE

- CO_2 INCUBATORS
- IR CONCENTRATORS
- LIVE CELL STATIONS
- SHAKERS & WATER BATHS
- BIO SAFETY CABINET
- STEM-CELL WORK STATION
- OTHERS
- BIOLOGICAL CLEAN ROOM

BIOLOGICAL CLEAN ROOM

ASEPTIC OPERATING ROOM / CELL PROCESSING CENTER

Why, Bio Clean Room?

The Purpose Of Bio-cleanroom Construction

- To install facilities to meet international standard in the field of life science and medical
- To build up aseptic environment for contamination control.
- To raise the success rate for medical as well as experiment.
- To improve safety and reliability

The Effect Of Bio-cleanroom

- No Dust
- No Virus
- No Bacteria
- No Infection
- No Noise
- Contamination Free

Bio-cleanroom Design, Construction

- Construction Validation.
- Differential pressure between rooms of class level.
- Laminar flow for contamination control.
- Hardware, Software for sustaining aseptic condition.
- Customized system based on budget, working environment, cleanness class.
- Classification with the flow of human and material's traffic in mind.
- Hygienic design, construction
- Utilities safety and convenience
- Monitoring system

Aseptic Operating Room

Cell Processing Center

Bio-cleanroom Construction

The Feature Of Bio-cleanroom

- Easy to do maintenance as well as sterilization and cleanup due to round shaped at corner.
- Save energy with invert control, outstanding adiabatic efficiency.
- Short time for construction due to prefabricated material.
- Chemical resistance materials.
- Equivalent level with FDA validation.

Main Facilities

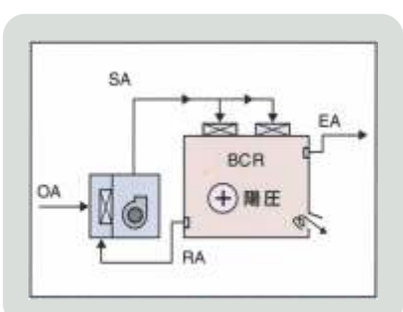
- AHU (Air Handling Unit)
- CDU (Condensing Unit)
- HEPA Filter Unit
- Clean Duct System
- GMP Lighting Fixtures
- Clean Room Partition & Floor
- Differential Pressure Gage
- Auto Control System

Application Place

- Aseptic operating room
- ICU/CCU
- Stem cell incubation center

BCR HVAC System

- Aseptic interior condition
- Interior positive pressure
- Airflow : Inside→outside
- Supply HEPA filter



Aseptic Operating Room

Why?

- The aseptic operating room is the most important,
- essential part of surgical hospital.

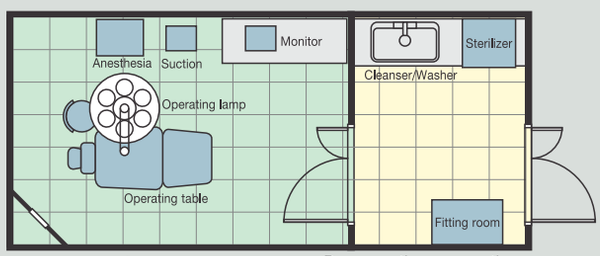
The Purpose Of Aseptic Operating Room

- Nosocomial infection control.
- Prevent infection during or after operation.
- Control microorganism.
- Raise the success rate for operation under
- Clean room environment.
- Raise the competitiveness of hospital

Type

19.8㎡ standard, operating room and pre-operating room

- The highest quality type : completely aseptic, Class 100 less
- High-class type : Class 1,000 ~ 10,000
- Standard type : Class 10,000 ~ 100,000
- Practical type : Class 100,000 above



After Service

- Facility standard implementation inspection
- Training for maintenance of cleanness
- Checking S/W and equipment condition
- Operating condition check up by automatic control
- Antibacterial disinfection and internal wall cleaning.

Biological Clean Room

Biological Clean Room

Cell Processing Center

The Feature Of Bio-cleanroom

The CPC (Cell Processing Center) is aimed at acquiring high-reliability, uniformity of data from study and preventing any error by system in implementing basic performance of sample processing for culturing stem cell. In order to do that, it is essential to meet international standard GMP and clean room standard, equipment layout suitable for guidline of ICMS (International Cell Medicine Society).

We N-BIOTEK, provide the total solution for GMP, stem cell processing equipments with differentiated technical skills and high-quality.

Stem Cell Processing Centre GMP Clean Room Standard

Classification	Cleanness	Viable cell count	Inside pressure	Temperature	Humidity
Unit	[0.5㎛ea/ft^3]	[ea/㎥]	[Pa]	[℃ DB]	[% RH]
Cell incubation room	10,000	10	45	22±2	50±10
Pre-incubating room	100,000	18	15	22±2	50±10
Dressing room	100,000	18	30	22±2	50±10
Fitting room	100,000	18	15	22±2	50±10
Undressing room	1,000,000		0	22±3	70↓
Preparation room	1,000,000		15	22±3	70↓

Supply For Euqipments Of Stem Cell Processing

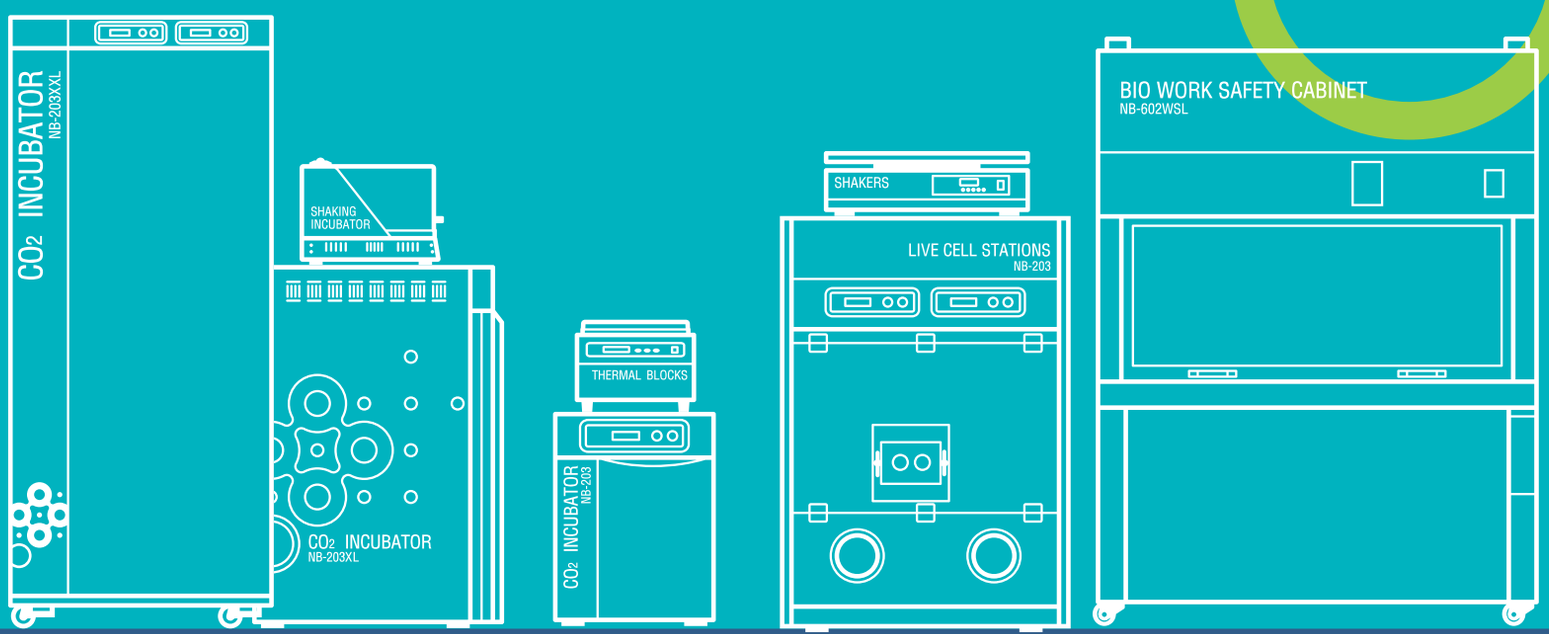
Clean Bench, CO2 Incubator, Beauty Cell, Centrifuge, Shaking incubator, Deep Freezer,
LN2 Tank, ,Refrigerator, Balance, Microscope,
Shaker, Water Bath, Hot plate&Stirrer, pH meter, Auto Clave,
Vortex Mixer, Drying Oven, UltraSonic Cleaner, etc.


Feel free to contact us.

LEADING LIFE SCIENCE EQUIPMENT

N-BIOTEK | HandyLAB® System

- **INCUBATORS**
  - CO_2 SHAKING INCUBATOR ANICELL
  - CO_2 INCUBATOR
  - SHAKING INCUBATOR
  - GENERAL INCUBATOR
- **IR CONCENTRATORS**
  - MICRO-CENVAC
  - DNA-VAC
  - MAX-UP
  - GAS BLOWING CONCENTRATOR
- **LIVE CELL STATIONS**
  - LICES
  - BEAUTY CELL
  - LCA
- **SHAKERS & WATER BATHS**
  - MINI SHAKER
  - MEDIUM SHAKER
  - ROCKER
  - VORTEX MIXER
  - GENERAL WATER BATH
  - SHAKING WATER BATH
  - HEATING & COOLING BLOCK
- **OTHERS**
  - BIOLOGICAL SAFETY CABINET
  - TABLE-TOP BIO WORK STATION
  - PCR WORK STATION
  - VERTICAL AUTOCLAVE
  - HORIZONTAL AUTOCLAVE
  - DRYING OVEN
- **BIOLOGICAL CLEAN ROOM**



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